

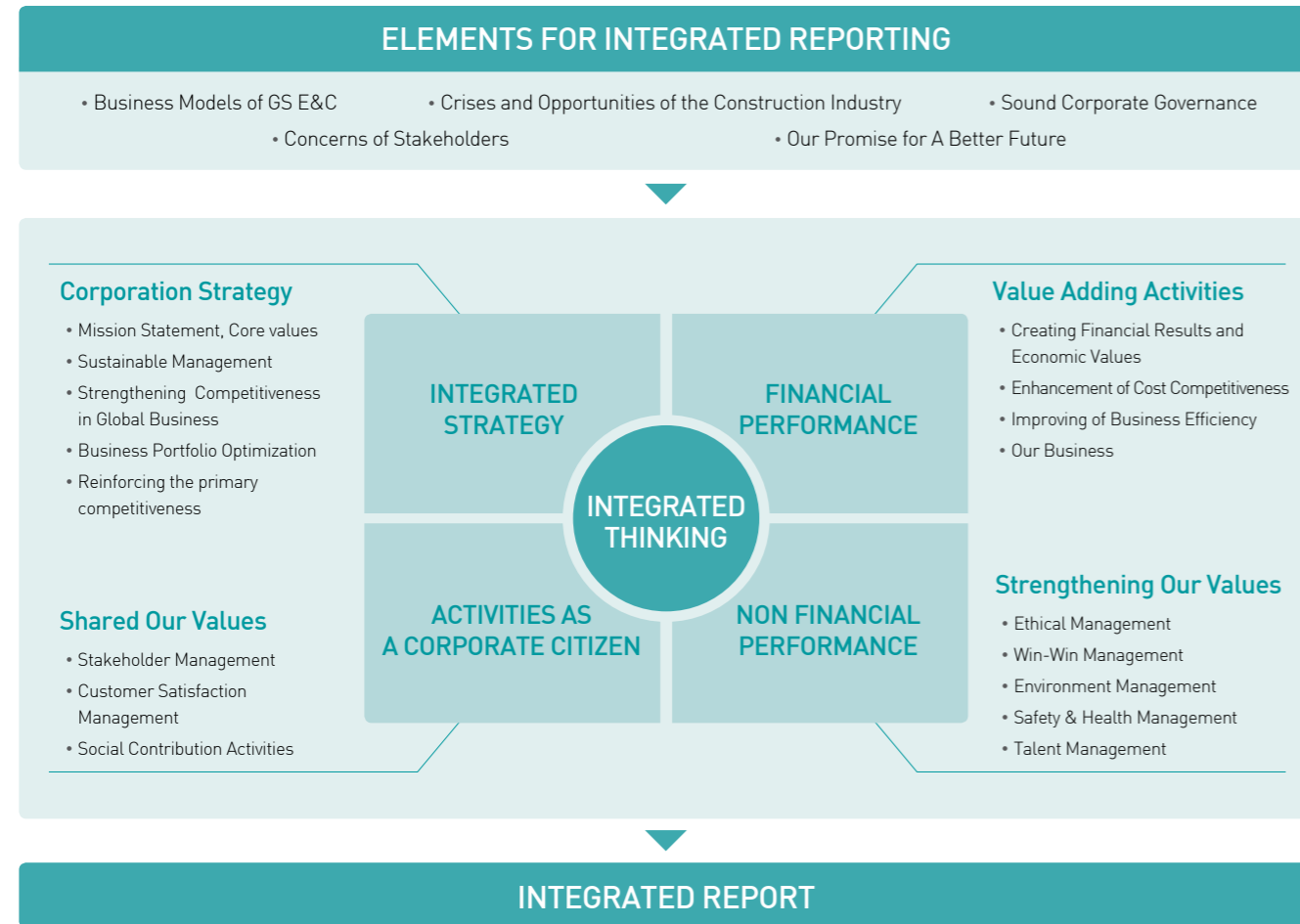
GS E&C INTEGRATED REPORT 2014

www.gsconst.co.kr

GS E&C INTEGRATED REPORT

This report aims to incorporate our strategies and financial/non-financial achievements and to share information with stakeholders.

Integrated Reporting Map



About This Report

Reporting Period	January 2014 to December 2014 (including part of the performance for 2015)
Reporting Scope	Major supply chain and all operating sites in Korea and abroad
Reporting Standards	GRI (Global Reporting Initiative) G4 Guidelines, ISO26000, UN Global Compact
Reporting Base	Based on fiscal year. At least 3 year time series [2012.01~2015.05]
Reporting Cycle	Annually
Reporting Assurance	Independent assurance statement (page : 76, 77)
Organization of Report	Preferential reporting of material issues based on materiality, 'Performance Index' to see data at a glance
Disclosure Principle	The report is available on the website www.gsconst.co.kr/en The appendix on the compliance with GRI Guidelines, UNGC and ISO26000 available
Further Information	Please contact GS E&C Strategy Planning team +82-2-2154-1579



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CEO's MESSAGE



“ We will build a company that is sustainable and trusted, creating value for the world, with creative passion. ”

Thank you for your continuous support and encouragement toward GS E&C.

Since the establishment of GS E&C in 1969, we are striving to provide essential value to our customers and local communities by achieving continuous growth based on a stable portfolio of plant, power, civil engineering, architecture and housing.

In 2014, GS E&C overcame many difficulties at home and abroad to establish the foundation for a turnaround, while also restoring the trust of the market by securing liquidity through paid-in capital increase and the sale of non-core assets. These efforts have laid the foundation for a strong trust as we continued to implement sustainable management until now. GS E&C will further strengthen sustainable management to actively respond to the rapidly changing global construction market environment and reinforce its status in domestic and overseas markets.

GS E&C is striving to achieve shared growth with all of its stakeholders.

The forecast for this year's domestic economy is not bright, and it is expected that the business environments of high uncertainties and fluctuations will continue due to delays and cancellations of orders in the main overseas markets like Central America and South America. However, we will overcome the difficulties we face by integrating the competencies of our employees and do our best to take this opportunity to take a new leap forward.

GS E&C recognizes that not only economic growth, but also environmental and social responsibilities are very important, allowing us to continuously implement sustainable management activities relevant to our core values of 'Great Innovation', 'Great Challenge', and 'Great Partnership'. From the environmental aspects, we strengthened leadership in carbon management by carrying out projects to reduce GHG emissions and save energy. Meanwhile, we are implementing eco-friendly constructions through green communication activities with local communities and our suppliers. Also, in order to fulfill our corporate social responsibilities, we are striving to establish a foundation for shared growth with our suppliers by implementing ethical management based on stable corporate governance, as well as conducting various activities for sharing.

In the future, GS E&C will do its best to become the best business partner by paying close attention to the voices of diverse stakeholders, including shareholders, customers and suppliers, to actively reflect them in our business activities. To achieve this, our employees will take an aggressive attitude in seeing this as an opportunity for new growth, while also fulfill our responsibilities and roles to become a sustainable company that achieve mutual prosperity with all of our stakeholders.

Thank you.

June 2015
GS E&C Corp.
President & CEO Byeong-Yong Lim

COMPANY PROFILE

GS E&C has been undergoing constant growth thanks to a well-balanced portfolio consisting of Plant, Power, Environment, Civil Engineering, Housing, and Architecture businesses since its foundation in 1969. We will remain committed to advancing toward being a top-tier company that prioritizes creating great customer value and being the best partner, while growing along with the stakeholders.

GENERAL INFORMATION

Corporate Name	GS Engineering & Construction Corp.(GS E&C)
Date of Establishment	December 19, 1969
Representative	Byeong-Yong Lim
Head Office	Gran Seoul, Jongro 33, Jongno-gu, Seoul
No. of Major Domestic and Overseas Sites	Domestic : 244 sites, Overseas : 90 sites Total : 334 sites
Main Businesses	Plant, Power, Civil Engineering, Architecture, Housing
Credit Ratings	A+ by Korea Ratings (as of Dec.2014)
No. of Employees¹⁾	6,583 (as of Dec.2014)

1) Standards for gathering executives and employees are different in the business report and integrated report. Please refer to p. 61 of the GS E&C Integrated Report 2014 .

DOMESTIC & OVERSEAS SUBSIDIARIES

DIVISION	NAME	MAIN BUSINESSES
Domestic	Parnas Hotel Co., Ltd.	Hotels & travel
	EziVille Inc.	Value-added networks
	Xi Service	Construction
	G-Estec Co., Ltd.	Construction
	GCS Plus	Services
	BSM	Processing services
	GS O&M	Services
	Sanglak Food Co., Ltd.	Contract food service management
	Oksan-Ochang Toll Road	Construction
	Eunpyeong Saegil Co., Ltd.	Construction
Daejeon Green Energy Center	Facilities Management	
Overseas	GS E&C Nanjing Co.,Ltd.	Construction
	GS Nha Be Development One-Member LLC	Construction
	GS Saigon Development One-Member LLC	Construction
	GS E&C Delhi Private Ltd.	Construction
	GS Engineering & Construction Mumbai Pvt. Ltd.	Construction
	GS East Asia Manila Inc.	Construction
	GS(Cambodia) Development Co.,Ltd.	Construction
	GS Construction Arabia Co.,Ltd.	Construction
	GS Saudi Co.,Ltd.	Construction
	GS E&C Poland SP.ZO.O	Construction
	GS E&C Construction Canada Ltd.	Construction
	GS E&C Panama S.A.	Rental
GS Inima Environment S.A.	Construction	
GS Engineering & Construction Spain, S.L	Construction	



Location of site

- Overseas Subsidiaries
- Overseas Branches

- 01 Canada**
● GS E&C Construction Canada Ltd.
- 02 Panama**
● GS E&C Panama S.A.
- 03 Colombia**
● Bogota
- 04 Ecuador**
● Quito

- 05 Poland**
● GS E&C Poland SP.ZO.O
- 06 Spain**
● GS Inima Environment S.A
● GS Engineering & Construction Spain, S.L
- 07 Italy**
● Milano
- 08 Turkey**
● Istanbul
- 09 Algeria**
● Algiers
- 10 Libya**
● Tripoli
- 11 Rep. of South Africa**
● Johannesburg
- 12 Kazakhstan**
● Almaty
- 13 Azerbaijan**
● Baku

- 14 Iraq**
● Baghdad
- 15 Iran**
● Tehran
- 16 Saudi Arabia**
● GS Construction Arabia Co.,Ltd.
● GS Saudi Co.,Ltd.
● Riyadh
- 17 Kuwait**
● Kuwait City
- 18 Bahrain**
● Manama
- 19 Qatar**
● Doha
- 20 U.A.E**
● Abu Dhabi
● Dubai
- 21 India**
● GS E&C Delhi Private Ltd.
● GS Engineering&Construction Mumbai Pvt. Ltd.

- 22 China**
● GS E&C Nanjing Co.,Ltd.
● Beijing
● Shanghai
- 23 Thailand**
● Bangkok
- 24 Cambodia**
● GS (Cambodia) Development Co.,Ltd.
- 25 Vietnam**
● GS Nha Be Development One-Member LLC
● GS Saigon Development One-Member LLC
● Hanoi
- 26 Singapore**
● Singapore
- 27 Philippines**
● GS East Asia Manila Inc.
- 28 Indonesia**
● Jakarta

MAIN OVERSEAS CONTRACTS BY DIVISION(2014)

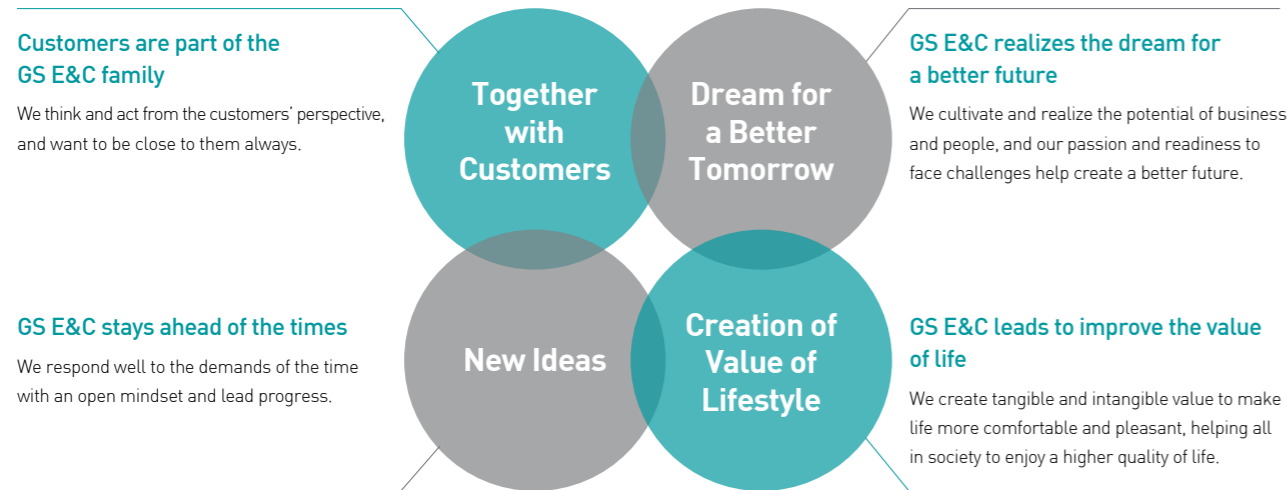
Unit: billions of KRW

DIVISION	PROJECT(COUNTRY)	Contract Value
Plant	Karbala Refinery(Iraq)	2,426
	Clean Fuels(Kuwait)	1,710
	Rumaitha/Shanayel Facilities ph3(UAE)	752
Power	Kais CCPP(Algeria)	326
Civil	Causeway Bridge(Kuwait)	599
Engineering	Puerto Princesa Airport improvement Projects(Philippines)	32
Architecture	Fusionopolis 2A Tower A&B Fittingout(Singapore)	103

MANAGEMENT PHILOSOPHY & VISION

Mission Statement

The mission statement of GS E&C is to Create Value of New Lifestyles and Dreams of a Better Tomorrow with Customers. The statement demonstrates our commitment to creating value that can be shared among various stakeholders and fulfilling responsibilities as a corporate citizen.



Values System

GS E&C has the value system defined as 'G-SPIRIT'. Based on three core values of "Great Innovation", "Great Challenge" and "Great Partnership", we try to achieve our vision and make the sustainable development.

Lead Innovation, Pursue Excellence, Grow Together



Change myself first with creative ideas

Our people, who embrace various viewpoints, have adopted a collective attitude to ensure their creativity is exercised fully, laying the groundwork for sustainable development by responding astutely to the rapidly changing environment.



Be the Best with passion and readiness to face challenges

Pioneering Spirit, Initiative, Excellence
Our people set challenging targets and assume responsibility for their duties on their own to build best value. This attitude serves as one of the main sources of power to achieve business targets and secure competitive advantages.



Grow together with respect and communication

Inside the company, our employees cooperate with one another based on mutual trust and grow together with the organization. Externally, we practice ethical and eco-friendly management approaches with respect to our customers and society and maintain a dialogue with them. These management practices are credited with fulfilling the needs of external and internal customers to earn their respect.

Vision and Performance

Sustainability Management Vision : "Pursue Growth by Creating Sustainable Value Together with Stakeholders"

Strategic Directions	Specified Strategies	Action Plans	Major Achievements in 2014	Major Objectives in 2015
Solidify Foundation for Growth	Gain Competitive Edge in Global Market	<ul style="list-style-type: none"> Implement Global Design Performance System Enhance Local Support for Overseas Projects 	<ul style="list-style-type: none"> Establish New Offshore Design Companies Increase Local Employment Reorganize Global HR System 	<ul style="list-style-type: none"> Enhance Construction & Management Capabilities Establish Advanced EPC System
	Optimize Business Portfolio	<ul style="list-style-type: none"> Develop Value Added Products Establish New Growth Engine Penetrate Prospective Markets 	<ul style="list-style-type: none"> Start Value Chain Focused Business Enter Plant Market in Iraq Enter Power Plant Market in Algeria 	<ul style="list-style-type: none"> Visualize Growth Engine Project Performance Diversify Areas of Technology-oriented Project Initiatives
	Enhance Fundamental Strength	<ul style="list-style-type: none"> Improve Prime Cost Performance Process Engage in System-based Management Innovation 	<ul style="list-style-type: none"> Define and Apply 12 Cost Innovation Principles Enter Pre-con Contract 	<ul style="list-style-type: none"> Internalize Cost Innovation Switch to Speed Management System
Implement Eco-friendly Business Practices	Improve Response to Climate Change	<ul style="list-style-type: none"> Foster Low-Carbon Development Diversify Energy Saving Campaign 	<ul style="list-style-type: none"> Increase Influence of Energy Control Committee Explore and Validate Ways to Reduce Greenhouse Gas Emission 	<ul style="list-style-type: none"> Respond to Greenhouse Gas & Energy Target Management System Develop Low Carbon & Energy Saving Technologies
	Gain Technical Expertise	<ul style="list-style-type: none"> Enhance Eco-friendly R&D Develop New Green Technology Projects 	<ul style="list-style-type: none"> Provide Technical Support Based on Technological Development Acquire Certifications for Eco Technology, Green Technology, and Eco-friendly Building 	<ul style="list-style-type: none"> Develop Eco-friendly Technology Strengthen Link between Technology & Business
Reinforce Commitment to Social Responsibility	Establish Safety Control System	<ul style="list-style-type: none"> Prevent Industrial Disaster and Increase Safety Training Programs Enhance Safety Control System 	<ul style="list-style-type: none"> Improve Safety Assessment Program and Level of Safety Control Win Award for Safety Control at Overseas Sites 	<ul style="list-style-type: none"> Minimize Industrial Disasters
	Build Customer Satisfaction	<ul style="list-style-type: none"> Improve Quality Control Increase Commitment to Customer Satisfaction and Communication Channels 	<ul style="list-style-type: none"> Reduce Defective Workmanship and Complaints Improve Customer Satisfaction and Service Quality Index 	<ul style="list-style-type: none"> Implement Global Standard Quality Control Improve Level of Customer Satisfaction
	Drive for Mutual Growth	<ul style="list-style-type: none"> Build Foundation for Mutual Success Fulfill Social Responsibility in line with Construction Business 	<ul style="list-style-type: none"> Increase Financial/Training/Technical Support for Partners Focus on Social Responsibility by Building Infrastructure at Work Sites 	<ul style="list-style-type: none"> Increase Partner Support and Communication Channels Maintain Strategic Social Responsibility Programs

Sustainability Management System

GS E&C sets goals and action plans with the vision of sustainable business practice, "Create Sustainable Values and Drive for Growth with Stakeholders". In 2014, in line with our core values of "Innovation", "Best", and "Trust", we set "Solidify Foundation for Growth", "Implement Eco-friendly Business Practices", and "Reinforce Commitment to Social Responsibility" as our guiding principles for global standards. To achieve these goals, the Sustainability Management Committee and Management Committee of the Board of Directors serve as the highest level of decision-making authority with the participation of various related departments in sustainability management. Our headquarters, branch offices, sites, subsidiaries, and partners are subject to this sustainability management and business practices. At GS E&C, we will continue to develop and apply the key performance indicators to internalize sustainable business practices.

See more information about sustainable management organization



OUR BUSINESS

In 2014, we continued to develop our business strategies in close alignment with risk control and revenue generation to overcome the financial crisis. We will further reorganize our business portfolio and regain the competitive edge in the domestic and global markets while building a strong foundation for sustainable growth.

Plant

2014 Performance Summary

In the plant sector in 2014, we focused our resources on securing profitable projects based on our superior engineering expertise in oil refining and petrochemicals. As a result, we were selected for large-scale projects such as Karbala in Iraq and Clean Fuel in Kuwait, strengthening our position in the Middle East. In the future, we will further leverage our project management expertise in risk control, VE, and finding new vendors to continue our success in large-scale projects. At the same time, we will focus on realizing profitable and development projects we are currently undertaking while reinforcing our sales efforts to attract new projects.

Power

2014 Performance Summary

In the power plant sector in 2014, we managed to reach KRW 1.1 trillion in orders, a 200 percent increase from last year, thanks to such large-scale projects as Dangjin No. 4 and Kais in Algeria. However, the sales profit recorded a deficit due to the increase in cost. In the future, we will focus on profit-oriented businesses by acquiring equity in IPP or creating a synergy with the group rather than EPC. In addition, we will leverage the performance in overseas market and project infrastructure to enter markets in Southeast Asia and Africa while establishing strategic partnerships with leading developers in each region to gain competitive advantage in tender.

Technology

2014 Performance Summary

In 2014, we focused on technical development and support to achieve cost innovation/differentiation and cost/safety improvement based on our expertise in foundation technology. At our Technical Center, we increased investment in R&D to reduce cost and differentiate/specialize technical know-how based on convergence. We also proactively select technical support projects and incorporate IT solutions such as Infra BIM, 3D Scanner and HV Line Gauge into our business. To further improve the benefits of this integration, we undertook joint research with leading global companies and raised the company-wide level of technical support by conducting meetings for technical cooperation and creating technical support guides.



Unit: billions of KRW

New Orders	5,830
Order Backlog	15,757*
Sales Revenues	4,201
Sales Profit	145

* Including Collie

Unit: billions of KRW

New Orders	1,121
Order Backlog	1,797
Sales Revenues	1,062
Sales Profit	△23

Unit: case, billions of KRW

The number of patents registration	46
The number of patents holder	275
The research and development costs	48

01 Ruwais Refinery Expansion

- Location : UAE
- Project Period : 2009.12~2014.12

02 Dangjin 4 Combined Cycle Power Plant

- Location : Dangjin-si, Chungcheongnamdo
- Project Period : 2014.06~2017.06

Civil Engineering

2014 Performance Summary

In the infrastructure sector in 2014, we reached KRW 1 trillion in orders and KRW 1.1 trillion in sales with the Causeway Bridge project in Kuwait and the Hanam Line double track railway. As the public sector in the domestic market continues to decline, we actively undertook sales activities in seaports, bridges, tunnels, and metros in Singapore, Vietnam, and the Middle East. We will finance projects through PPP (Public Private Partnership) and establish a joint venture to secure profitable projects in Asian regions. We will also focus on optimizing pricing and validating financial resources as part of our risk control process while increasing orders and profit margin.

Architecture · Housing

2014 Performance Summary

In the housing sector in 2014, we acquired land, developed new PF, and resumed incomplete PF as the housing market recovered. As a result, we reached KRW 3.2 trillion in new orders and KRW 2.8 trillion in sales. On the merit of our brand reputation and technical expertise, we were able to secure a number of orders including Xi Misa Central, Xi Gwangmyeong Station Park, and Bangbae District 5, which will serve as a foundation for sustainable growth. In the future, we will take a flexible approach in selecting public land development projects to improve profitability.

In the construction sector, we successfully completed Fusionopolis 2A and NgTeng Fong Hospital in Singapore while securing a number of high-tech office building and manufacturing facility (CR, GMP) projects based on our superior technical expertise in the internet data centers. We will continue to leverage our competitive advantage by focusing on profitable technical proposal projects, diversifying business models, and introducing BIM.

Unit: billions of KRW

New Orders	1,027
Order Backlog	4,576
Sales Revenues	1,089
Sales Profit	67

Unit: billions of KRW

New Orders	3,238
Order Backlog	15,637
Sales Revenues	2,812
Sales Profit	180



01 Doha Link

- Location : Kuwait
- Project Period : 2014.12~2018.12



02 Fusionopolis 2A-Tower AB

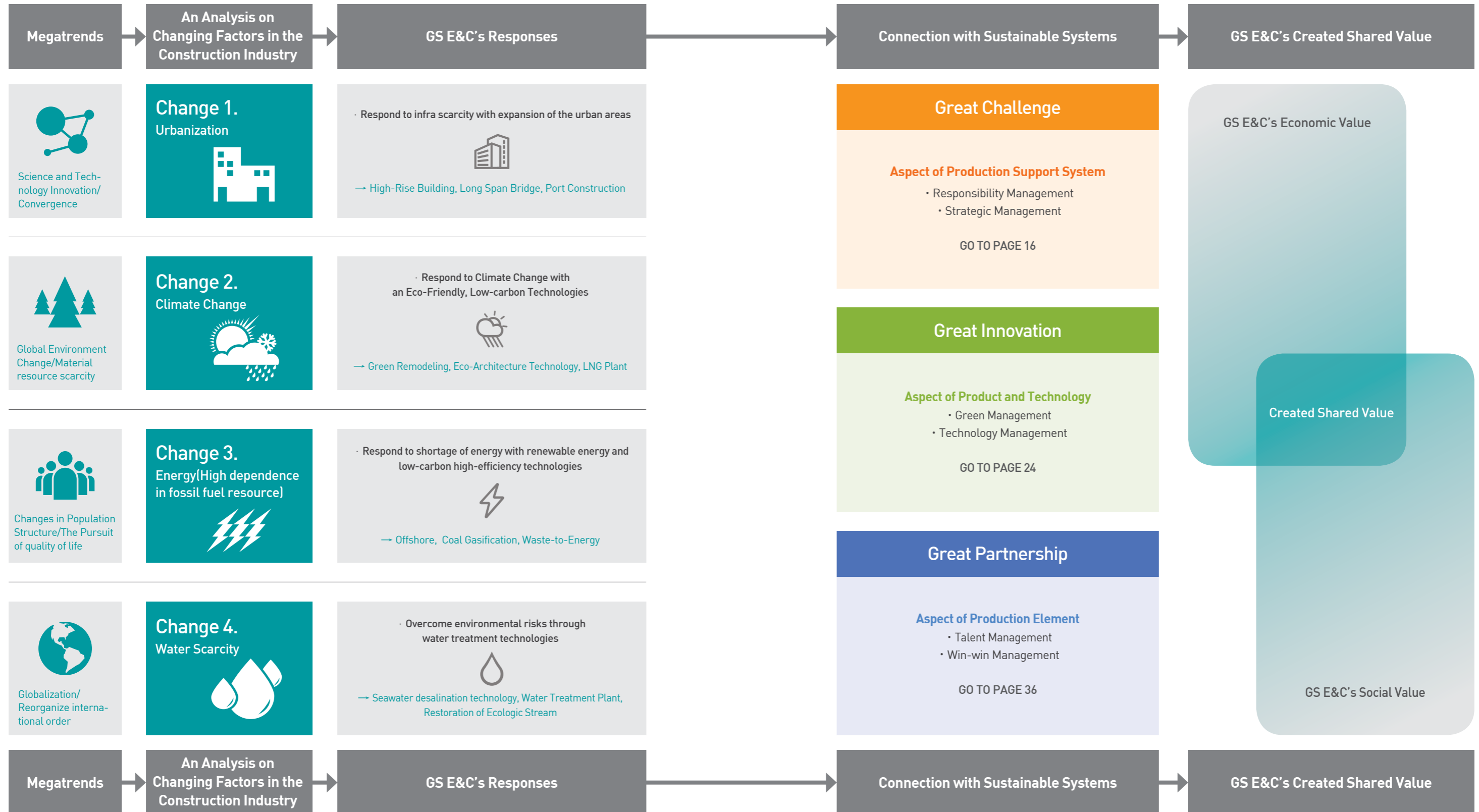
- Location : Singapore
- Project Period : 2011.11~2015.02



03 Misa Gangbyeon Central Xi

- Location : Hanam-si, Gyeonggido
- Project Period : 2014.10~2017.02

VALUE CREATION PROCESS

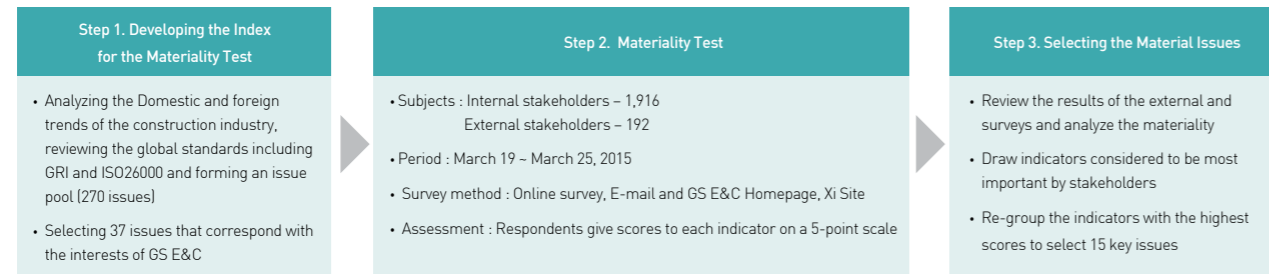


STAKEHOLDER PARTICIPATION

Materiality Test

In order to incorporate the sustainable business management issues that the parties concerned wish to know, GS E&C has conducted a Materiality Test while prioritizing the results of the test in a written report based on their importance and enforceability.

Materiality Test Process



Communication Channel for Stakeholders

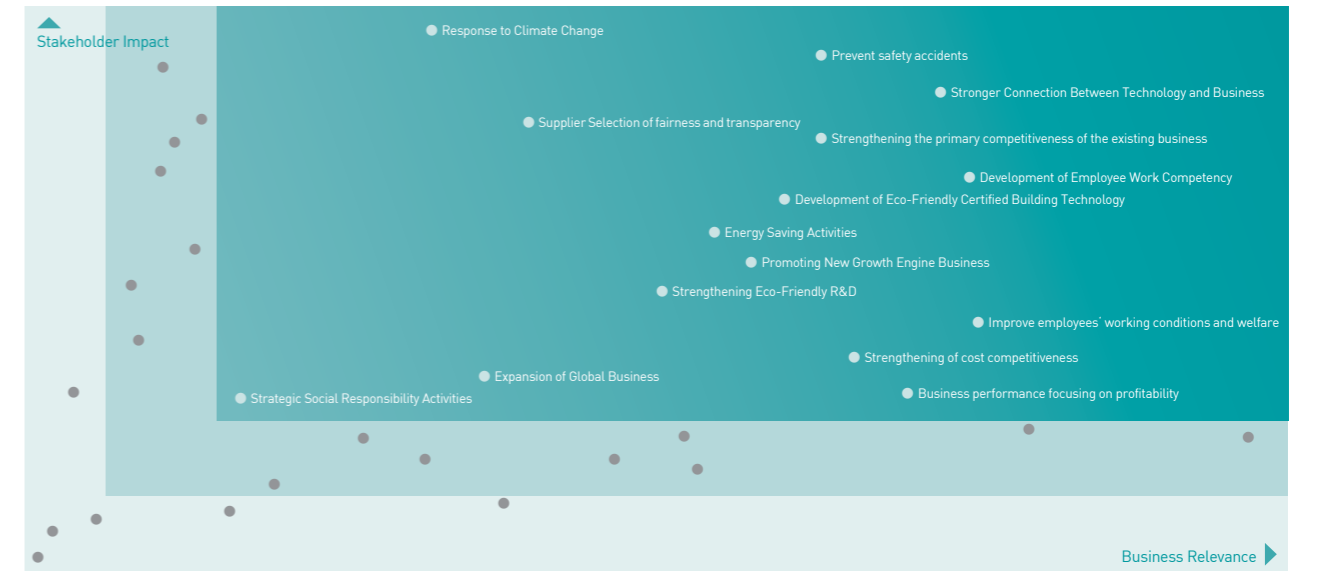
At GS E&C, we aim for open communication with our stakeholders. We divided our customers, shareholders, investors, and partners into six different categories to manage our relationships with them more effectively. We also established a communication channel through which we listen to their opinions and ensure mutual success and growth.



Changes in Material Issues & Reporting Contents

Newly-rising key issues in 2014 were 'Creating Economic Value', 'Stronger Connection Between Technology and Business', 'Response to Climate Change', and 'Reinforcement of Customer Communication'. This is due to increasing needs for improving profitability through business performance focusing on profitability, strengthening the cost competitiveness through liaison between technology and business to respond to extending recession in the construction industry. We classified 37 key issues in line with the GRI G4 guideline, then, we shortlisted 15 material issues in economy and governance, environment and safety, and society.

Test Result



Material Issue	Internal and External impacts on GS E&C						GRI G4 Aspect	
	Customer	Employee	Shareholders/ Investors	Suppliers	Community	Government/ The Media/ Environment		
Strengthening the primary competitiveness of the existing business		●	●				-	Episode 01. Strengthening the Strategic Business Competitiveness
Promoting New Growth Engine Business		●	●				-	
Expansion of Global Business		●	●				-	
Business performance focusing on profitability		●	●				-	
Strengthening of cost competitiveness		●	●				-	
Response to Climate Change		●		●	○	○	Emission	Episode 02. Response to Climate Change
Energy Saving Activities		●		●		○	Energy	
Strengthening Eco-Friendly R&D	●	●						Episode 03. Eco-Friendly Technical Capability
Development of Eco-Friendly Certified Building Technology	●	●					Product & Service	
Stronger Connection Between Technology and Business		●		○			Waste Water, Waste	
Development of Employee Work Competency		●		○			Training, Education	Episode 04. Global Talent Development
Improve employees' working conditions and welfare		●		○			Industry Safety Health	
Prevent safety accidents		●		●		○		
Supplier Selection of fairness and transparency		○		●		○	Anti-Corruption	Episode 05. Sustainable Partnership
Strategic Social Responsibility Activities		○			●	●	Community	

GREAT CHALLENGE

Episode 01. Strengthening the Strategic Business Competitiveness

Strengthening Global Business Competitiveness

Business Portfolio Optimization

Reinforcing the Primary Competitiveness

Value Created Activity



Episode 01 Strengthening the Strategic Business Competitiveness

BOUNDARY



OUR BUSINESS & SOCIAL CONTEXT

The order competition has been fiercer as the large advanced companies and newly built companies make inroads into the construction projects under the environment of extended stagnating growth of global economy. Consequently, major companies have poured the efforts of various angles in pursuing the momentum of long-term growth, strengthening the primary competitiveness in a bid to secure the sustainable growth. With reflection of these changes, the importance analysis report for 2014 of GS E&C has highlighted 'the economic value creation', 'excavation and performance of new growth business', and 'business performance focusing on profitability' as the most important issues.

OUR APPROACH

GS E&C has been maintaining the efforts of portfolio optimization by construction kinds and market diversification through development of high value products and excavation of new growth business as well as strengthening the global business competitiveness in order to establish the substantive growth system. And it has been strengthening the primary competitiveness through company-wide continuous cost innovation and management innovation activities.

OUR EFFORTS

In 2014, GS E&C has enlarged the share of overseas business through establishing the global designing operation system and strengthening the close local support. It has made achievements to pave the new road to the market of Venezuela, Algeria through evaluating process of outstanding projects, securing the lucrative projects through strategic collaboration with a variety of partners focusing on the core business at the region of Middle East as a strategic foothold. It has also made achievements in reducing the economic cost and time, and optimization of project operation through setting up the performance system of Pre-con, enjoying the cost reduction through enhancement of business efficiency.

FUTURE ACTIONS

GS E&C plans to strengthen the constructing capacities through building up constructing and managing capacity on site and establishing the basis of advanced EPC performing system. It also plans to continue to conduct market diversification toward regions of growth and profitability through regional network strategy during this process. And it plans to pursue the continuous growth of corporate future value by entering into the business of new growth engine and high value markets, escaping from the sub-contracting business oriented growth model.

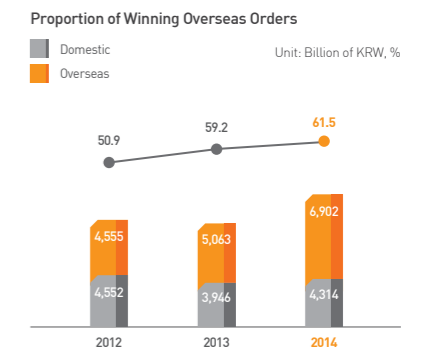
Strengthening Global Business Competitiveness

Building Competitive Edge in Global Market

Despite the political unrest and aggressive bidding from European and Chinese companies in the Middle East, we strived to develop new markets as the domestic market slowed. As a result, our overseas sales and new orders took up 58.2% and 61.5% of the total sales and orders respectively in 2014. In this process, we kept in mind that over-competition often resulted in loss and selected only projects with high profit margin while building our competitive advantage in all aspects of business including design, performance, and construction.

In 2014, we focused on the globalization of our operation system and improving the level of expertise in design to further strengthen our position in global markets. To gain more expertise in design for overseas projects, we established our second design company in Mumbai, India in February and a new design company in Manila, Philippines in December while improving networking efforts with design partners and increasing our workforce to cater to the overseas market. We focused on improving the level of job performance on site by adding a new base for construction and infrastructure development. Furthermore, we organized a public affairs unit in Singapore to respond to claims and issues at the site and increase local support. In terms of human resource management, we allocated technical engineers to the field and reorganized the way we manage our global workforce and their performance.

Above all, our main focus is to avoid over-competition and maximize synergy by establishing a joint venture or consortium to secure more profitable projects when it comes to the management of tenders. The amount earned through the orders in the fields of our expertise in the Middle East, an area where we face fierce competition, takes up 71% of the total overseas orders for plants in 2014. We will continue to consider the quality of projects and employ local experts to strengthen our sales force to build a competitive advantage in global markets.

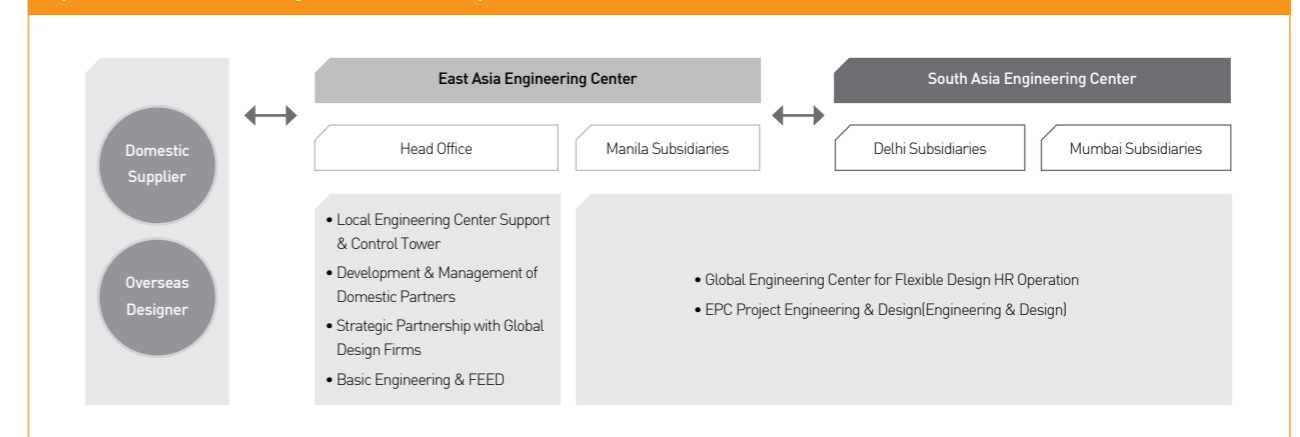


Winning a Large Project through Joint Work

Unit : 100 millions of USD

Country	Project Owner	Project	Cost of Construction(Cost of GS E&C)	Share (%)
Kuwait	KNPC	Clean Fuels	48.0(16.1)	36%
Iraq	SCOP	Karbala Refinery	60.4(22.7)	38%
UAE	ADCO	Rumaitha/Shanayel ph-3	14.5(7.2)	50%

Operation of Global Design Performance System



Business Portfolio Optimization

Create New Growth Engine & Establish High Value Added Business

In 2014, we reinforced our competitive advantage in the existing market, developing new growth engines while expanding our value chain in response to aggressive price competition from emerging companies.

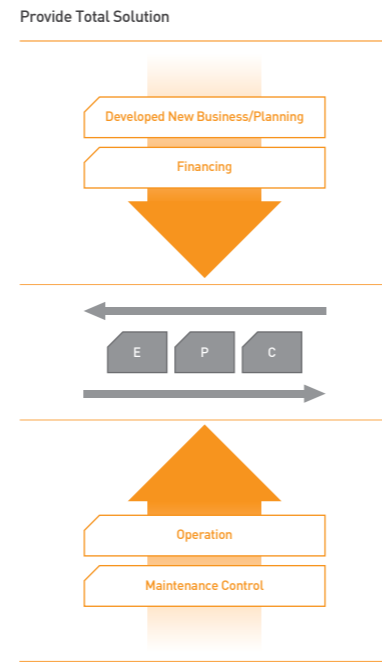
Firstly, we developed new growth drivers in consideration of the level of our expertise and market trend, based on our experience and the required level of competence. Through intensive investment in LNG and coal powered plants, we will develop them to reach world-class level.

Secondly, we will diversify our business model to include investment, development, EPC, and operation business as a developer. We managed to secure sewage management projects in Spain, Brazil, and Tunisia by undertaking water treatment concession business through GS INIMA.

Thirdly, we are also investing our resources in CUPO (Coal Upgrading by Palm Oil Residue) technologies to gain expertise in feedstock, which is the basic requirement for the operation of coal powered plants. In 2014, we formed a technical partnership with Korea East-West Power Co., Ltd. and organized the ACE Project to undertake the feasibility study.

Fourthly, we incorporated a new engineering process into our research and development projects for the commercialization of high value-added products by fostering technology-oriented business models.

- Long Span Bridge: We are making inroads into the global market based on the expertise and experience we gained by completing Yeosu Bridge, Mokpo Bridge, and Doha Link in Kuwait and the operation of a special task force and partnership with global leaders. In 2015, we are planning to pursue long span bridge construction business in such countries as Saudi Arabia and UAE.
- Deep Underground Traffic Network: We are exploring the business opportunities in countries where we are currently doing business based on the TBM expertise we gained working on C913, C925, and C937 in Singapore and Doha Metro in Qatar.
- Port: We are planning to make inroads into the port construction business in the Middle East by building a network with leading companies and subcontractors in the industry, based on our experience and workforce we gained by working for UAE RRE#7. In the future, we will explore further opportunities in close coordination with the plant sector in such countries as Oman.
- In the construction sector, we are undertaking the Green Smart Building project where we construct buildings that are certified for LEED based on green technologies. In 2013, we earned the LEED certification for Grand Seoul and the office building site in Cheongjin District 1 and Green Mark Building for the Fusionopolis site in Singapore.



Business Portfolio







Diversification of Market

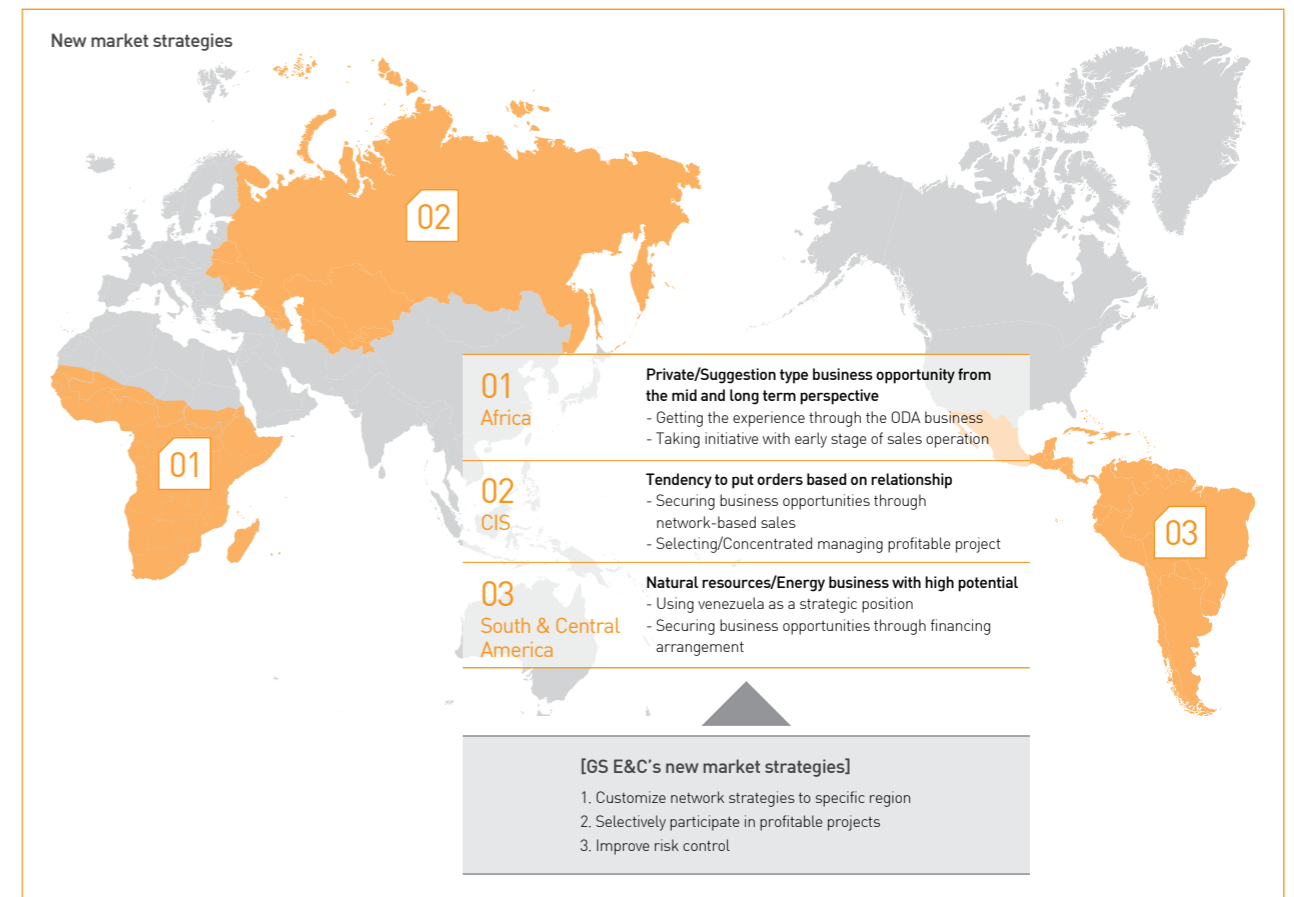
At GS E&C, we are exploring new market opportunities with region specific networking strategies while diversifying the market. In the Middle East and Asian regions where the markets are large with a number of projects being issued, we mainly focus on our flagship market while exploring ways to make inroads into additional markets with great potential. We are also expanding our sales network to such prospective markets as South and Central America, CIS, and Africa, where there is an abundance of resources, high population, and strong potential for growth.

In the plant sector, we made inroads into the Venezuelan market for the first time with the El Palito refinery and PMC projects. In February, we undertook the Karbala refinery project in Iraq, our first project in the country. In January, 2015, we managed to single-handedly secure the Pirital Gas Mega project in South America, our first EPC project in the region. In the power plant sector, we have made inroads into Algeria by winning the Kais Combined Cycle Power Plant project, and diversified our market range in the MENA region with a focus on high profitability. In the infrastructure sector, we secured a superior market position and explored strategic opportunities in Middle East. As a result, we won the Doha Metro project in Qatar and a bridge building project in Kuwait, which we expect to serve as a foundation for large scale infrastructure projects.

At GS E&C, we are diversifying our efforts in making inroads into developed markets based on our superior expertise and experience in the field. With focus on MENA, we are exploring our opportunities in North America where there is an increasing number of projects available due to a change in energy paradigm in the plant sector, which is vulnerable to volatility risks. To achieve this, we continuously implemented the pre-con marketing activities that propose projects by exploring the needs of major clients, including IOC and IPC. Meanwhile, we are making systematic preparations, such as reinforcing our partnership with global leading companies. At the same time, we are seeking opportunities in civil engineering projects as the infrastructure in developed countries becomes outdated.

2014 New Representative Market site

-  PDVSA Gas Mega Pirital Proj. (2015.01-)
-  Karbala Refinery Proj. (2014.04-2018.04)
-  Kais CCGP Proj. (2014.05-2017.04)
-  Sheikh Jaber Al-ahmad Al-sabah Causeway Proj. (2014.09-2018.08)



Reinforcing the Primary Competitiveness

Cost Innovation by Improving Performance Process and System

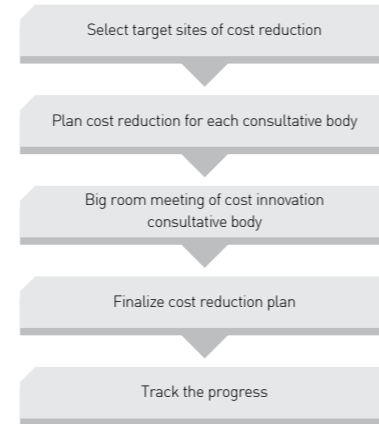
In 2014, we realized improvement from the existing cost innovation process, based on action tasks and undertook process innovation by standardizing materials, establishing direct operation and pre-con, and engaging in cost innovation activities for each project unit.

To ensure proactive cost management, we eliminated risk factors prior to undertaking projects and explored opportunities for cost innovation through existing VE cases by applying lessons learned in practice. In consideration of the fact that there are more opportunities to reduce costs at the early stages of a project, we applied proactive cost control measures and organized a consultative group for cost innovation at all our new sites. In addition, we established a system for change order control and VE performance management to minimize disputes arising from order change, and leverage success/failure cases.

After completing each project, we engaged in profit and loss improvement activities by organizing a consultative group to review the budget spending and generating new ideas for cost reduction. In addition, 12 action tasks are defined to focus on their internalization while monthly performance is monitored. The cost innovation tasks are undertaken with the aim of improving the competitive edge in the areas of design, purchase, and performance and achieving the integration of work process and increasing the level of efficiency. The champion and the goals of each organization are assigned for their successful accomplishment. We implemented a system where tasks are monitored and self-assessed based on the Control Tower, and the results are shared at a company-wide level. In addition, innovation competence is internalized to establish a system for creating positive results through the operation of a knowledge system, to disseminate information about successful cases.

In addition, an open communication channel was created, including meetings with the CEO, to expedite the decision-making process while management innovation activities are undertaken through process improvement and innovation in meeting/reporting culture.

Cost Innovation Process



Result of Cost Innovation in 2014



VALUE CREATED ACTIVITY

Pre-construction Service (Pre-con)

At GS E&C, we established a pre-con performance system including an internal process for the implementation of the decision-making system through "Big Room Meeting" and the application of pre-con. The pre-con construction allows us to resolve interference between processes by undertaking validation prior to construction and improving the location of each facility and work flow efficiently while optimizing the location of exhaust vents and cables. In 2014, GS E&C secured two pre-con projects (Hana Finance Group Integrated Data Center, Hana Dream Town) for the first time in Korea. In the future, we will further develop a smart construction system by utilizing various types of IT tools including 3D BIM-based process (4D), integrated cost management system (5D), laser scanner, and PlanGrid.



Parnasse Tower
 • Location : Kannamgu Samsungdong
 • 38 story hotel and office building
 • Reduced the cost by 10 billion KRW by applying Pre-con as a trial

Advantages Coming from Pre-con Construction



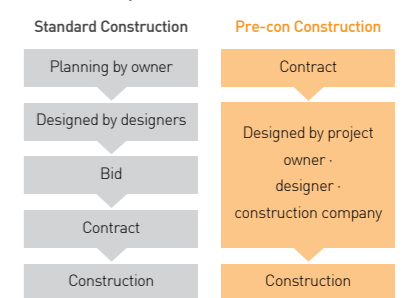
1) GMP : Guaranteed Maximum Price

Reduced Construction Cost of Parnasse Tower

Unit: 100 million of KRW

	Construction cost by process	reduced amount
Framework	269	39
Exterior	201	16
Civil Engineering	102	18
Machine	338	12
Electricity	179	15
Total	1,089	100

Comparison between standard and pre-con construction processes



Pre-Con Service Experience



Ng Teng Fong Hospital
 • Location : Singapore
 • Project Period : 2012.06-2015.05



HANA Financial Group
 • Location : Seo-gu, Incheon
 • Project Period : 2015.06-2017.02



Changwoon Gyeongsang National University Hospital
 • Location : Changwon-si, Gyeongnam
 • Project Period : 2012.12-2015.10

GREAT INNOVATION

Episode 02. Response to Climate Change

Climate Change Response Activities
Company-wide Energy Saving Activities

Episode 03. Eco-Friendly Technical Capability

Development of Eco-Friendly R&D
Eco-Friendly R&D Infrastructure
Development of Eco-Friendly Technology
Eco-Friendly Resource



Episode 02 Response to Climate Change

BOUNDARY



OUR BUSINESS & SOCIAL CONTEXT

Along with the increasing global interests in climate changes, a number of recent environmental contamination accidents in Korea have drawn attention to how we are dealing with environmentally hazardous materials. As public sector policy changes towards being stricter on environmental management are anticipated, the construction industry paradigm should shift gears adopting environmentally friendly management and building methodologies. Our in-house study on the importance of environmentally sustainable management also shows there is a growing concern in climate changes and reduction of Carbon Dioxide(CO₂), recognizing the urgency of nurturing low-carbon industries.

OUR APPROACH

By implementing the guidelines throughout the entire construction sites, GS E&C has been actively engaged in decreasing the amount of green house gas emissions. Besides, our green information management system featured by real time monitoring and improvement of inventory and performance check ups enables us to react actively to the upcoming climate changes.

OUR EFFORTS

GS E&C has promoted the company-wide energy saving campaign such as discovering the successful stories in achieving the energy saving and green house gas reduction. As a result, the company won three major prizes in the Korean construction environment management case competition.

FUTURE ACTIONS

As an upcoming action plan, we intend to set up an overall energy reduction policy, which will be applied to the various stages from design to construction, operation and maintenance. In addition, we will nurture the low carbon industries and invest in the energy efficient equipment systems in an effort to prepare for climate change.

Climate Change Response Activities

Response to Regulation of GHG and Energy Consumption

Now that the construction market has become legally mandated by the target goals for the Green House gases and energy saving set up by government in 2014, we introduced company-wide guidelines, which were adopted by every single department including construction sites. In particular, the guidelines for estimating the green house gas emission were addressed. We actively take part in the pilot programs for green house gas reduction initiated by federal, voicing the industries' feedback. GS E&C operates the green information management system for arranging the outcomes in order, with easy access to relevant information. Through the Green Information Management system we monitor the amount of the green house gas generated, trace the environmental achievements on materials, wastes, potable water, procurement, sustainable management etc. In the end, we share all those positive outcomes with employees instantly.

Reinforcement of Energy Management Committee

GS E&C continues carrying on an energy saving campaign, which is in the range of being practicable by employees. To put energy saving in practice, the energy saving committee consists of key personnel from each business sector and facility management. It sets up a goal for energy saving, deriving the task for betterment by periodic monitoring. Through site sampling and examination of the overall energy usage, energy saving methods like heating and cooling load management along with electric control system were contrived. Over the following years, the on-site saving criteria including an equipment handling manual will be distributed to all the construction fields.

Moves for Green House Gas Emission Reduction

Currently each business unit works on diminishing the amount of green house gas emission, by formulating countermeasures for cutting down the overall energy in the design and construction phases through operation and maintenance. The total amount of green house gas emission from GS E&C was 119,659 ton (scope1,2), which has slightly increased from last year mainly due to the growing use of gas and electricity. In the future, we plan to reduce GHG emissions by setting reduction goals for each business division and implementing activities to systematically reduce them.

Nurturing Low Carbon Industry

Biogas Test-Bed Research

GS E&C is researching and developing a food waste anaerobic digestion system, which is able to maximize production of biogas, minimize discharge of waste water and maximize stability of operation. By applying this technology to an environmental business project, GS E&C is expecting reduction of CAPEX & OPEX and enhancement of our technology competitiveness in overseas business.

MBT (Mechanical Biological Treatment) Core Technology Research

GS E&C is developing core technologies to efficiently produce SRF (Solid Refused Fuel), known as renewable energy. In 2013, a sorting system for high-water-content waste was developed and applied in an environment business project. And since 2014, GS E&C has been developing a low-density waste sorting system for the production of high-calorific SRF. GS E&C is expecting that those core technologies will be widely used in waste recycling and incineration business other than MBT business.

Registering at the Korea Voluntary Emission Registration (KVER)

One of the GS E&C's own properties, "Elysian Gang-Chon" achieved its successful energy saving on top of green house gas reduction by changing the fuel for heating from diesel with propane, to liquefied natural gas (LNG). Registering at KVER, Korea Voluntary Emission Registration guaranteed we were eligible for a refund from government as compensation for energy saving amount for the following 5 years after upgrading boilers. In 2014 "Elysian Gang-Chon" received 7,560,000 KRWs (Korean Won) for green house gas reduction, which was 606 tons of Carbon Dioxide (CO₂), expecting the sum of 37,410,000 KRWs (Korean Won) during the available period until 2017.

* KVER : Korea Voluntary Emission Reduction



Wirye Xi Energy Audit



System of Selecting Lightweight Combustible Waste



Registration of Korea Certified GHG Emission Reduction

Company-wide Energy Savings Activities

Energy Saving Activities

GS E&C is conducting a campaign, where managing lights and maintaining proper indoor temperature are encouraged for energy saving and green house gas emission reduction. For instance, in the cafeteria, a series of posters has been posted to encourage voluntary participation of employees. Many are engaging in the local municipal campaign called "Reducing a ton of Carbon Dioxide per person". Each business division establishes its own energy saving solutions such as operating sustainable field offices, turning the lights off during non-office hours as well as lunch hours, limiting the office car engine idling and promoting the use of bicycles.



7th site for railroad construction in Wonju-Kangreung
: Energy Saving and Net Zeroing of construction waste materials by utilizing halogen lights and freeze protection of equipments



Down Town Line C937 Site
: Energy-saving and reduction of noise complaint through operating the noise meter of solar energy generation

Green Transportation

Eco Driving Campaign

GS E&C continues the Eco Driving campaign to minimize environmental impact during transportation process. Drivers of in-site equipment and construction vehicles are given in-house training on preventing pollution, maintaining appropriate driving speeds and restrain from use of aged equipment and vehicles, Eco Driving posters will be distributed and related campaigns will be launched regularly to promote Eco-friendly driving.

Video Conferencing System

Since 2010, GS E&C has been conducting its regional environment management meetings via video conference and has shared environment management guidelines by issue/time and real-time key environmental information, which are shared via video conference.

Not only does the system improve work efficiency but it minimizes travel by car thereby contributing to the reduction of gasoline use. The number of management and employees participating in video conferencing in 2014 totaled 9,579(aggregate) which equals reduction in GHG emission by 1.51tCO₂-e*

* This is similar to the amount of carbon dioxide emissions by a 2,000cc car traveling round trip 11 times between Seoul-Busan.

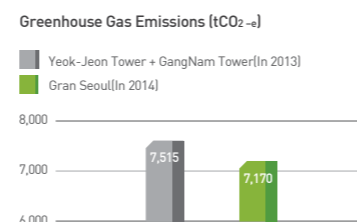


Video Conferencing System

Energy Saving Effect of Relocating to the New Headquarter

Our new headquarters completed in 2014 were certified as LEED gold as a result of GS E&C's active engagement, recognizing and reinventing the values in Life Cycle process. In detail, there was a significant amount of CO₂ reduction, which is 345 tons of CO₂ less than in the previous two headquarters combined (Yokjeon Tower and Gangnam Tower). It is commensurate with the total energy consumption of one thousand residential units per month.

* Comprehensive analysis on energy consumption across home, commercial sector and national demands (Korea Energy Management Corporation, Dec. 2006)



Episode 03

Eco-Friendly Technical Capability

BOUNDARY



OUR BUSINESS & SOCIAL CONTEXT

The more severe competition in global market makes companies embark on various research and development work. GS E&C also continues to develop green and cost innovation technology for sustainable growth. GS E&C concluded that both, 1) Stronger Connection Between Technology and Business and 2) Development of Eco-Friendly Technology are most important issues through the investigation in 2014.

OUR APPROACH

GS E&C has developed environmental technologies to go into the new market and has achieved global competitiveness for receiving orders, reduction in costs, and creation of profits. We are achieving technical cooperation with various partners using global network and setting up a stepping-stone for the new market with strengthening professional technology competency.

OUR EFFORTS

GS E&C supported 114 instances of technical services on our projects using 38 technologies in 55 projects. We accomplished one new environmental technology certification and four new green technologies certifications and 34 certifications on green buildings.

FUTURE ACTIONS

GS E&C enforced works of green gas control, energy management and reducing it in the whole process in business. We also are concentrating on environmental management system and green technology, green building certifications.

Development of Eco-Friendly R&D

Development of Eco-Friendly R&D

Research and development Infra

GS E&C is promoting green communication and response to greenhouse gases in order to fulfill the social responsibility of businesses and business promotion activities and the transfer of energy reduction and partners awareness on climate change. We have maintained a superior quality of competitiveness through research and development and technological capabilities in a variety of business environments and to improve competitiveness through cost reduction and new technologies. In particular, to strengthen R&D capabilities and promote the specialization of research facilities and manpower investment. 2014 eco-friendly research and development budget to 1.244 billion KRW, leading technology development and technical assistance has been spent and on-site environmental activity. In addition, a total of 39 professional R&D personnel are friendly with light construction, low-carbon, recycling of construction materials, and the last four key technology areas have been added, utilizing the executive staff.

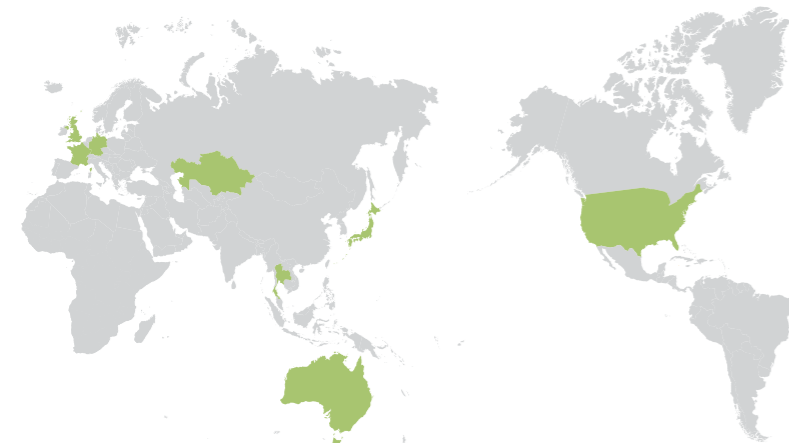
Technical Information Management System

There is Technical support from headquarters, in order to secure R&D work to improve the technical content accumulation that occurs while performing such a TIMS and through improvement cases, the type of design / process is delivered to field technicians. Technical information about the company construction techniques needs to hold mode via the TIMS, company information, and systematically manage information and experts, and to guide the role of technology and technology management strategies and technologies to secure information.

* TIMS : Technology Information Management System

Strengthen research and development network

GS E&C is moving to keep pace with environmental change over the three market environment-related technologies. The effect of Saving-technology development and cost competitiveness in overseas orders for new market entry technology, is the revenue gained. Currently, various collaborative technical efforts are being made with the focus of energy performance, and fire prevention for high-rise skyscrapers with the utilization of GS E&C's extensive global network. We are conducting numerous research with various Overseas Advancement Organization in order to enhance the company's technical expertise.



Team	Partner Organization	Partner Country
Building Science Research Team	UCL, ZED factory, IESD, INSA	The United Kingdom, France
Foundation Technique Research Team	DENKA, FOSROC, BASF, Eight-Japan Engineering, Tohoku University Nuclear Engineering, Arup, Lloyd's Register Consulting	The United Kingdom, Germany, Japan
Infrastructure Technology Team	Sgurr Energy	The United Kingdom
Infra Structure Team	Arup, IHI	Hong Kong, Japan
Geotechnical Engineering Team	Alpha, Mernard, Karaganda Univ.	Kazakhstan, Thailand, France
Infra & Offshore Research Team	Dundee Univ, IHC, RITE, Karaganda Univ., NGI, Worley Parsons	The United Kingdom, Netherlands, Norway, Japan, Australia, Kazakhstan

Technology Division organization chart



Eco-Friendly R&D Infrastructure

Eco-Friendly Technology Development

Certification of Green Technology

Green technology is a driving force in minimizing environmental impact caused by business activities and enhancing competitiveness with business strategies. GS E&C obtained a green technology certificate because of the efficient use and saving of energy and resources in all the social and economic activities such as global warming gas reduction, energy use efficiency, etc. GS E&C is continuously making an effort for green growth of construction industry.

Technologies Certified by the Ministry of Environment

Certified Technology	Expected Effect
Pressurized membrane system with automation chemical cleaning control	<ul style="list-style-type: none"> Reduction of Chemical usage (10%) Reduction of Power Cost (10%)
Activated sludge separation technology by DSBF (Downflow Sludge Blanket Filtration)	<ul style="list-style-type: none"> Enhancement of Dewaterability (10%) Reduction of Facility and O&M Cost (20%)
Method for operating Two-pass Split Partial Reverse Osmosis Seawater Desalination Plants	<ul style="list-style-type: none"> Reduction of Power Cost (0.6-2.6 kWj/t) Reduction of CO₂ (0.15-1.15kgCO₂/t)
Trenchless water pipeline rehabilitation technology	<ul style="list-style-type: none"> No BPA¹⁾ occurred Reduction of fuel cost and Construction Period (30%)

1) BPA : Bisphenol-A

Conduct the Eco-Friendly National Projects in the Architecture Division

GS E&C is carrying out the various national projects related to environment with the Ministry of Land, Infrastructure and Transport and the Ministry of Knowledge Economy as it achieved recognition of the technical skills. By performing Test Bed through participation in the national projects, opportunity to enter the new markets and co-operation with the ordering organization could be secured and expect the effect to reduce research expenses by governmental support of contribution.

National Project Name	Details of Projects	Expected Effect
The technology to build EEH(Energy Efficiency House)	National Research Project	<ul style="list-style-type: none"> 10% reduction in Heating
The development smart city energy management system for CO ₂ reduction	Development of Decision Making Aids and Management System for citywide energy supply design	<ul style="list-style-type: none"> 10% reduction in city energy consumption
The integrated certification system of green house gas emission to revitalize green buildings	Pursue the carbon reduction in the entire phases in project with building up the related data regarding the green house gas in the life cycle of a building	<ul style="list-style-type: none"> 5% Reduction in CO₂ emissions
Research of promotion green retrofit based on market demands	Prepare the foundation for green re-modelling of existing structures	<ul style="list-style-type: none"> 30% reduction in a existing building energy use

Certified as The First LEED Platinum Project in The World

Naver Chuncheon IDC is a building with cutting-edge green technologies. The building achieved the 73% overall energy and 69% water use reduction compared to the previous. It was possible through consideration of neighboring terrains in Chuncheon and the use of Soyong river as a source of cooling media. From the initial stage of design stage to the completion of building, environmentally friendly approaches were adopted. It finally attained the highest score since the LEED certification system stated, being the first LEED Platinum project in the world. LEED Platinum assesses five items such as reduction of energy, reduction of water resources, recycling resources, improving the indoor environment, and developing sustainable sites. NAVER Data Center received a perfect score for almost every item, achieving the highest score in LEED certification history as IDC.



Development of Eco-Friendly Technology

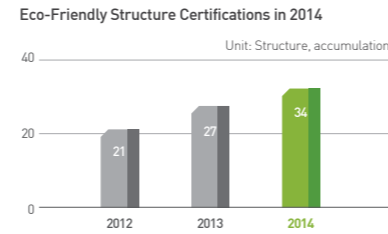
Eco-Friendly Technology

Expansion of Eco-Friendly Certified Buildings

GS E&C has acquired all 11 of green building certifications until 2014 including 34 of commercial buildings and housing. GS E&C also acquired LEED certification for NHN data center 2014, Gran Seoul, 1st zone of Chongjin office building and Green mark building certification for Fusionopolis in Singapore. GS E&C plans to acquire more green building certification by increasing building's value with energy savings, using eco-friendly materials and construction.

Eco-Friendly Structure Certifications

Structure	Certification Type	Certification Date
Gran Seoul	Certification	'14.01
Gageo Hangang Xi	Certification	'14.03
Sinchon Xi Ella	Certification	'14.12
Mapo Xi 2 nd	Certification	'14.00
Dorim Art Xi	Certification	'14.00
Gwangmyeong Station Park Xi	Pre-certification	'14.09
Misa Gangbyeon Central Xi	Pre-certification	'14.09
Wirae Xi	Pre-certification	'14.09
Wirae Jayeon & Xi	Pre-certification	'14.10
Daegu Station Central Xi	Pre-certification	'14.11
Jincheon Athlete's Village 2 nd Stage	Pre-certification	'14.12



Architecture/Housing Division Technologies

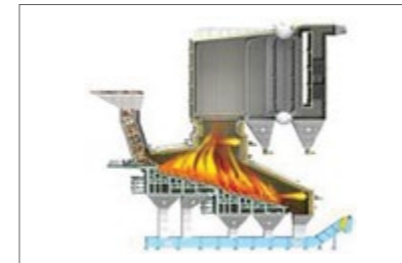
GS E&C contributes towards reduction of CO₂ emission level in a building unit through the development of energy saving technologies and empirical studies such as reducing lighting energy, using new and renewable energy and cooling and heating system. We also try to fulfill customer's satisfaction through out the quality assurance in each construction stage of building energy / air quality / noise and vibration control. GS E&C promotes energy saving and efficiency in urban areas with urban energy management system. We have also established a greenhouse gas emissions assessment and certification system to manage the carbon foot print of our projects more systematically.

Classification	Main Idea	Relevant Technologies	Applied Projects
Building Energy Saving	<ul style="list-style-type: none"> Providing an Eco-friendly Environmental Building Using Energy Saving Technology such as Design Optimization, Demand Reduction, Renewable Energy and BEMS, etc. 	<ul style="list-style-type: none"> Design Optimization for Building Energy Saving Heating & Cooling Demand Reduction Heating & Cooling System Using Renewable Energy Building Energy Management 	<ul style="list-style-type: none"> Parnas Tower Hana Financial Data Center (Precon Service Project) All Housing Project
Noise Reduction	<ul style="list-style-type: none"> Providing indoor environment of efficiently reducing noises such as outdoor noise, floor impact noise, and mechanical noise, etc. 	<ul style="list-style-type: none"> Soundproofing Drywall system Soundscape Design Raindrop noise prediction 	<ul style="list-style-type: none"> Jincheon Athlete's Village All Housing Projects AEON Mall, KSU Hospital
Air Quality Control	<ul style="list-style-type: none"> Reducing health risk and improving air quality to control air pollutants such as VOCs, microbial 	<ul style="list-style-type: none"> Evaluation of functional construction materials Gaseous Pollutant Control Risk prediction and modeling 	<ul style="list-style-type: none"> National Museum of Modern and Contemporary Art All Housing Projects
Waste Reduction	<ul style="list-style-type: none"> Shredding of waste, quantitative supply, ventilation system to provide convenience in the collection and reduction of waste 	<ul style="list-style-type: none"> Building Type 1 Way auto waste collecting system 	<ul style="list-style-type: none"> Gaepo APT Complex 4 Rebuilding

Plant/Power Division Technologies

Stoker incineration technology | Stoker incineration technology is a classic Waste-to-Energy technology reducing significant volume of waste and generating steam (hot water and electricity) from combustion heat. It combines highly-efficient combustion technology and heat exchange technology to maximize energy recovery and employs optimized flue gas treatment system to minimize air pollutants emission.

Odor control technology | Our odor control technology is to remove odor by microorganisms attached on the light porous media. The effect of this technology is proved through various projects such as LG Display, Yeosu-si/Daegu-si sludge drying facility, Chengju-si/Gwangmyeong-si food waste treatment facility. This technology can be applied in more various odor production facilities.



Stoker Incineration Technologies Concept



Odor Control Technology Facility

Civil-Engineering Division Technologies

Optimal treatment for muddy water in construction site | We developed the high-rate coagulative precipitation technology using eco-friendly coagulants, which has a high site-adaptation and economic merit. This is green technology because its sludge can be used for soil fill material after de-watering. This technology is contributing to the safety of water quality and environment protection. This technology was being applied to the high speed railway, road and complex construction site.

New Transverse Tunnel Ventilation Technology | A new transverse tunnel ventilation technology which can contribute to saving the construction cost by reducing the cross-sectional area of ventilation duct and at the same time, lowering the fire risk to the tunnel users. Both extraction and supply duct are used to remove the smoke from the road surface. Therefore, this is green technology which can be expected to minimize injury, and a 30% CO₂ reduction. It is most effective for following types of tunnels.

Wastewater Treatment Technology using filter film | We applies with wastewater treatment technology to the Metropolitan High speed Railway(Suseo-Pyengtaek) lot No.9 construction work, we have secured the stable water quality, the reduction of maintenance cost and the improvement of treatment efficiency.



Metropolitan High-Speed Railway Site



Busan Mandeok-Centum Underground Highway (application expected)



Metropolitan High Speed Railway(Suseo-Pyengtaek) Lot No.9 Project

Eco-Friendly Resources

Development of Water Resources

Integrated Water Supply Operation and Management System

GS E&C is developing a design/operation technology of a customized membrane-based tap water treatment system dealing with a changing intake water quality in order to secure water resource. Also, to maximize revenue water rate, we have developed no-water-suspension water supply network and tested it as test-bed. GS E&C makes great efforts to obtain Low-Carbon Green Growth Technology like the integrated management water supply system enabling to secure good quality of tap water, alternative water resource and decrease electric power and chemical usage in tap water production.

Development of energy recovery technology of seawater desalination plant

GS E&C is researching osmosis power generation process using the concentration difference between freshwater and seawater. This process can not only reduce electric power cost by 25%, used in the production of freshwater, but also reduce freshwater production cost by 10%. GS E&C is expecting that this technology will significantly contribute to overseas projects because of its economical and technical competitiveness.

Development of surplus sludge reformation technology of sewage treatment plant

GS E&C has developed sewage surplus sludge reformation technology that improves sludge dewatering efficiency by injecting additives of coagulants and dewatering chemicals. By using this technology, the amount of dewatered sludge is decreased and the quality of discharged water is improved. Consequently surplus sludge disposal cost is decreased. This technology was already applied in Songdo waste water treatment plant and will contribute to future waste water treatment plant O&M projects through the reduction of operation cost.

Waste-to-energy Solution

Contract Award of AWCS project and enhancement of technology application

AWCS (Automated Waste Collection System) is a method to collect waste pneumatically through underground pipe network. Compared to the conventional human/vehicle collection system, AWCS can more proactively pursue public sanitation, aesthetic pleasantness and residents' convenience. Due to these benefits, AWCS is becoming popular in New City Development. We were also able to improve the collection rate of waste and reduce the overall mal-odor and corrosion. GS E&C has been awarded contracts of Yeongjong Sky city project and Hangeong Central City 3-2 division project by using 100% GS E&C technology improving collection efficiency by 10% and gaining economical competitiveness.

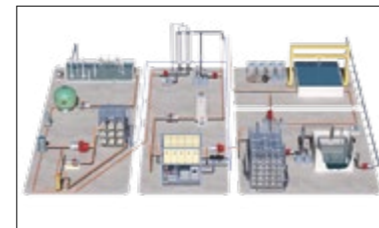
Stronger Connection Between Technology and Business

In 2014, GS E&C applied a total of 38 developed technologies to 55 projects and handled 114 cases of technical assistance.

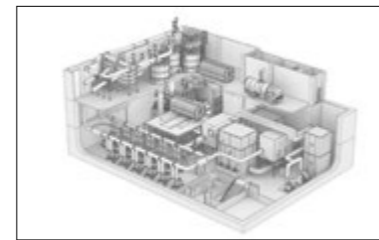
Main Developed Technologies	Applied Projects	Expected effect
Pier Cap-beam rebar pre-assembly Method	• Doha Link Project	• Cost reduction 10%, Shorten construction time 20%
Omega Bridge	• Railroad Test Track Project	• Cost reduction 7%, Shorten construction time 24%
Floor cooling & heating system using proportional control	• Misa Riverside Central Xi	• Energy saving 15%, Cost reduction 4%
Coupling beam damper	• Westside Han River Xi	• Cost reduction 200,000 won/unit
LED lighting system for underground parking lot	• Kyunghee Palace Xi	• Energy saving 35%, LED cost reduction 35%
None point pollution source technology for road and bridge	• Public administration City-Jeongan IC construction	• Cost reduction 20%, Engineering fee 100,000,000 won



Intelligent Membrane Water Treatment Pilot Plant (Daegu)



SWRO-PRO Pilot Plant (200m³/d)



Collection Center of Hangeong Central City 3-2 Division Project

2014 Major Achievements in the Development of Eco-Friendly Technologies

Classification	Technical Product	Description	Eco-Friendliness	Major Project in 2014	Major Objective in 2015
Plant	Large Capacity LNG Plant	• LNG plant construction project, including the preparation and processing of liquefied for natural gas	• Reduce greenhouse gas emissions	• Train-1 construction • Train-2 detailed design	• Train-2 construction • Use class - LNG Plant Feed Package
	CCS (Carbon Capture & Storage)	• Technology of Underground CO ₂ storage that captures CO ₂ from Facilities that emit a large amount of CO ₂ (plant, factory)	• Reduce greenhouse gas emissions	• International collaboration: Worley Parsons (Canada), RITE (Japan) • CO ₂ EOR National project from Industry and Energy administration	• Continuing CO ₂ EOR national project • Indonesia pilot test (1,000ton) perform is scheduled
Environment	Integrated Water Supply Management	• Development of next generation intelligent water supply pipe network: Increasing revenue water rate, more than 90% and establishing ICT convergence smart block system and operation technology for avoiding water supply suspension	• Supply stable quantity of water and maintain uniform pressure by increase of revenue water rate • Secure water quality and minimizing water supply suspension	• Established Test-Bed at Paju-si, Korea • Established Test-Bed at Hochiminh, Vietnam • Development of Integrated Water Supply Management system(G-SWaterS) and water supply network design program	• Obtain track record of Test-Bed operating reference (Paju-si, Hochiminh) • Commercialization of developed program
	Seawater Desalination	• Development of process optimization technology improving efficiency of SWRO-PRO process: reducing electricity consumption of desalination process using the difference of osmosis energy	• Reducing Carbon emissions • Minimizing power consumption • Minimizing marine pollution by discharging low concentrated water • Recovery of valuable material(Lithium, etc)	• Overseas Joint Research: KAUST, USC, GS INIMA S.A. • Development of SWRO/PRO hybrid process • MOU with ER Ltd for the energy recovery technology in seawater desalination plant	• Continue to carry out the national project of the SWRO-PRO hybrid processing development
	Waste Water Treatment	• Research of improving sludge dewatering efficiency: minimizing sludge treatment cost by improving sludge dewatering efficiency at waste water treatment plant	• 10% improvement of sludge dewatering efficiency • Reducing coagulant consumption by 15%	• Optimizing test for the injection of coagulants/additives → water contents test	• Selection of optimal dewatering chemical and injection amount
	Waste to Energy	• Low-density waste sorting system for MBT: Maximizing SRF from low-density combustible waste and minimizing residue going to landfill • Development of core technology of organic waste Hybrid Biogas plant: Reducing environmental impact of organic waste and recovering energy by increasing biogas production through efficient anaerobic digestion	• Maximizing production of SRF (alternative fuel) • Minimizing residue to landfill and optimizing plant layout • Maximizing the production of CH ₄ gas • Minimizing the production of toxic material (H ₂ S)	• Complete process concept and pilot plant • Complete the application of patent for the system • Development of core technologies for high-efficient biogas process • Application of patents	• Application to domestic and overseas projects after completing real size test • Development of high-efficient biogas process integrating developed core technologies
Power Civil	Offshore Wind Turbine Design & Construction	• Economic Analysis & Design of Offshore Wind Farm & Substructure/Eco-friendly Construction for Reducing Underwater Noise	• Renewable Energy Application Expansion • Greenhouse Gas Emissions Reduction • Underwater Noise Reduction during Offshore Pile Driving	• Offshore Wind Farm F/S Design Support • Acoustic Model Experiment for Underwater Noise Reduction Device	• Sustainable Support for Offshore Wind Farm F/S & Substructure Design • Technical Support for Underwater Noise Measurement & Analysis during Offshore Pile Driving
Architecture	Green Concrete	• Green Concrete (Reduction of CO ₂ Emission) which requires less cement content by using the supplementary cementable materials such as fly ash and GGBS	• Reduction of greenhouse gas emissions (CO ₂ : 9,294ton reduction in cement reduction)	• Yeocksam Xi et al 7 site (Construction volume: 255,558 m ³)	• Applying green concrete to all housing & building projects

GREAT PARTNERSHIP

Episode 4. Global Talent Development

Enhancement of Employee Work Competency
Safety & Health Management

Episode 5. Sustainable Partnership

Customer Satisfaction Management
Growing Together with Suppliers
Local Community Partnership



Episode 04 Global Talent Development

BOUNDARY



OUR BUSINESS & SOCIAL CONTEXT

As global competition grows more intense, the success of a company depends on the management of talented employees and development of executive officers and senior managers. At GS E&C, we focus on securing talented employees and implementing fair performance evaluations and compensation systems while fostering leadership skills and expertise. As safety and health issues emerge as an important subject due to enhanced safety restrictions, we are focusing our resources on establishing safety measures in all aspects of our business. As such measures took effect, the result of the significance analysis in 2014 identified "Employee Competence Development" and "Prevention of Industrial Disaster" as the most important matters.

OUR APPROACH

Based on mutual trust and respect, we make sure that our performance evaluation is conducted in a fair and transparent manner and that HR management is in line with company-wide innovation and global expertise. We place the highest priority on the safety of all our employees and ensure that the necessary safety measures are implemented in the field.

OUR EFFORTS

While maintaining the investment in employee training programs, we improved our human rights and diversity programs in response to increased global business. We also focused our efforts to improve individual and organizational performance and motivate employees by implementing a fair evaluation and compensation system. To make worksites safer, we improved our GS Q-HSE Audit Program and created a safety-oriented organizational culture while undertaking various programs to prevent recurrence of industrial disasters.

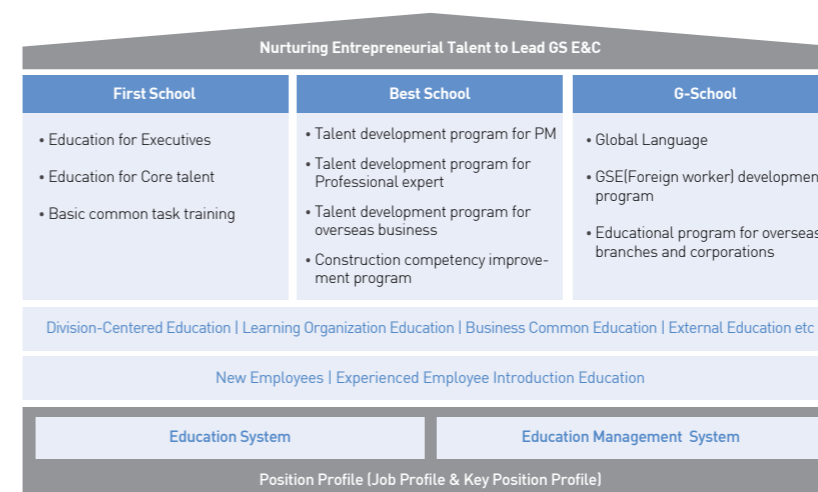
FUTURE ACTIONS

At GS E&C, we will continue to internalize the best organizational culture to promote fair and transparent HR management. We will also develop global leaders and experts by helping them to reach their full potential and create values. At the same time, we will reinforce our safety policy and implement systematic safety control activities to create a safe and secure work environment for all our employees and prevent industrial disaster at all costs.

Enhancement of Employee Work Competency

Human Resource Development Strategy

GS E&C looks for trustworthy individuals who lead innovation and aspire to be the best. GS E&C contributes to individual career development through a performance management system that fosters employee growth and offers opportunities, from education and coaching to office experiments. We provide in-house learning opportunities and promote self-improvement by using diverse methods, including online education, video education, and smartphone applications.



Global Work Competency Enhancement Program

GS E&C is actively seeking and developing global talents. We assigned a dedicated team responsible for global talent management, implemented a system to empower recruited employees to reach the company's expectations. GS E&C operates various language courses by occupation/period/level such as a construction course in English for the workers dispatched to the sites abroad, a short-term skill-up course for workers in charge of overseas business and a long-term camp training to cultivate future overseas manpower for the purpose of reinforcing the communication capacity required for carrying out overseas business. Online and video language programs have been made available to allow workers to take lessons both inside and outside of Korea.

And GS E&C operates engineer introduction program for foreigners, GS Insight online courses, video language courses on Korean and English, and an invitation of elite manpower abroad to improve a sense of belonging, duty and management capacity of foreign employees.

Fair Performance Evaluation and Rewards

GS E&C conducts performance evaluations that are focused on achievement and work competency. Various evaluation methods, including MBO evaluation, multidimensional evaluation, and relative evaluation are applied to complete a comprehensive performance evaluation. Employees receive feedback on the results of performance evaluations through an individual interview with their boss. Meanwhile, each organizational and individual achievement is related to fair performance rewards. Executives are evaluated by comprehensive achievements on finance, awareness, environment, social affairs, and other areas. The performance evaluation and rewards only reflects differences in performance and capacity and is not affected by gender discrimination GS E&C offers the employees with feelings of fulfillment from achieving their job requirement thereby enhancing the competitive edge of the company.



* Implemented on all employees(including contract employees) of GS E&C and those of Suppliers

Safety & Health Management

Strengthening Safety and Health Management System

Safety & Health Management System Operation

With our safety and health policy of "Compliance with Basics & Principles", we set our goal of zero industrial disasters and defined detailed action plans to raise safety awareness and promote compliance. In 2014, we established and operated healthcare under our safety organization to reflect our social responsibility in safety and health issues. In addition, we hold Safety Management Committee meetings twice a month to resolve any issues which may compromise safety while operating the company-wide Q.HSE Committee under the supervision of the Chief Safety Officer. The committee discusses the current safety status and issues and shares their ideas for improvement while communicating the messages from the senior management to all employees and fulfilling important roles in ensuring safety.

Safety and Health Certificates Obtained by GS E&C KOSHA 18001 and OHSAS 18001 See Certification Status in Details



Advancement of Safety & Health Management

In 2014, GS E&C underwent reorganization to enhance its safety and health management. The safety organization became subject to direct management of the CEO, and a Chief Safety Officer was appointed to raise the level of safety support and general responsibilities. In addition, we organized the "Sustainable GS E&C Safety Culture" campaign to raise awareness from executive officers to all relevant employees and the GS QHSE Audit Program for the improvement of "Safety Health Training by Class" and field safety compliance enhancement.

At GS E&C, we respond to the demands of project owners and take measures for continued improvement for the prevention of disaster and corruption. Furthermore, we provide two of our partners that demonstrated strong commitment to safety compliance with an incentive for private contract, support for KO-SHA18001 certification, and safety consultation service.

Preventing Accidents

License System for Special Employees

The license system for special employees is designed to prevent accidents caused by defective installation of facilities according to the level of expertise of scaffolding workers. Qualified safety patrols with expertise in the field are allocated for the prevention of industrial disasters.

Near Miss

At GS E&C, we are operating the "Near Miss" system to raise awareness and prevent accidents at worksites. Preventive activities are sub-divided in accordance with the types of previous accidents (e.g. fall, slip) to expand the scope by month, time of occurrence, and facilities to analyze the tendency of accident prediction and remove any risks or unstable factors in terms of environment and workers.



Safety Training for Safety Patrols



Safety Training for Scaffolding Workers

Prevention of Equipment Disasters

At GS E&C, we ensure accident-free operation by organizing a Safety & Health Team consisting of 5 persons to provide technical support for equipment management. We prevent the entry of any defective equipment in worksites such as tower cranes and construction lifts by providing training and undertaking inspection on all leased equipment while selecting equipment in terms of their safety through PCM. In addition, we arrange site inspections for technical instruction and maintenance to prevent any accidents related to equipment. Installation and removal of tower cranes is particularly under direct management and supervision at sites.

In 2014, we implemented a case study program to provide training for 549 workers twice a year while conducting an equipment training program tailored to raise the expertise level 60 times (120 workers) as part of our technical safety support. In addition, we prepared and distributed construction equipment guidebooks as part of our full-time monitoring and preventive measures.



Safety Training for Equipment Managers



Equipment Inspection by Experts

Safety Management on Overseas Sites

Safety Pamphlets / Safety Alert

At GS E&C, we prepared and distributed safety pamphlets to raise awareness in safety and prevent accidents at overseas construction sites. These safety pamphlets are easy to carry around and include basic safety practices for 16 processes. Furthermore, we distribute safety alerts that provide case studies on accidents on a monthly basis to promote awareness among employees as part of our disaster prevention training program.

Tool Box Meeting(TBM)

GS E&C developed "Tool Box Talks Card" composed of images and simple explanations for reinforcement of safety consciousness of employees and an effective equipment management and continuously makes an effort to strengthen safety consciousness by regularly holding TMB competitive exhibition using cards. We are planning to consistently operate by subdividing the contents and adding processes.

Monthly HSE Video Education

To spread the company's new safety guidelines and strengthen safety skills and the capacity of the employees, through information on accident cases, GS E&C carries out HSE video education. The online training program in particular is proven to be effective in improving the performance of safety personnel in underdeveloped countries. It will consistently grasp the demands for education to raise the quality of education and select essential education to be performed beforehand.

Safety Award

GS E&C finds and rewards exemplary workers who comply with the construction site safety rules at the site to help safety rule observance become a part of corporate culture at every site. We prevent safety accidents in advance by imposing sanctions such as an eviction from the site in case of a violation of Cardinal Rules of our essential safety regulations.



Annual Safety Award Convention

DTL C911 site in Singapore was awarded with an excellence award by being recognized of Project HSE Management which put safety as its top priority at ASAC event in 2014 sponsored by Land Transport Authority of Singapore.

Enhance Safety Training

Class Safety Training/Healthcare Training

In 2014, we established new safety training programs for all employees including the CEO. The new training program focuses on creating a "safety culture" in line with jobs and safety while improving the safety management performance and the level of execution. In response to the growing interest in healthy workplaces, we conducted special healthcare training programs for 225 safety supervisors and business managers while designating four healthcare intensive worksites to take proactive measures. In addition, we reinforced the healthcare training program for staff members in countries with a high level of safety and health risks to create healthier working environments. In the future, healthcare supervisors will be allocated to large-scale construction sites to improve the healthcare management of workers.

Reinforce Operation of Safety Innovation School

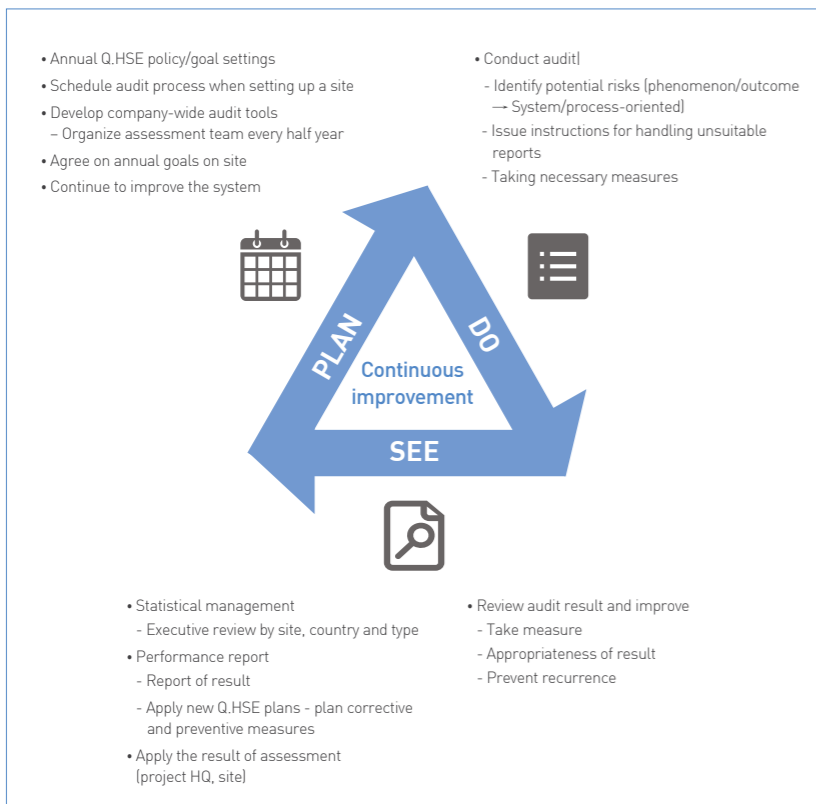
At the GS E&C Safety Innovation School, we conduct mandatory training programs for all our employees and partners' safety supervisors while undertaking emergency on-site training practices. The content of the training program helps trainees take effective initial measures within the "Golden Time". As a result, the school set an example for Southeast Asia and other companies, and the supervisors of the metro site in Vietnam and JCT site in Singapore paid a visit to the school to benchmark our program.

On-site Inspection/Assessment/Management

GS Q-HSE Audit Program

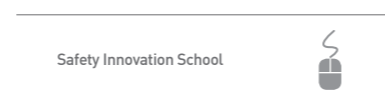
At GS E&C, we develop the "GS Q-HSE Audit Program" based on the safety management techniques such as ConSASS in Singapore and apply it to on-site inspection and assessment. In 2014, we further raised the level of on-site safety management by improving the areas of assessment for use as part of a self-diagnosis tool.

Operating System



Worker Completed the Education from Safety Innovation School Unit: persons

2012	2013	2014
1,682	1,112	7,328



Enforcement of warning alert of safety signal

GS E&C has differently been managing the results of safety management levels of sites based on the level of construction site after conducting the quantitative evaluation reflecting GS HSE evaluation program with classification of green, yellow and red. It has stepped up the efforts to establish the autonomous safety keeping activities on sites by imposing the penalty on the individual employee who made violations on mandatory safety regulation and PTW, giving incentives and penalties by signal grades in accordance with safety management level of sites.

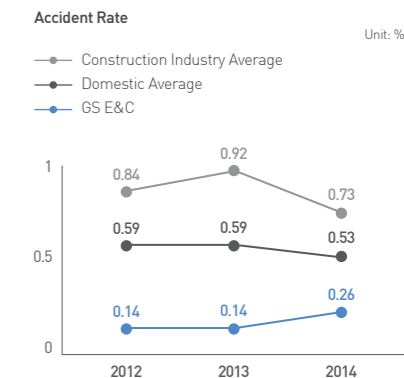
Good	Average	Poor
80 points or higher (Re-evaluation within three month)	70 to 80 points (Re-evaluation within two month)	Below 70 points (Re-evaluation within one month)

Enhance On-site Inspection

At GS E&C, we are undertaking on-site inspection training by using four measuring tools for all our field employees and partner staff. We improved on-site inspection performance by using tools for visual inspection, as well as conducting inspections on materials with a high level of risks for serious accidents.

Accidents Status Management

GS E&C traces and manages the state of safety accidents through Q-HSE information system. We implemented 1,314 support inspections on a total of 120 sites in 2013. Based on this experience, it has comprehended the operation condition of safety management of each work site and been increasing the effectiveness of disaster-preventive and safety accident-preventive activities. We promptly respond through a smart phone or a tablet PC in case of an accident and manage and prevent safety accidents in real time by developing 'mobile Q-HSE system' preventing the spread of damage. In 2014, our industrial disaster rate was recorded at 0.26%, which is significantly lower than the average rate of the domestic industry or construction sector. The increase in the rate is caused by employees' unstable behaviors such as non-compliance with work procedures in the first half of the year. We are focusing on preventing disasters through intensive training related to equipment.



VALUE CREATED ACTIVITY.

Reducing social cost by establishing Safety & Health Management System

GS E&C is creating social values as well as economic values such as cutting down labor expenses and other cost by minimizing risks of loss from accidents. We introduced the Safety & Health Management System in pilot programs and were able to enhance efficiency by reducing time to prepare risks assessment table, TBM materials, daily safety check table, and meetings. At the same time, we are creating social values we pursue by cutting down social cost from accidents.

	Anticipated Effects	Description
Human Resources	0.5 person / site	Reduce workload of workers at sites by simplifying the risk assessment process (supplier, supervisor, safety manager) ▶ Increase time to take care of dangerous tasks at sites
Times	Decrease 75% from the current practice (About KRW 1.3 bil.)	Reduce time to create and review risk assessment table by over 75% (100 min. ▶ 25 min.)
Cost	Save office supplies (About KRW 36 mil./year)	Reduce print-out costs by establishing electronic settlement system linked with TPMS (120 sites × KRW 0.3 mil. per site/year)
Reducing Accidents	Save costs from accident loss (About KRW 5.32 bil.)	In the case of achieving the goal of reducing 20%; [Save KRW 26.59 bil. (Estimated cost from accident loss in 2014) × 20% = KRW 5.32bil.]

Episode 05 Sustainable Partnership

BOUNDARY



OUR BUSINESS & SOCIAL CONTEXT

The customer value and satisfaction in the construction industry largely depends on the quality of work and the delivery of specialized service in response to customers' demands. The partners and local communities are the key to success, and it is essential to establish mutual understanding and collaboration with them. Lately, global companies' social contribution is focused on collaboration for mutual success and growth by solving the major problems of local communities. In response to this change, the results of GS E&C's significance analysis show that "Fair and Transparent Selection of Partners" and "Communication with Customers" are very important.

OUR APPROACH

At GS E&C, we are actively engaged in customer satisfaction activities by enhancing quality management and communication with customers. Through our efforts in building ethical and transparent partnerships, we are exploring ways to achieve mutual success through financial, educational, and technical support and by enhancing our communication channels. Furthermore, we are fulfilling our social responsibilities through social contribution programs, using our competence in solving local issues.

OUR EFFORTS

At GS E&C, we identify our customers' demands by taking a survey on the customer satisfaction and apply the results in raising awareness and improvement measures. In 2014, we handled 719 cases of customer complaints and won First Place in the housing sector by scoring 72.8 in the customer satisfaction survey. We ensure full compliance with fair business practices when dealing with our partners in terms of registration, selection, and assessment while increasing productivity, communication channels, and the level of execution through management support and innovation as part of the "Great Partnership Package". In addition, we are protecting our customers' information as well as the personal information of our employees and partners, from increasing security threats. We also engage in social contribution activities in line with our corporate strategies and secure talented workforce.

FUTURE ACTIONS

At GS E&C, we are enhancing our communication channels to achieve the highest level of innovation and maximize customer values. To keep personal information secure for our stakeholders, we will further enhance our security management system. In response to social demands and group level policy, we will increase our support for local communities through strategic social service and contribution and fulfill our responsibilities as a global corporate citizen.

Customer Satisfaction Management

Maximizing Quality Management

GS E&C tries to achieve its goal of "Global Quality No.1" by establishing quality standards in global level and realizing '3Z[Zero Accident/Pollution/Defect]' through a cultivation of autonomous capacity in quality. For this purpose, the departments in charge of performing quality duties in each business division as well as Global Q-HSE team and Quality team cooperate and manage the quality management system and fulfill quality improvement and management of suppliers through TPMS, CRM, TMS system. We performed an internal evaluation on 10 sites and 89 quality audits and the output has been utilized on the activities for recognizing the problems related to quality and preventing risks and securing the best quality.

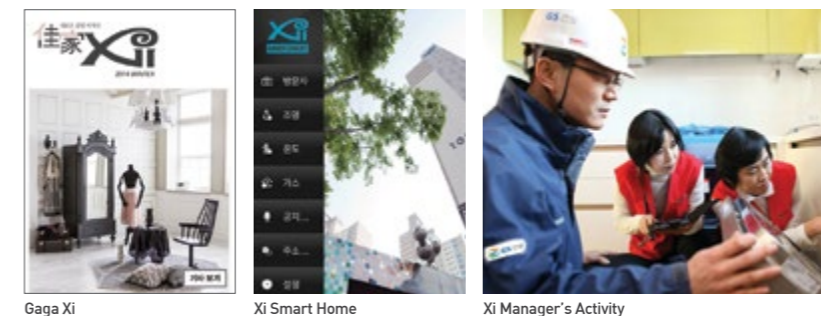
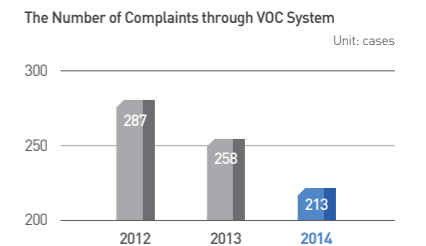
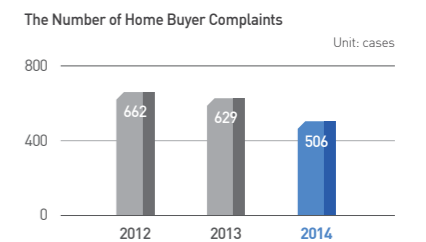
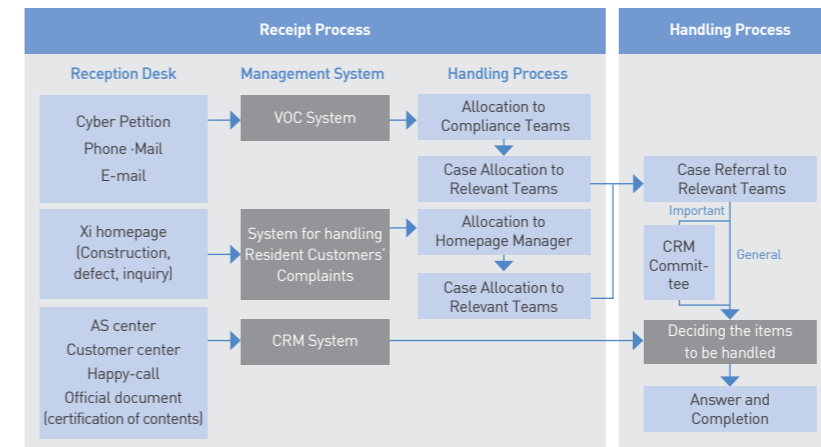
Pre Quality Control(PQC) before Occupancy

GS E&C performs PQC and holds Gagaxi Event (self-judging contest) as a defect-preventive activity before moving-in to prevent customer complaints in advance. The PQC manual describes the phased process of business affairs including a procedure of a lot test and is utilized as a document for the employees and suppliers to grasp business affairs related to defects, before and after moving-in. With this kind of effort, the number of defects indicated during the inspection before the residents move in has drastically decreased by below 3 at present from the average 10 in the past.

Expand Customer Communication

GS E&C operates VOC (Voice of Customer) system, Customer Complaints System and Customer Relations Management(CRM) system. Based on those communication channels, we manage to take prompt measures by monitoring complaints that every customer has reported online and offline in real time. The complaints reported to the company are to be dealt with immediately in principle and important issues are taken care of according to the grade, after being tabled in CRM committee. We manage the system so that similar complaints do not recur by giving feedback to every interested party. We also operate our main house brand on the company website Xi (www.xi.co.kr) to provide reconstruction plans, sales and after-sales services. Through the website, customers can obtain information such as various cultural events and receive professional consultation from the customer center via phone or web.

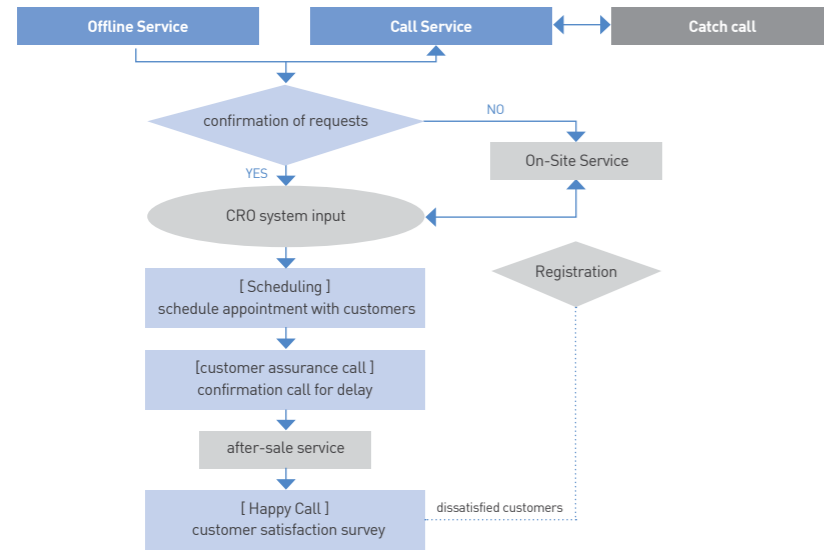
VOC System



Customer Emotion Management and Reinforcement of Communication

At GS E&C, we have developed and provided a state-of-the-art home network system and total security system to improve the quality of life. To gain a competitive advantage in the market, we are increasing the level of customer satisfaction based on "Design Identify System" by organizing a team of experts in the industry and differentiating our design quality. We communicate with customers by publishing 'Gaga Xi', a lifestyle magazine aimed at residents, contractors, union members, and sending contractors 'Xi Story', an additional newsletter which describes the dynamic processes of a construction site. And we have developed integrated applications for smart-phone and tablet PC users to receive various kinds of lifestyle and cultural event information such as house-selling news.

1:1 Personalized Customer Service Process



Xi Plus One Service

GS E&C implements 'Xi Green Service' which takes over the details of landscape management to promote stable rooting and growth of landscaping inside the complex at the beginning of residents' moving-in. We also make a visit to households moved into in each complex in the first year since they have moved in, to provide them with a cleaning service for bedrooms, bathrooms and kitchen.

Customer Privacy Protection

GS E&C operates a corporate personal information protection committee and enhanced security regulations and programs to protect the important information assets of the company and customers against numerous security threats, such as internal/external hacking and information leakage, the prevention of personal data leaks. According to the extended range of personal information in the Personal information Protection Act, GS E&C encrypts personal information of, not only customers and recruits, but also employees and suppliers. To provide confident and reliable service, we also control access to the personal information processing system by a solution developed to control access to the database.

Customer Satisfaction Survey

GS E&C conducted customer satisfaction survey to implement customers' needs, and satisfaction about the quality. In 2014, we scored 85 for the survey taken in the areas of project management, personnel, communication, and human rights, which is slightly lower than the previous year. However, we managed to win First Place for 10 consecutive years in the category of apartments in the Global Customer Satisfaction Competency Index (GCSI) while we ranked first in the same category of KS-SQI (Korean Standard-Service Quality Index) by Korea Standard Association. The results of the satisfaction survey on project owners and customers are analyzed and used to improve our service quality.

Results of Clients Satisfaction Surveys
[A total sum of customer satisfaction index average]
Unit : score

2012	2013	2014
83.5	87.3	85.0

See more information about customer satisfaction Survey

Growing Together with Suppliers

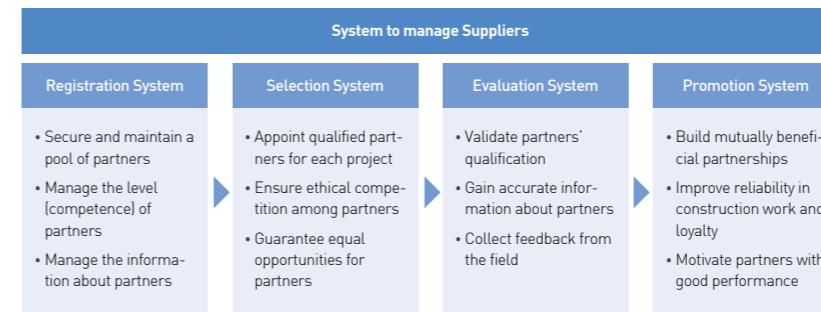
Fair and Transparent Selection of Partners(Suppliers)

Supplier Selection

GS E&C established an automatic bidder selection system for competitive suppliers to secure bid opportunities through fair and transparent processes. We select the most appropriate partners by proposing requirements to suppliers, which accord with quality, labor, and international standards in conformity to suppliers' guidelines. Also, regional preference is considered for the selection of suppliers to stimulate the regional economy and support outstanding suppliers.

Partner Management Guidelines

At GS E&C, our goal is to secure and develop partners with leading cost and quality practices based on free competition, and support for mutual success. With this goal in mind, we prepare and apply the partner management guidelines and use them as a basis for the operation of partners and our outsourcing system.



Distribution Chart of Suppliers

At GS E&C, we promote long-term business partnerships and mutual success and growth. As of 2014, there were 914 suppliers in total securing a partnership with GS E&C and 68% of major domestic suppliers were located in Seoul and Gyeonggi areas. The expenses incurred on the cost of use of local suppliers were 66% of the whole service charge of the suppliers with an increase of 1.8%p compared with the previous year. Among the 316 newly registered partners in 2014, we selected 139 local companies (40.2%) and enhanced our partnerships with them.

Evaluation of Suppliers

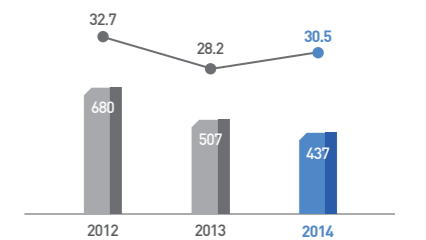
We are undertaking a quarterly assessment system (4 times a year) and annual assessment system (once a year) on site construction quality, environment, and safety management to ensure the sustainable growth of partners. Evaluation items include price competitiveness, quality level, delivery, completion by deadline, defect management, safety management, and level of cooperation. Evaluation standards are specified by characteristics of contract products. Evaluation results are open to suppliers transparently to secure the fairness of the evaluation and its management. Assessment results with feedback are used for re-registration, selection and promotion of suppliers.

Risk Management of Suppliers

GS E&C are promoting diverse risk management performance, including visual inspection of suppliers, monitoring the volume of transaction of insolvent construction firms, credit grade management, etc, based on management guidelines of suppliers. High-risk suppliers are subject to bid restriction. . Meanwhile, 22 companies of suppliers went bankrupt due to their financial difficulty due to the persistence of economic stagnation in the construction industry in 2014. We identified the financial risks of 11 companies and classified them under the high risk group to minimize the risks.

Purchase from Suppliers

[The ratio of purchases generated in the whole partners in comparison with those of local partners]
Unit: billion of KRW, %



Enhance Management of Global Supply Chain

At GS E&C, we are undertaking partner assessment and contract and payment management processes through our plant purchase system to improve our purchase and outsourcing management for overseas construction projects. We are also taking advantage of the B2B system to prevent delays and secure better quality materials while improving our on-site purchase management system to ensure the transparent management of materials. Furthermore, we are operating branch offices in Italy, China, Vietnam, and Singapore to purchase materials directly from local markets while focusing on the management of partners and field support.

Management of Human Rights of Suppliers

For subcontracting with every outsourcing construction-cooperative company, GS E&C requests the consent of fulfillment with integrity, for an ethical management. We also conduct a regular evaluation of our suppliers related to human rights(child labor, forced labor, discrimination, bribery, corruption, violation of fair trade) and apply the internal policy of a restriction of investment/bidding and a cancelation of registration to the companies where the human right-related issues have occurred while proceeding with an investment agreement (contract). We conducted a human rights evaluation on 914 main suppliers in 2014 and none of them was reported as lacking capacity requirements..

Communication Enhancement Activities through Win-Win Partnership

Operation of the Great Partnership Package

GS E&C tries to seek for a way to improve the competition-intensifying environment between company networks due to the prolonged economic stagnation as well as the continuous recession of construction industry and to develop communication between major companies and small and medium companies. We use the Great Partnership Package to achieve accompanied growth by reinforcing mutual competitiveness, providing suppliers with a simple support. It is believed that GS E&C and its partner companies will be able to try to establish win-win culture to strengthen the construction capacity and secure price competitiveness and to establish mutual trust with an improvement of financial and horizontal communication. The package is composed of four sectors; financial and management supports to secure financial reinforcement of construction capacity, improvement of the constitution of construction culture to boost productivity, and reinforcement of horizontal communication to enhance mutual trust.

GS E&C has acquired an excellent grade regarding fair-trade agreement supervised by Fair Trade Commission, also acquiring three-year consecutive highest grade, "excellent" on the accompanied growth index after evaluation of activities on establishing the pioneering system toward accompanied growth.

Composition of Great Partnership Package

Financial Management Support	Construction Performance Reinforcement	Productivity Growth through Innovation	Communication Improvement
<ul style="list-style-type: none"> Business support fund Win-win cooperation deposit Improvement of payment conditions Xi CEO forum Potential CEO training 	<ul style="list-style-type: none"> Automatic bidder selection system Cycle management by group Site manager training Safety innovation school 	<ul style="list-style-type: none"> Handover between preceding and following companies Quantification and optimization of bid conditions Green management Promotion 	<ul style="list-style-type: none"> Shared growth commission Subcon Board Online portal websites of domestic and international suppliers TPMS Cyber petition

Results of 2014 Win-Win Management Activities

Division	Program	Main Contents	Major Achievements 2014
Financial Support	Business Support Fund	<ul style="list-style-type: none"> Provide an advance upon request Scale of up to 15 billion KRW per year 	<ul style="list-style-type: none"> Supported 8.36 billion KRW to 6 suppliers
	Win-Win Cooperation Deposit	<ul style="list-style-type: none"> Create the Win-Win Cooperation Deposit amounting 30 billion KRW to support loans (loan interest reduction by 1.5%) 	<ul style="list-style-type: none"> Depositing the total of 30 billion KRW of the company -Supported 18.54 billion KRW to 24 suppliers
	Network Loan	<ul style="list-style-type: none"> Recommend suppliers to financial institutions to provide preferential loan examination Loan limit: 1/6 of the record of transactions with GS E&C in the previous year 	<ul style="list-style-type: none"> Conclusion of Network Loan with Woori Bank Joint overseas expansion with the Export-Import Bank of Korea Signing an agreement for mutual cooperation program
	Improvement of Payment Conditions	<ul style="list-style-type: none"> Improve the ratio of cash payment 100% compliance with the ratio of cash payment 	<ul style="list-style-type: none"> The proportion of cash payment : 82.5% [up 2.2% from 2014] 100% of cash payment Payment date :To be paid within 10 days from the date for payment
	Exemption of Bid Bond	<ul style="list-style-type: none"> Exempt excellent/meritorious suppliers from bid/warranty bond to reduce their cost burden 	<ul style="list-style-type: none"> Commission reduction assistance by 0.259 billion KRW per year
Education-Training Support	Education for new CEO's at Suppliers	<ul style="list-style-type: none"> Provide opportunities to foster the next CEO's management capabilities 	<ul style="list-style-type: none"> Completed by 30 people
	Training for Suppliers' Current Site Supervisors	<ul style="list-style-type: none"> Improve site supervisors' work competency 	<ul style="list-style-type: none"> Completed by 216 people
	Safety Innovation School	<ul style="list-style-type: none"> Experimental learning for safety awareness 	<ul style="list-style-type: none"> Completed by 216 people
Technological Support	Training for Suppliers' Working-Level People	<ul style="list-style-type: none"> Provide education for suppliers' working-level officials on labor affairs, leadership, and quality 	<ul style="list-style-type: none"> Completed by 182 people
	Joint Development of New Technology	<ul style="list-style-type: none"> Undertake joint development and patent application of new technology 	<ul style="list-style-type: none"> 10 joint development
	Technology Workshop · Seminar	<ul style="list-style-type: none"> Organize workshops & seminars to raise technological competitiveness 	<ul style="list-style-type: none"> Held 4 times
Communication Improvement	Joint Intellectual Property Rights	<ul style="list-style-type: none"> Registration & Application of Joint Intellectual Property Rights 	<ul style="list-style-type: none"> 24 Joint Intellectual Property Rights Registered & Applied
	GS Group Shared Growth Council	<ul style="list-style-type: none"> A Group-level council for pursuing shared growth Members include suppliers' CEOs 	<ul style="list-style-type: none"> Held twice
	Great Partnership Shared Growth Council	<ul style="list-style-type: none"> Top management discusses shared growth with suppliers' CEOs 	<ul style="list-style-type: none"> Held Once
	Xi CEO Forum	<ul style="list-style-type: none"> Invite distinguished speakers for presentation and award excellent/meritorious suppliers 	<ul style="list-style-type: none"> Held Once
	Subcon Board	<ul style="list-style-type: none"> Gatherings to collect suppliers' opinions 	<ul style="list-style-type: none"> Held Once

Local Community Partnership

Strategic Social Responsibility Activities

GS E&C's Corporate social responsibility are performed as strategic activities to contribute to business performance and excellent employee retention in connection with corporate business strategies. As a global company, GS E&C strives to fulfill its social responsibility and to grow together with local communities & environment. Our employees are required to meet the domestic and international communities through their expertise and volunteer work and donation. We make an effort to implement constructions smoothly by building trust with the local interested parties of the project site with various social contributive activities responding to the demands of the local community in and outside of Korea and to improve the company's image and to increase the brand value and also for the company to be recognized as a compassionate being.

Social Responsibility Program System

Core Value	Great Partnership _ We are united as one grow with the world we live in		
Core Field	Social welfare	Education & Culture	Environment & Safety
Social Responsibility Activities	Volunteering activities in headquarters and domestic/foreign sites	Study Room of Dreams and Hopes	Playground of Dreams and Hopes
	Common activities of Labor-management	Exciting after-school classes	House Repair of Hope
	Sharing of Kimchi of Love	Scholarship assistance	
	Employee fundraising activity	GS E&C's University Volunteer Corps	

Social Responsibility Program

Social Welfare Program

At GS E&C, we help vulnerable populations in our society with funds collected through a company-wide employee donation program. We also volunteer to visit solitary senior citizens and veteran families and provide food and living expenses while participating in kimchi and fuel sharing campaigns for low income families. In 2014, we donated to the funds to help the victims of the Sewol ferry disaster.

Education & Culture Program

We participate in the "Study Room for Dream and Hope" campaign to provide study rooms for teenagers from low-income families and offer college scholarships to those with outstanding academic achievements. We also build classrooms for children to use after school hours through the "Exciting After School Class" campaign while providing opportunities for children to enjoy cultural experiences.

Environment & Safety Program

At GS E&C, we support the "Playground of Dream and Hope" program to provide a safe environment where children from low-income families can play and develop healthy and sound bodies and minds. In addition, we participate in the "House Repair" program to create jobs and improve the quality of life for low-income families in collaboration with the Ministry of Public Administration and Security.



Total Number of Assisted Study Rooms of Dreams and Hopes 140 Rooms



Total Number of Assisted Playground of Dreams and Hopes 14 Playgrounds



Total Number of House Repair of Hope 108 Houses

Global Social Responsibility Program

Aid Program for Developing Countries

All employees of GS E&C voluntarily donated for overseas vulnerable class through the 'Sharing Fund'. All donated funds were used to support aid program for developing countries(Vietnam, Laos, Nepal etc.) with not only basic food needs but also increase incomes. We support malnutrition treatment, supplying water purifying agents, water filters to provide drinking water and also help in growing crops. We also implement education support programs and products for children to cultivate excellent overseas personnel in developing countries.

Vam Cong Bridge Construction Project

At GS E&C, we are building the Vam Cong bridge that crosses over the Hau River located in the southern part of Vam Cong in Vietnam. This is expected to generate economic benefits by reducing the distance traveled to the Mekong Delta, which is a major rice granary in the country, and promoting trading and tourism business. We are also undertaking the construction of the Doha Link Bridge in Kuwait and the Puerto Princess Airport in the Philippines, contributing to these countries' economic growth.

GS INIMA Water Treatment Project

At GS E&C, we are developing freshwater, water treatment, and soil contamination recovery projects in Spain and South and Central America through our subsidiary, GS Inima. In 2014, we are improving the quality of living in local communities around the world by undertaking an integrated sewage management project in Brazil, water treatment facility project in Morocco, and seawater desalination plant construction projects in Tunisia and Chile and helping them to clean their drinking water. In the future, we will expand our business in the water treatment industry with the synergy created by the collaboration with Inima while creating environmental values and helping people in need of clean water around the world.

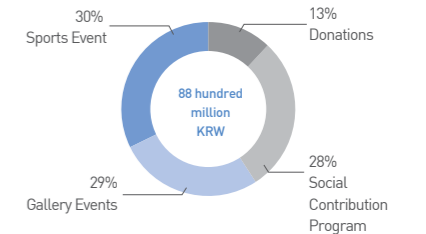
Management of Social Contribution Achievement and Evaluation

GS E&C's employees are all members of volunteer groups, committed to solve social problems for local communities and the environment. In 2014, GS E&C spent a total of 8.8 billion KRW in social contributions, and a total of 1,698 employees participated in social responsibility activities. We are managing selected indexes for self-evaluation on social contribution achievement, including the number of media reports, disputes and complaints of local community, the satisfaction level of participating employees and beneficiaries of the program.

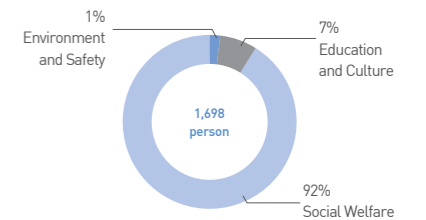
Aid Program for Developing Countries

- Food Aid Activity**
 - Malnutrition treatment food
 - Malnutrition treatment milks
- Drinking-Water Support Activity**
 - Drinking water kit
 - Drinking water filters
- Education Support Activity**
 - Notebook, Pencil, Storybook

The Amount of Money for Social Contribution and its Contents



The Number of Employee Participants in Social Responsibility / Activities and Their Performance Achievements by Field



Sharing of Kimchi



GS E&C's University Volunteer Corps



Water treatment business activities



Fund-raising activities

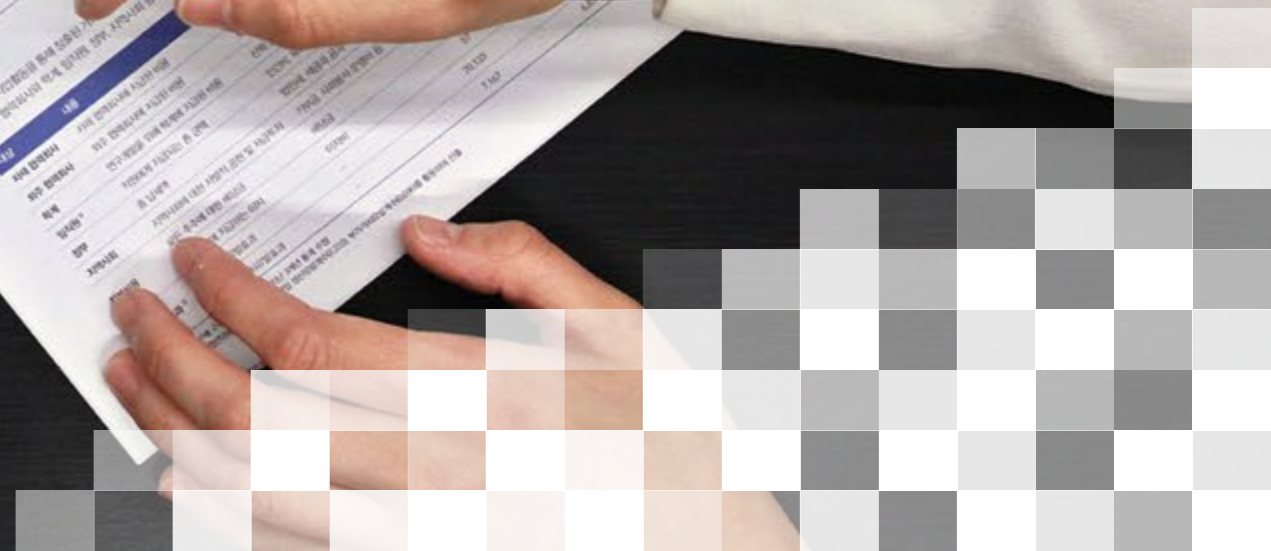
MANAGEMENT REPORT

Our Sustainable Performance

- Governance
- Ethics Management
- Risk Management
- Economic Performance
- Organizational Culture
- Social Performance
- Environment Management System
- Environment Management Activities
- Environment Performance

The image shows a hand pointing to a table of financial data. The table has multiple columns and rows, with some cells highlighted in blue. The text is in Korean. The table appears to be a balance sheet or income statement, with various financial metrics listed. The header of the table is partially visible, showing columns for '2021' and '2020'. The table is part of a larger document titled '경영활동' (Business Activities).

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Governance

GS E&C is continuously improving its Governance structure so that the Board of Directors makes decisions on the basis of transparent and responsible management. GS E&C has the Corporate Governance Charter and Operation Regulations for the Board of Directors, the Audit Committee, and the Outside Director Recommendation Committee. Moreover the corporate governance policy is disclosed on the company website. We will try to make a company that is trusted by the interested parties, through management transparency and accountability in the future.

BOD Composition

GS E&C's Board of Directors consists of two inside directors and four outside directors and one other director to ensure the board's independence. The GS E&C's board is chaired by the chairman of GS E&C in order to ensure responsible management. The directorate preserves comprehensive rights to the management of the company and performs the functions of decision making in management of the company and those of the management supervision. To ensure independence in the appointment of directors, the External Director Recommendation Committee selects candidates, and appointment is determined at the general meeting of shareholders. We ensure full compliance with Articles 382 and 542 of the Commercial Law when appointing outside directors. The independent lead director secures the BOD's independence by playing important roles including monitoring the CEO's managerial activities, mediating to resolve the conflicts between internal and external directors, calling regular meetings of external directors, and collecting and proposing the external directors' opinions.

To ensure rational decision making and secure expertise in fields of economy society, and environment, GS E&C appoints experts who have expertise and abundant experience in those fields as independent outside directors. None of the external directors has belonged to GS E&C or relevant subsidiaries, or has been specially affiliated in the last five years. Directors are appointed based on their expertise and experience in at least one of the following fields: accounting/finance, and construction. We receive their thoughts and opinions on corporate strategies, financial status, and domestic and overseas projects discussed in BOD meetings to improve the process of policy making. In order to assist the external directors with their tasks, GS E&C provides necessary information and educational opportunities.

BOD Operation

The Board of Directors makes and oversees key business decisions. The Board has authority over mid and long-term business strategy and policy, important financial issues and management of directors, as well as calling a general meeting of shareholders in conformity with the commercial law, nominating a representative director and approving financial statements.

GS E&C operates Audit Committee, Outside Director Recommendation Committee and Sustainable Management Committee within the directorate to reinforce its transparency, fairness and specialty as well as to carry forward sustainable management activities.

The Audit Committee oversees corporate accounting and business at a company level, the Outside Director Recommendation Committee nominates candidates for the company's outside directors. Lastly the Sustainable Management Committee shares company-wide sustainable vision and strategy.

The BOD Operation Regulations indicate that the Board's minimum attendance rate is 70% and outside directors' holdings of issued shares shall not exceed 1% to ensure fairness in operating the Board of Directors. You can check further details on the operation of the directorate and major matters for decision through the company's homepage.

Sustainability Management Committee

The Sustainability Management Committee was established in 2011 as the unit exclusively responsible for reviewing the progress of the sustainability management program as well as examining and providing advice on major related policies. All of the four Committee members are outside directors. GS E&C has been pouring efforts in substantive and fruitful operation by discussing the result in the committee of sustainable management, playing a role to integrate and support the sustainable management.

Performance of the BOD in 2014

Board Meetings	11 times
Issues on the Agenda	21 issues
Average Attendance Rate for Outside Directors	90.9%

See more information about operation of the board of directors



Current Status of the Board of Directors

Position	Name	Committee	Director/Executive Officer's Term of Office	Principal Work Experience
Standing Directors(Inside,2)	Chang-Soo Huh	Board of Directors	2014.03	Chairman of the Board Chairman of GS E&C
	Byeong-Yong Lim	Board of Directors	2013.03	President and CEO
Other Director	Tae-Soo Huh	Board of Directors	2014.03	Vice-Chairman of GS Homeshopping
Non-Standing Directors (Outside,4)	Byung-Hwa Jin	Audit Committee, Sustainable Management Committee	2015.03	Former Director of the Korea Technology Finance Corporation
	Jong-Eun, Kim	Audit Committee, Outside Director Recommendation Committee, Sustainable Management Committee	2015.03	Former President and CEO at LG Electronics
	Hyuk Choe	Audit Committee, Sustainable Management Committee	2013.03	Professor of Business School at Seoul National University
	Ho-Seon Yu	Outside Director Recommendation Committee, Sustainable Management Committee	2013.03	Professor of Department of Mechanical Engineering at Soongsil University

BOD Performance Assessment & Compensation

GS E&C carries out a self-assessment of BOD operation and committee activities every year. Assessment criteria include roles, responsibilities and duties, composition, independence, operation procedures, agenda of the Board, and operation of its committees, and evaluation of the Audit Committee. To ensure the independence of outside directors, the board does not pay additional bonuses such as incentives other than basic pay. The board's criteria for evaluating the performance of Executive Directors and Executive Managers included economic performance indicators such as revenue and operating income, social performance including employee satisfaction. Overall result evaluation of the highest decision making organization is to be performed on the basis of the economic achievements and the remuneration is to be decided according to the work. GS E&C discusses the compensation limits of directors at a meeting of the Board of Directors and confirms them at a general meeting of shareholders based on the results of the year. Furthermore, GS E&C discloses the amounts of compensation for executive and outside directors in its business reports. When the remuneration of a director exceeds 500 million KRW, we disclose individual payments for the director and its estimation standards for transparency. The average employee compensation equals 5% of CEO compensation.

2014 BOD Self-Assessment Results (Out of 5)

	Unit: point
Roles	4.4
Responsibilities and Duties	4.8
Composition	4.5
Independence	4.4
Operation Procedures	5.0
Agenda	4.0
Committees' Structure & Operation	4.5
Audit Committee's Evaluation	4.5

Shareholder Composition & Equity

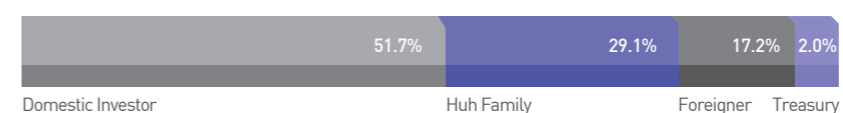
As of the end of 2014, the company's largest shareholders are domestic institutional and individual investors who held 51.7% of the company's shares. The rest of the shares were foreign investors(17.2%), persons with special interest(29.1%) and GS E&C as treasury stock(2%).

Shareholder Right

The general meeting of shareholders is held as a key communication channel. The CEO reports management status to shareholders and listens to opinions about management in the meeting and comments by shareholders are reflected in the overall management.

We respect shareholders' rights to know, by announcing information on key management matters in a precise and rapid manner through various channels, including the General Shareholders' Meeting and IR website, as well as regular reports such as business reports and quarterly/semi-annual reports. Even minority shareholders, if they hold more than a certain share of the company's shares, can propose to directors, or the Board, to hold a general meeting for the purpose of discussing matters of interest. They can also exercise various rights of requesting access to accounting books, calling for an extraordinary general meeting of shareholders and requesting the dismissal of a director.

Shareholders Breakdown



Ethics Management

GS E&C has revised the Code of ethics for ethical management, education and publicity to realize an ethical management. Also, We are making our best efforts to fulfill the responsibility of ethical management. Also, we are making our best efforts to fulfill the responsibility of ethical management not only in the domestic sector but also overseas, by translating it into six languages of the countries where we are doing business.

Strengthening the Ethics Management System

Revision of the Ethical Standards and Coverage

The GS E&C's code of ethics consists of the Charter of Ethics, Code of Ethics, and Code of Ethics Practice Guidelines. In response to climate changes, our global standards and issues are constantly revised and updated to raise awareness and ensure the voluntary compliance of our employees. In 2014, we integrated our ethics rules to establish the Code of Ethic Practice Guidelines. The guidelines explain the system of ethical business practices such as reporting and protection of informants as well as job related ethical guidelines that can be used to determine behaviors as ethical or unethical. The ethical standards apply not only to our employees and affiliated companies but also to suppliers who have contracts with us. In case of a violation, restraints may be applied to suppliers such as a revocation of contract.

Legislation of Overseas Law-abiding & Ethical Guideline

GS E&C has prepared law-abiding and ethical criteria of action on legal and customary regulations when performing overseas business. The guideline describes the regulations required to be followed according to the local law such as requiring a compulsory observance (bribery, anti-corruption, etc) and the behaviors prohibited or recommended in terms of commercial practice and culture. The Guideline applies to four countries 19 countries in middle East, Asian, Africa, Europe countries which are the main countries of overseas business. To prevent possible risks in ethical and customary terms, the executives and employees are well-informed of this guideline when carrying out overseas business.

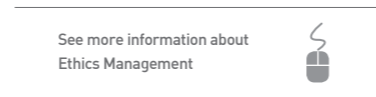
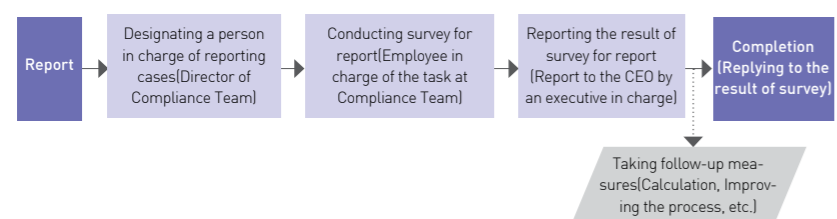
Ethics Committee Operation

GS E&C has run the Ethics Committee to inspect ethics management activities and support ethical decision making of chief executives. The committee consists of a chairman(Chief Safety Officer), and its members consist of directors from eleven different departments. In principle, the committee convenes semi-annually; however, it holds additional meetings to make quick decisions when urgent matters arise.

Ethics Violation Reporting System

GS E&C receives reports of ethics violations through various channels such as the Ethical Management website, phone, e-mail and mail. The investigation results are sent to informants via phone or e-mail. Any unethical behaviors are subject to disciplinary action under our corporate policy. In addition, we announce the results on the intranet to raise awareness while ensuring the anonymity of those who report unethical practices under our "Informant Protection Policy". As a result of implementing its internal/external reporting system and regular assessment initiative, there were nine instances where disciplinary action was taken in 2014 . GS E&C will continuously carry forward unethical behavior-extermatory activities and try to become a company trusted by the customers and society through a transparent and fair management.

Ethics Management Reporting Process



Details	2012	2013	2014
Discipline/Dismissal	-	3	6
Suspension	-	12	-
Wage Cut	-	6	-
Reprimand	-	2	3
Others ¹⁾	4	1	1
Total	4	24	10

¹⁾ Volunteered retirement, revocation of contract (except a warning and a disciplinary action to a company which has violated the ethical management)

Ethics Management Training & Public Communication

Ethics Management Training

GS E&C conduct online/gathering ethical management training to enhance awareness and understanding of ethical management among employees. Employees are able to strengthen the basis of ethics management through the education program by learning countermeasures to ethical dilemma situations and reflecting on their role and accountability in practice of ethics management.

Gathering Education | In 2014, we changed from off-the job training conducted by major job groups and senior managers to on-site training to include more employees. Currently, we are conducting customized in-depth training for case study and ethical business practices as well as basic ethical training for new and existing employees.

Online Education | All employees take an online course on ethical management once a year. GS E&C runs online courses focusing on ethics management policy and dilemma cases for employees to internalize the ethics mindset. The training course is mandatory for all employees and applied to ethical evaluation.

Promotion of Ethical Business Management

Ethical Management Page & Q&A | On the intranet, we created an ethical management page where our employees can sign the declaration of ethics, access information about the code of ethics, and report unethical practices. In the Q&A section of the intranet forum, various cases of ethical dilemmas are posted on a weekly basis to raise awareness and promote compliance.

Publication of Newsletter | Every month, we publish a newsletter on the subject of ethical management to share issues with our employees. Interesting stories about ethical management and dilemma cases are shared through the newsletter.

Operation of a Program Realizing the Ethical Management

Ethical Pledge & Report and Reward Scheme

GS E&C requires its employees to take a written oath for them to voluntarily participate in ethics management activities. The oath declares that employees of GS E&C reaffirm their will to practice ethics management and endeavor to establish an ethical corporate culture. GS E&C implements a system to give rewards to those who report unethical business practices of employees including bribery and embezzlement of public funds. Rewards are up to 100 million of KRW and determined by the Reward Deliberation Committee.

Joint Liability for Unethical Practices

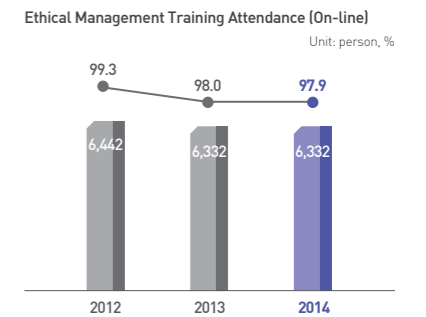
In order to root out unethical business practices, GS E&C has been running a joint liability system in which not only the one who violated ethical terms but also his/her supervisor and team are also punished by cut in compensations. The level of disciplinary action is decided by the Disciplinary Committee and the supervisor faces the same level of punishment in case he did not take any action despite his awareness of his subordinate's unethical practice.

Management Consultation Activity

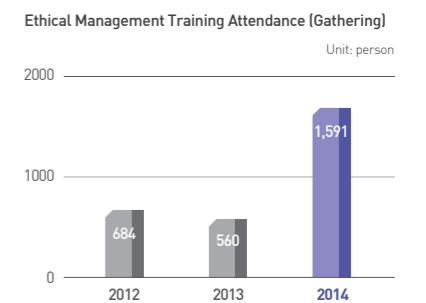
The Compliance team is in charge of prevention and post management of unethical behaviors and improvements in the work process through an organizational and regular site diagnosis, responding to ethical risks with an investigation and briefed inspection by the board of directors.

Antitrust Policy & Fair Management

GS E&C strictly fulfills the antitrust policy, related legal matters and regulations at every work site throughout the world, aiming to lead sustainable business on the basis of trust of customers and the public. For the related restriction, it was imposed with a penalty of ten million KRW by Financial Services Commission in 2014 with regard to issuing corporate bonds. GS E&C will observe the principles and laws rather more strictly to prevent a recurrence of such an issue. Every executive, employee and affiliated associates of the company will do their utmost to observe antitrust policy/anti-corruption regulations in all partner companies, Suppliers and supply companies.



* Implemented on all employees(except dispatched worker) of GS E&C



Risk Management

Despite the increasing uncertainty of the global recession, declining growth of the construction industry, and serious global risks due to the increasing number of overseas mega projects, GS E&C is stepping up its company-wide efforts to identify risks in advance and respond to them more effectively.

Risk Management System

Since the organization of company-wide RM in 2011, we have managed risks at a company-wide level by classifying them as business environment and business performance. With the IT-based risk management system and financial and non-financial risk monitoring system, we were able to substantially reduce actual risks.

Business Environment Risk Management

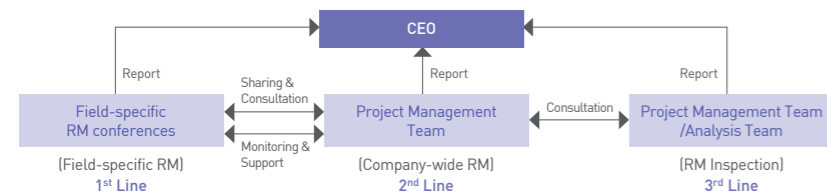
Global economic trends, increase in prices, fluctuating exchange rates, unstable social and economic conditions, and changes in policies and regulations, Energy and fuel crisis which come from potable water shortage, environmental contamination and visualization of worldwide resource depletion are analyzed and monitored in terms of their importance, probability, and influence.

Business Execution Risk Management

In order to efficiently deal with all the risks that may be detected in advance or occur unexpectedly throughout projects from the initial stages of the business to completion, GS E&C is establishing an organic risk management system within the business headquarters, domestic and overseas branches/ personnel and among the employees in their entirety. The ultimate risk inspection on project bids introduced through the screening process of business headquarters as well as domestic and overseas branches/personnel and the review of significant risks that occur through business management take place at the Business Deliberation Committee level. In addition to the financial evaluations conducted for the review of business feasibility, risk management of non-financial risk evaluations are conducted by categorizing them into specialized groups based on the different stages of a project (before construction/mid-construction/completion).



Risk Reporting System

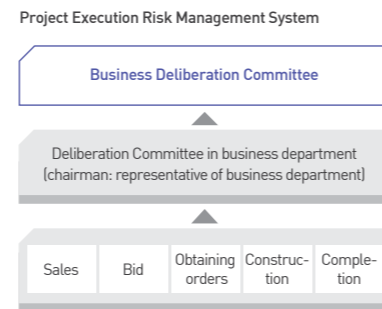


Operation of Risk Management System

We identified 51 items in 10 different fields through our Integrated Risk Management System, and then classified them as financial and non-financial risks to identify and manage risks on a monthly and quarterly basis and raise the level of efficiency and effectiveness.

Financial Risks | Orders, sales, profits and losses, cash flow, bonds, foreign exchange, interest rates, foreign exchange rates, etc. are categorized as financial risks and managed accordingly. In addition, the company is intensifying its risk-preventative measures through regular domestic and foreign economic forecasts.

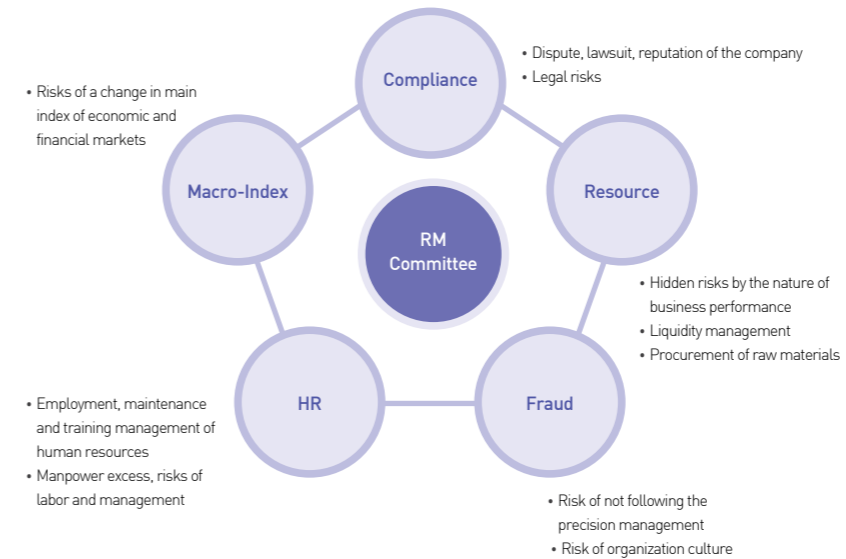
Non-Financial Risks | Process, cost, Poor business members/partners, safety, litigation management are categorized as non-financial risks. Monitoring through in-depth analysis and situation-specific response capabilities are being reinforced.



Key Risk Management Activities

RM Committee

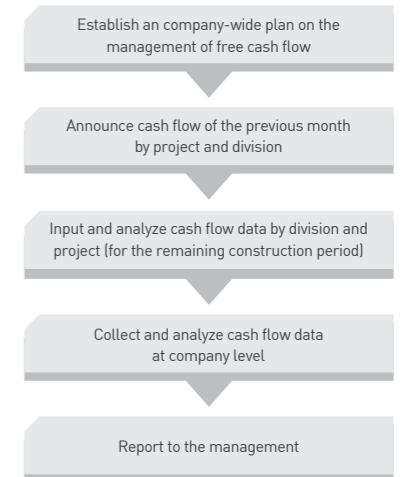
At GS E&C, we are promoting the risk management collaboration network, "RM Meeting", to improve risk management practice. By doing so, we can share risk issues and explore our options for solutions by managing the fundamental aspects.



Cash Flow-Oriented Business Management

GS E&C is currently operating an internal cash flow system in an effort to accurately evaluate the current management state to reflect the financial profits and losses and any additional cash flow information. The cash flow system provides future cash-generating ability to individual management enterprises, thereby contributing to minimizing the uncertainties of future cash flow. In particular, the cash flow system enables the forecast of investment risks of new leading businesses, helping decide on the ideal timeframe to make investments.

Cash Flow Forecasting Process



Project Risk Management Innovation

Based on the EVM(Earned Value Management) techniques, we apply the Total Project Management System that allows us to coordinate our schedules and costs and manage the process and profit and loss to identify cost trends and maximize productivity at construction sites.

Process	Profits and Losses	Business Characteristics
<p>Improvement of the TPMS with a focus on usability and autonomy to increase the utilization value of each project's process control function</p> <ul style="list-style-type: none"> Buyer outsourced planning and real-time management SITS(Schedule Information Tracking System), CPM, progress schedule, milestone management Expansion of free management at the sites, provision of on-line manuals 	<p>Reinforcing the management of working budgets, existing and input cost flow and unexecuted future cost rate to improve the monitoring and risk management of profits and losses</p> <ul style="list-style-type: none"> Reinforcing risk management through the analyses of CRV and CRI indices Strengthening the management of the status of monthly deadlines for profits and losses Reinforcing the future cost rate management of unexecuted portions Providing customized screen by users 	<p>Improving an appropriate TPMS such as plant EPC, etc., including planning and sales</p> <ul style="list-style-type: none"> Improving planning, sales and spacio-temporal information distribution infrastructure Establishing a TPMS ideal for a comprehensive process support

Economic Performance

In 2014, despite the unfavorable business environment, GS E&C won orders worth KRW 11.2 trillion, an increase by 24.5% compared to the previous year, achieving this by winning continuous orders of large-size plant projects and housing projects. Recorded sales were maintained at a similar level with the previous year, while business profits shifted to surplus due to the improvement in the domestic housing market, thus marking the milestone for a turnaround in performance.

Unit : billion of KRW

Indicator		2012	2013	2014
Sales	Total	9,569	9,566	9,488
	• Plant	4,492	3,796	4,202
	• Power	655	1,044	1,062
	• Civil Engineering	1,237	1,147	1,086
	• Architecture · Housing	2,904	3,339	2,812
	• Others	281	240	326
Gross Sales		765	(379)	429
Operating Profit		176	(935)	51
Earnings before Tax		182	(993)	-30
Net Income		95	(827)	-22
Total Assets		11,776	12,427	13,095
Total Loans		2,460	4,247	3,919
Amount of Orders	Total	9,107	9,008	11,216
	• Plant orders	3,195	4,254	5,830
	• Power orders	1,697	370	1,121
	• Civil Engineering orders	557	1,276	1,027
	• Architecture · Housing orders	3,639	3,108	3,238

Sharing of Economic Value

GS E&C shares value created in our operations with our internal and external stakeholders in a fair manner. We are making an effort to establish a trust relationship through active communication. In 2014, we disbursed a total of 7.26 trillion KRW, 4% decrease from the previous year, to our suppliers, academies, employees, government, local communities, etc.

Unit : billion of KRW

Entities	Content	Item	2012	2013	2014
Material Suppliers	Payments to material suppliers	Materials expenses	2,865	3,067	2,879
Outsourcing Suppliers	Payments to outsourcing suppliers	Outsourcing expenses	3,384	3,436	3,269
Academies	R&D expenditures to academies	Academic-industrial joint R&D expenditures	2.4	2.9	1.2 ¹⁾
Employees ²⁾	Amounts paid employees	Labor costs, benefit expenses	779	857	880
Government	Taxes paid to the government	Corporate tax, other taxes and bills	61	△102	122
Local Communities	Voluntary contributions and investments in local communities	Donations, operational costs for community services	10	8.5	8.8
Capital Expenses	Dividends to all shareholders	Dividends	12	-	-
	Interest expenses	Interest expenses	57	102	100
Inducing Indirect Economic Effect ³⁾	Production inducement effect	-	20,133	21,524	21,092
	Added value inducement effect	-	7,167	6,859	6,604

1) Supporting amount for joint R&D has been decreased over last year with rearranging portfolio in order to focus on technologies enhancing its productivity rather than development of promising technologies through industry-university joint research

2) Modification of statistics of past three years due to a change of the item composing result distribution of employees

3) Based on the added valued inducement coefficient of 0.69% for every 100 million KRW announced by the Bank of Korea
Based on the production inducement coefficient of Korea's construction sector is 2.223 for every 100 million KRW

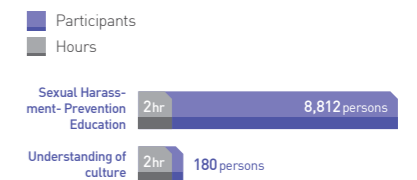
Organizational Culture

Respecting Human Rights and Diversity

In 2014, we hired 126 new employees and 79 employees with experience (275 including contract workers). The salaries of employees with college degrees are paid at least 339% of the minimum wage, and there is no discrimination based on sex. GS E&C is expanding its business overseas and strives to create an atmosphere of open communication where diversity is respected, a culture where employees are able to freely communicate with one another. To do so, we prohibit employee discrimination on based on race, gender, disability and religion. Discriminatory practices such as bias in hiring, compensation, evaluation, promotion, and education/training are also strongly prohibited.

The ratio of local administrators of 16% in 2014, shows a 4% increase from the previous year. The importance of local manpower for Thailand, Indonesia and Egypt is exceeding 90%. We have education programs related to human rights to protect human rights of foreign workers in the company. We try to prevent a possibility of discrimination and human rights abuse in advance through an annual sexual harassment-prevention education. Due to these efforts, we incurred no restrictions or accusations with regard to human rights in 2014. Our preparing and posting Declaration of human rights onto web site will allow diverse stakeholders to check how our human-rights management policies are going.

Education Regarding Human Rights



* Implementing on all employees of GS E&C and those of suppliers

Welfare Benefit Policy

Leisure Assistance	Assistance for use of recreational facilities, such as membership resorts
Childbirth/ Maternity Protection Support	Support and child care benefits / Operation of nursery facilities as part of company facilities /Support baby bonus / Infertility leave policy / Maternity leave and child-care leave policies for mothers and spouses
Housing/Stable Living Support	Funding support to buy a home/ Transportation and travel allowances for field workers / Regular leave assistance for employees abroad
Medical Service/Health Support	Medical examinations / Medical indemnity insurance / group insurance assistance / Insurance assistance for employees abroad
Education Support	Assistance with children's school expenses
Legal Welfare Benefits	Health insurance / National pension / Unemployment insurance / Occupational health and safety insurance
Selective Welfare Benefits	Self-improvement / leisure activity support
Congratulations and Condolences Support	Congratulations / condolences leave and expenses
Etc.	Informal group activity expense support

Family-Friendly Company Culture Program

Family-Friendly Program

At GS E&C, we participate in various family support programs for our employees, including the presentation on college entrance exam for third grade high school students and lecture on self-motivation learning techniques for middle school students, as well as medical indemnity a insurance for spouses and a day care center as part of our family-friendly employee welfare and services. Through these efforts, we are improving employee satisfaction and job performance and ultimately raising the level of productivity and our competitive advantage in the market.

Childbirth/Parental Leave

GS E&C guarantees the spouses of its employees payment of medical expenses for childbirth and operates nursery facilities inside the company and has newly established a time-off system for those who are having a difficulty in getting pregnant and expands the support for social concerns on low fertility rates and unstable income security of working women. The return rate of the employees who have used parental leave was as high as 100% in 2014 and the retention rate of working more than 12 months after returning to work was also maintained at 100%.

Employee Satisfaction

GS E&C conducts an employee satisfaction survey, composed of 9 categories, every year. According to the survey in 2014, the average score was 69.3% which were increased by 7.8%p compared with the previous year due to an increase in working fatigue. In 2015, GS E&C is striving to improve employee's satisfaction level by setting the goals of maintaining the average employee satisfaction level and increasing scores of weak areas, while also developing programs to manage employees' stress levels.

Retirement Programs

GS E&C operates pension insurance programs to help employees prepare for their lives after retirement and provides sufficient retirement payments. We ensure employees' financial stability after retirement and the company divides employee pension plans among 13 financial institutions. As of 2014, GS E&C accumulated 209.9 billion KRW was deposited at external asset management institutions.

Employee Communication

Open Management Program

GS E&C is enhancing a communication channel between the CEO and employees to make an exciting organization by preventing inter-division egoism, individualism, and indifference. We hold a communication meeting with team leaders to exchange thoughts widely on the pending issues of management with major team leaders in each business department, and cultivate a change agent playing the role of a communication medium between the company and employees and utilize it, such as with the advance guard of open management. GS E&C adopted the "CA" program. CA is an employee representative from each business unit and acts as a channel of communication between the leader and employees. CA enable employees to freely and regularly generate ideas through a workshop. And those ideas are used to improve the company's systems and processes. And we run a Walk & Talk program to promote communication between the CEO and employees to increase their closeness.

Promotion of Information Exchange with Management

GS E&C maintains a communication system to promote information exchange with management. We upload commonly necessary corporate information such as a CEO's message and main events announcements, to the online EIP board. We also hold a quarterly management issue meeting and a bimonthly site managers meeting to share a wide range of agenda items relating to the company's policies such as business plans and results, as well as items aimed at improving the employees work-life balance. The discussed matters are communicated to the employees through newsletters and the bulletin board. Also, to listen to the employees' grievances and handle them in a speedy manner, GS E&C installed a grievance bulletin board called "VOE(Voice of Employee) to receive and resolve grievances. In 2014 through the VOE, a total of 128 complaints were received and 100% of them were resolved.

Shared Cooperation of Labor-Management

GS E&C is running a labor union which consists of 1,160 permanent employees (38.8%) below the rank of deputy manager (excluding the administration position group of finance and economy, planning, personnel, and general affairs). We respect the primary rights of labor, and have made a collective agreement (biennial) and wages agreement (annually) with the labor union. We also share and discuss important issues on corporate management with the union immediately. Furthermore, we hold a quarterly labor-management council to discuss issues related to labor-management benefits, including improving working conditions, safety and health, employees' health care, and settling employees' complaints.

Percentage of Employees Registered in Labor Union		
Unit: %		
2012	2013	2014
34.6	36.4	38.8



CEO Walk & Talk



CA Activities

Social Performance

GS E&C complies with the principles of UN Global Compact, ILO, and the Labor Standard Act and prohibits child and forced labor. In addition, we offer fair opportunities to everyone regardless of their region, gender, religion, or disability and foster employees as talents who have creative entrepreneurship under our talent fostering system.

Items	Unit	2012	2013	2014	
Number of employees ¹⁾	Total number of employees	Person	6,727	6,789	6,657
	Number of male employees	Person	6,295	6,334	6,204
	Number of female employees	Person	432	455	453
	Rate of permanent employees	%	81.4	83.1	85.9
	Rate of contract employees	%	18.6	16.9	14.0
	Less than 30 years old	Person	1,054	991	850
	More than 30 years old and less than 50 years old	Person	4,801	4,840	4,943
	More than 50 years old	Person	872	958	864
Rate of employees with disabilities	%	0.7	0.8	0.9	
Rate of female managers	%	1.2	1.4	1.7	
Number of local resident employed	Person	825	1,151	2,214	
Number of retired and resigned employed	Number of male employees retired/resigned	Person	330	330	281
	Number of female employees retired/resigned	Person	33	17	28
Training hours per employee	Hour	136	113	86	
Training costs for employee	Hundred million KRW	55	42	30	
Number of disciplinary violations of ethical management	Case	4	24	10	
Ethical management training attendance (offline)	Person	684	560	1,591	
Ethical management training attendance (online)	Person	6,442	6,332	6,332	
Employee satisfaction survey results (rate of positive responses)	%	69.0	61.5	69.3	
Unionized employees	Person	1,029	1,107	1,160	
Complaints from housing customers	Case	662	629	506	
Hazard rate	%	0.14	0.14	0.21	
Xi brand GCSI Customer Satisfaction Survey results	Point	71.9	72.0	72.8	
Social contribution expenditures	Hundred million KRW	102	109	80	
Number of employees that participated in social contribution activities	Person	4,068	2,880	1,698	
Local economy promotion(Local suppliers in Korea Account)	%	32.7	28.2	30.5	
Employment inducement effect ²⁾	Person	101,431	101,399	100,572	

1) The number of executives and staffs appeared in the integrated report includes the total number of executives and staffs, but the number in the business report remains excluded of the number of executive officers, contracted executives, adviser and committee members.

2) According to the annual inter-industry relations table released by the Bank of Korea, the employment inducement coefficient in the construction industry was 10.6 people / 1 billion KRW.

Environment Management System

GS E&C set the target of reducing greenhouse gas (GHG) emissions by 30% by 2020 with regard to the Business-As Usual (BAU) level. Other green management initiatives include reinforcing the carbon management system, raising awareness for both the company and suppliers, and carrying out projects while regulating GHG emissions and energy consumption.

Environment Management Strategy

Strategic Target	Eco Global Top Tier Reducing GHG emission by 30% by 2020 (compared to BAU)		
Strategic Directions	Raising awareness inside the company and among suppliers	Implement projects to reduce GHG emissions and energy consumption	Reinforcing GHG management system
Strategic Action Plans	Energy Consumption Reduction Campaign	Establish a lifecycle assessment system	Reinforce activities to reduce GHG emissions
	Company-wide training on environmental issues	Develop GHG reduction projects and related technologies	Form dedicated organizations and train experts
	Help suppliers in reducing GHG emissions	Strengthen capabilities to measure GHG emissions & energy consumption	Operate GHG inventory efficiently

Operation of Eco-friendly Management System

GS E&C operates Environment Information System, consists of environment management guidelines, environmental information for each process, and the KM environmental work manual, to support environment management for construction sites. In addition, we publish and distribute the environment management guide-book which includes green management regulations, major cases etc., every February. We also promote environmental management activities that are geared to sites through the P-D-C-A cycle method which provides environmental information about procedures, standards, cases, check lists and education by area.

Organizations for Eco-friendly Management

Our Green Environment Team from Quality Environment Department leads the eco-friendly business management in coordination with other business departments, the Technical Center, and Public Affairs & Purchase. Since 2005, we have designated supervisors who were in charge of environmental management in construction sites and clearly defined their roles to reduce risks in advance. The general manager of a site also serves in that role and appoints staff to be in charge of four areas with a high level of environmental risks for more efficient environmental management.

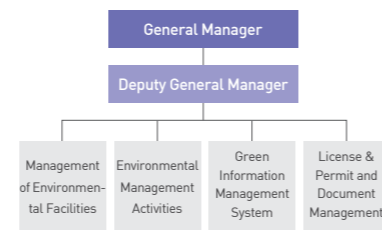
Manage KPIs for Environment Management

GS E&C manages 19 indices in accordance with Green Management System certification. Among those, 6 indices are selected as a company-wide KPIs and managed by establishing it in short term (annual) and mid/long-term targets. The performance results are monitored by the top management and employees to establish tasks on areas that is in need of improvement. In addition, green management information system collects real time data of GHG inventory, GHG emissions and energy usage, waste emission for systematic environmental management. This allows prevention of environmental risk and sets environmental management performance indicators efficiently.

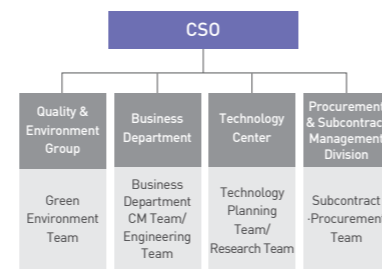
Manage Company-wide KPIs and Achievement

KPI	2014 Achievement	2015 Target	Mid/Long-term Target(2020)
Direct GHG emissions(tCO ₂ -e)	Achieved 109%	3.2% reduction (compared to BAU level)	7.1% on-site compared to BAU level
Indirect GHG emissions(tCO ₂ -e)	High 85%		
Rate of waste reused and recycled(%)	Achieved 126%	Recycling rate over 80%	Recycling rate over 90%
Rate of raw/subsidiary materials obtained through green procurement processes(%)	High 76%	10.8% Above	11.8% Above
Environmental protection activities (No. of activities)	Achieved 158%	50 cases above	Annually 50 cases above
Rate of R&D investment to develop green Products(%)	Achieved 119%	60% Above	70% Above

Environmental Management System for Construction Sites



Company-wide Environmental Management Organization



Environment Management System

Construction Activities Prior to construction

Initial Environment Support & Review Activities

Green Environment Team and environment managers of each division provide control measures on documents considering the environment, environmental impact and environmental risks of each initial work site that is within the time frame of two months of its commencement. We also prevent environmental accidents and provide efficient environmental support through management of on-site by level.

We conduct the initial environment review through which we identify risk factors in the field and establish risk management plans. The guidebook for the initial environment review is distributed to all working sites and used to identify potential environmental risks and prepare environmental review.

Also, we have built and is operating a failure management system which is a database of similar failed cases (incidents/ accidents) in the areas of quality, safety and environment that have taken place abroad. For ease of use, related information is provided in a single sheet to on-site employees and by sharing this throughout the company awareness and ability for risk prediction is increased. The Failed Case Management System is made up of 4,047 domestic and foreign mid-large incidents and each case can be searched by key word/area/date.

On-site Environment Inspection Result Unit: Case

	2012	2013	2014
Map Inspection	15	24	51
Special Inspection	74	37	31
Patrol Inspection	-	89	88
Total	89	150	170

Green Procurement

GS E&C is strengthening the sustainable procurement process through increasing the amount of eco-friendly materials purchased, identifying eco-friendly material producers, and supporting suppliers' efforts to establish green procurement systems. While actively identifying, registering and managing alternative green product manufacturers, we are also giving additional scores during regular evaluation for partner companies who hold environmental certification. In addition, we regularly provide information to suppliers for easy monitoring of green procurement policy at the on-line GS-Constmat board.

Green Procurement Records in 2014 Unit: Hundred Millions of Won

	2014
HB Label	104.37
High-Energy-Efficiency Equipment & Materials	19.79
Energy Efficiency Ratings 1~2	48.34
Eco-label	73.07
Total	245.57

Environmental Management Training

GS E&C arranges for training programs annually to increase understanding about eco-friendly management in the entire construction site, and improve activity's effectiveness and efficiency. We provide the construction site with environmental management guidelines in the periods in which the special management is required (winter, rainy seasons, etc). Also we share any environment-related case studies with all employees through the internal bulletin board, EIP [Enterprise Information Portal]. In addition, we ensure compliance with environmental laws and provide training at all our sites every year while operating environmental training programs to raise awareness. Overseas project managers undergo training to get them familiarized with the local environmental policies and risks. We also provide our environmental system and policy to our partners as part of our environmental management program.

Environment Management Training Unit: people



*As training has been arranged by training through videos and video conferences in 2013, the number of persons who are trained by gathering was reduced.

"GS E&C Essential Environmental Guidelines" for Prevention of Accidents

In 2014, we established the "GS E&C Essential Environmental Guidelines" to address the environment accidents that share the same underlying cause and provide necessary training. If any environmental accident is caused by violating the guidelines, then a letter of warning is issued under the name of the CSO, and serious restrictions are applied to raise environmental awareness. The guidelines are displayed in the forms of posters or banners to promote their understanding and compliance. At GS E&C, we provide training programs for all our employees as well as those of our partners. The guidelines are also available in English and Chinese and used for training in overseas workplaces. With our support for environmental practice, we expect to reduce dust and waste materials while preventing environmental accidents.



Construction Activities in the Construction phase

Eco-Friendly Construction Management

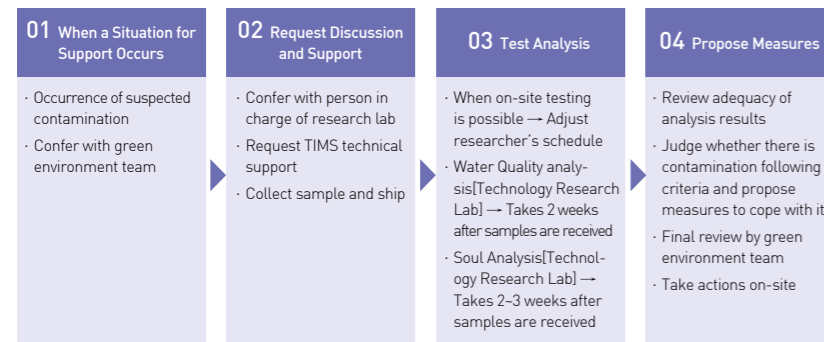
GS E&C publishes an environment management guidebook each year and distributes it to all of our construction sites to inspect and prevent pollution of the surrounding environment. In addition, we promote activities related to pollution management and protection of biodiversity in order to minimize the impact of surrounding environment and local residents.

Eco-Friendly Construction Material

GS E&C developed Green Concrete that generates fewer GHG emissions and performs as well as conventional concrete. Green Concrete Technology has been applied to 11 project sites, including P9 section of the Paju LG Display project and Gran Seoul (new headquarter built in 2014). The Green Concrete Technology enabled to reduce the material cost and GHG emissions by 4.04 billion KRW and 49tCO_{2-e} (aggregate)

Technology Information Management System(TIMs) Support

In the event environment technology and test analysis related to pollution and civil complaints is needed during construction, technical support is requested from TIMs (Technology Information Management System) our in-house information system and speedy assessment of the level of pollution at the construction site and control measures are presented. We are facilitating technical support to increase and explore opportunities for cost innovation in our construction sites through TIMs. To do this, we published our "Technical Support Request Guide".



Conducted Environmental Evaluations in the Projects

GS E&C biannually conducts environment evaluation by using 'GS Q-HSE Audit Program' in each business area. In the evaluation result of 2014, the improvements of the early establishment of environmental plans, eligibility of education & training, and precautions of unqualified details were carried out. In the future, we plan to improve the environmental management levels through regular environmental evaluations and improvement activities.

Environmental Accidents and Dispute Prevention

GS E&C has set up an environmental accidents database to share 545 accident cases in domestic and overseas project sites to prevent similar environmental accidents and disputes. In addition, in order to minimize such accidents and disputes, environmental statuses of all sites are monitored while SNS based communication activities at various sites are being used to manage civil complaints. In 2014, there was a total of 7 environmental-related accidents, same number of incidents as the year of 2013, however, the cost of settling disputes slightly increased.

Classification of Environmental Risk Levels by Site

At GS E&C, we are managing environmental risk levels by site to prevent accidents and provide support more efficiently. The assessment of risk levels is based on Phase 1: Type of Work and Phase 2: Type of Environmental Risk. We also use the Pareto principle: on 20% of all the sites, 80% of all possible environmental accidents can be managed.

As a result of the environmental risk level management, the number of our environmental accidents was reduced by 21% from the previous year. We will continue our efforts in preventing environmental accidents by quantifying the risks and providing active support.

* In order to analyze quantitative risks, issues like verbal warnings, local media reports, etc. have been included in addition to the existing administrative measures relevant to environmental laws and regulations

Detailed look at the GS E&C eco-friendly construction management promoting at its construction sites



Green Concrete Technology-applied Sites in 2014

Project Sites	GHG emissions Reduction (tCO _{2-e})	Cost Reduction (Hundred Million of Won)
Banwol Xi ette	3.5	2.9
Bomun Park View Xi	2.0	1.7
Step 1 University Bucheon second campus building construction	1.5	1.2

Causes of Environmental Accidents

Unit: Cases

Cause	2012	2013	2014
Waste	0	1	1
Dust	2	1	1
Water Quality	0	0	0
Noise and Vibration	3	5	5
Soil Pollution	0	0	0
Total	5	7	7

* Administrative Action under Environmental Laws

Singapore GGBS Star*

GS E&C received GGBS Star, an environmental certification given by the Singapore Building and Construction Authority (BCA) in November, 2014. The 58 items from 7 sites including Down Town Line C925 were subject to assessment, and our environmental KPI management and recycling of waste materials were recognized. Earning the highest grade, Star, allows us to bid for any construction projects, regardless of their scale.

* GGBS(Green and Gracious Builder Scheme) : The environment certification system which evaluates if construction companies' sustainable and Eco-friendly construction activities, Eco-friendly methods and techniques set an example for the relevant companies

Recycling of Heavy Water

GS E&C is using heavy water instead of water during testing of oil storage tanks to solve the problems of the increase in cost due to the skyrocketing cost of tap water and the increasing scarcity of water supply. As a result, we not only reduced the water cost by 75% but also, the energy equivalent to 4 days energy usage of the entire population in Korea.

* When 48,385 million people use water of 16,104m³/day, it causes energy saving effect that amounts to reduction of 4 days of energy use.

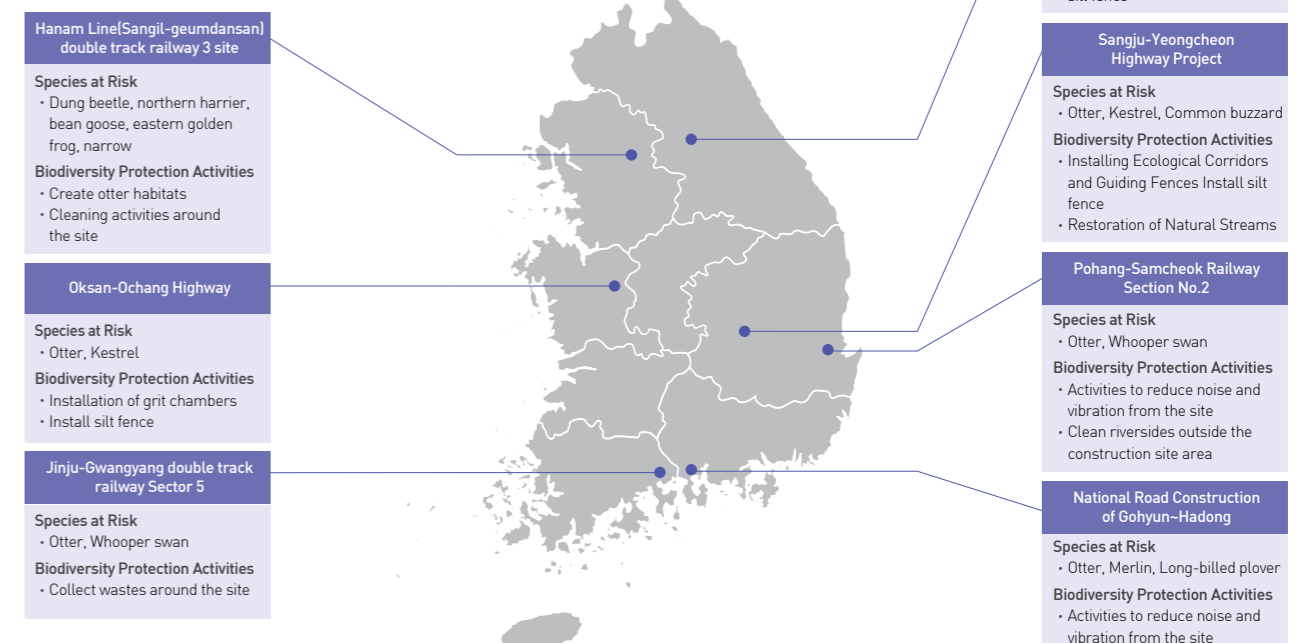
Use of Recyclable Aggregate

At GS E&C, we take initiatives in recycling resources by using recyclable aggregate when undertaking public construction projects. To secure quality and minimize environmental impact, we prepare and distribute guidelines. We check the quality certificate of the materials before they enter our construction site to minimize their potential environmental risks.

Activities to Preserve the Ecosystem & Building of Temporary Bridge

At GS E&C, we conduct environmental impact analysis to protect the animals and their habitats around our construction sites before and after the construction. We also engage in various activities to preserve the ecosystem and prevent environmental contamination (by changing the designs and process and diversifying options). We pay special attention to the management of wildlife habitats through cleaning campaigns around construction sites. Moreover, the company creates alternative habitats and promotes migration to prevent at-risk wildlife from being negatively affected. Also, GS E&C has improved work efficiency and reduced dust by constructing a temporary bridge on-site. For instance, at the early stages of Yongbo Industry Complexes Site(Project Period : 2011.07~2016.06), the site vehicles had to go through vehicle wheel cleaners making it troublesome to go from one location to the other due to the fact that the vehicles use the local roads. To cope with this problem, we built a temporary bridge to cross over the local road and in doing so reducing the transportation time, making the travel smoother, and the increase in the number of trips ultimately led to improved work efficiency. This also led to a reduction in 24.4tCO_{2-e} emission and zero accidents with the local residents.

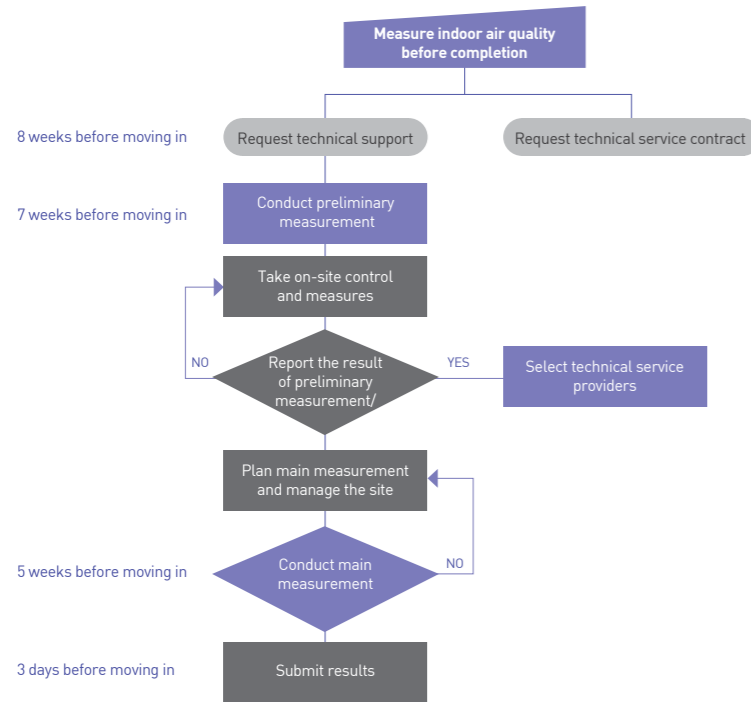
Certification of Singapore GGBS



Construction Activities During the Post Construction Phase

Indoor Air Quality Control Process

At GS E&C, we established a process for measuring indoor air quality to improve the quality of life in our buildings. Any construction materials that are not in compliance with the environmental regulations are strictly prohibited, and the use of HB certified materials is recommended. We measure the content of harmful chemical materials in indoor air and take the necessary measures to improve the quality of indoor air.



Establishment of Demolition Processes

GS E&C created waste management guidelines to minimize environmental impact during the demolition processes. After a demolition is completed, all the waste is collected from the site and handled by properly licensed waste-treatment specialists.

We monitor the amount of waste materials and cost in real-time using our Green Management System. We defined our goals for reduction of waste materials and recycling to minimize production while all recyclable materials are recycled to reduce costs. In addition, we have developed the 'Asbestos Abatement Manual' in compliance with the Industrial Safety and Health Act of Korea and US EPA(Environment Protection Agency) standards. The manual was designed to remove waste asbestos appropriately during the demolishing of a structure, thereby protecting workers and residents living in the vicinity.

Biomass Case Study [Development of Eco-friendly Fuel]

At GS E&C, we are actively participating in RPS¹⁾, which mandates the supply of certain part of energy provided by electrical companies as a new and renewable energy source. For example, in the case of Dangjin Biomass Power Plant Construction site, we changed the LNG power plant into a new and renewable energy plant by using a mix of BIO-SRF²⁾(wood pallet and PKS³⁾). There is no additional environmental impact due to the change, and we expect that it will contribute to sustainable growth and recycle energy by utilizing endowed energy.



1) RPS : Renewable energy Portfolio Standard
2) Bio-SRF : Biomass-Solid Refuse Fuel
3) PKS : Palm Kernel Shell

Environment Performance¹⁾

Category	Unit	2012	2013	2014	
Amount of Construction	Amount of ready-mixed concrete used	m ³	2,063,610	1,753,558	1,707,088
Materials Used	Amount of cement used	ton	1,236,241	129,694	110,039
	Amount of aggregates used	m ³	341,262	295,351	364,186
	Amount of asphalt used	ton	362,964	452,506	138,055
	Amount of sand used	m ³	88,694	73,097	51,918
	Amount of steel used	ton	218,300	253,602	223,093
	Amount of plaster boards used	m ²	2,230,998	1,714,138	2,410,953
	Improvement Rate of Raw Materials Consumption by Unit	%	55	39	19
Amount of Recycle Aggregates Used	m ³	83,508	17,935	70,896	
Amount of Water Used	Total	m ³	2,731,265	3,430,374	2,793,820
	Amount of service water used	m ³	1,783,367	2,377,793	1,889,236
	Amount of groundwater used	m ³	596,710	683,394	589,663
	Amount of river water used	m ³	351,188	369,187	314,921
Intensity of Building Water²⁾	m ³ /m ²	3.74	3.66	2.91	
Amount of Energy Used	Total	TJ	3,978	4,096	4,048
	LNG	TJ	82	103	157
	Kerosene	TJ	55	18	11
	Diesel	TJ	2,335	2,507	2,228
	Gasoline	TJ	210	139	92
	Electricity	TJ	1,269	1,304	1,534
	Others	TJ	28	26	26
Intensity of Building Energy	MWh/m ²	0.14	0.13	0.13	
Amount of Generated Waste³⁾	Total	ton	299,835	362,957	253,217
	Amount of concrete waste	ton	152,307	218,509	171,379
	Amount of asphalt waste	ton	27,195	16,801	7,021
	Amount of sand and stone waste	ton	27,854	20,020	10,129
	Amount of construction waste	ton	84,155	98,076	60,611
	Amount of synthetic resin waste	ton	4,923	5,752	3,680
	Amount of timber waste	ton	3381.88	3,281	178
	Amount of construction sludge	ton	18	518	219
Ruse Rate of Waste	%	97	98	98	
Amount of Debris Emission	ton	226	274	76	
Amount of Wastewater Discharge	ton	935,980	3,412,959	704,678	
Amount of Greenhouse Gas Emissions	Total	tCO _{2-e}	253,623	257,584	248,276
	Scope 1[Direct emission]	tCO _{2-e}	48,286	45,473	45,162
	Scope 2[Indirect emission]	tCO _{2-e}	65,089	63,320	74,498
	Scope 3[other forms of indirect emission]	tCO _{2-e}	140,341	148,791	128,617
Intensity of Greenhouse Gas Emissions by Buildings⁴⁾	tCO _{2-e} /m ²	0.10	0.09	0.08	
Amount of Greenhouse Gas Emissions by Korean won	tCO _{2-e} /100 million KRW	3.00	3.28	3.32	
Green Procurement Costs	100 million KRW	230.23	286.40	246.12	
Number of Environmental Disputes	Case	12	14	15	
Number of Environmental Accidents	Case	5	7	7	
Environmental Dispute Adjustment Costs	100 million KRW	12.8	14.5	18.2	
Eco environment Course Completion Status	People[total]	3,476	2,819	1,477	

1) 82% of revenues and business operations

2) Building water intensity = sum of annual water consumption / sum of floor area[12 buildings owned including the headquarters]

3) Building energy intensity = sum of annual electricity use / sum of floor area[12 buildings owned including the headquarters]

4) Greenhouse gas emissions intensity from buildings = sum of annual ton CO₂ equivalent / square meters of floor space[12 buildings owned including the headquarters]

Changes have been made on the building and organization boundaries by designating GS as a managing company for green house gas and energy targets on Jun 30 2014 [Initially : 9 / Changed to:12]

APPENDIX

- Independent Auditors' Report
- Financial Performance
- Independent Auditors' Internal Control over Financial Reporting Review Report
- Management's Assessment of Internal Control over Financial Reporting
- The Third Party Assurance Statement on Integrated Report
- GHG Verification Summary
- ISO26000
- GRI Index
- UNGC
- Associations/Awards

Independent Auditors' Report



The Board of Directors and Stockholders GS Engineering & Construction Corporation

We have audited the accompanying 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 at December 31, 2014 and the consolidated statements of profit or loss and comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Korean International Financial Reporting Standards (KIFRS). And for such internal control as management determines in necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the Republic of Korea. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements 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 entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

The consolidated financial statements of GS Engineering & Construction Corporation and its subsidiaries for the year ended December 31, 2013, were audited by PWC who expressed an unqualified opinion on those statements on March 13, 2014.

February 24, 2015

This audit report is effective as at February 24, 2015, the independent auditors' report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the auditors' 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 modification to this report.

Consolidated Statements of Financial Position

End of the 46th : December 31, 2014, End of the 45th : December 31, 2013

Unit: KRW

Items	The end of 46 th	The end of 45 th
Assets		
I. Current assets	8,652,947,213,879	8,414,467,007,030
1. Cash and cash equivalents assets	2,151,187,232,183	1,865,508,077,008
2. Trade and other receivables	4,573,821,599,549	4,785,253,805,264
3. Inventories	613,224,584,568	499,239,806,623
4. Short-term financial instrument assets	332,670,749,397	323,187,418,196
5. Other current assets	982,043,048,182	941,277,899,939
II. Non-Current assets	4,441,761,716,468	4,012,845,934,801
1. Property, plant, and equipment	2,456,041,232,354	2,242,895,871,048
2. Intangible assets	169,962,416,561	194,899,238,452
3. Investment property	121,137,518,839	167,187,962,694
4. Investment in associates	36,973,209,297	32,445,502,676
5. Long-term trade and other receivables	842,194,042,895	615,441,682,985
6. Long-term financial instrument assets	347,466,189,539	333,278,162,046
7. Deferred income tax assets	467,987,106,983	426,697,514,900
Total assets	13,094,708,930,347	12,427,312,941,831
Liabilities		
I. Current liabilities	6,127,182,857,828	6,136,911,751,490
1. Trade and other payables	1,633,207,003,887	1,527,395,858,790
2. Short-term financial instrument liabilities	1,709,989,267,311	2,190,045,307,902
3. Income tax payables	15,199,746,155	2,443,475,937
4. Other current liabilities	2,768,786,840,475	2,417,027,108,861
II. Non-current liabilities	3,385,914,054,659	3,131,121,765,313
1. Long-term payables and other liabilities	136,079,934,317	
2. Long-term financial instrument liabilities	2,487,229,619,975	2,356,362,466,826
3. Net defined benefit liabilities	93,538,999,238	49,501,255,476
4. Non-current provisions	287,077,677,424	301,750,868,867
5. Deferred income tax liabilities	148,853,912,627	215,544,140,614
6. Other non-current liabilities	233,133,911,078	207,963,033,530
Total liabilities	9,513,096,912,487	9,268,033,516,803
Equity		
I. Equity attributable to owners of the Parent	3,270,935,844,039	2,863,978,846,358
1. Capital stock	355,000,000,000	255,000,000,000
2. Capital surplus	610,634,032,903	159,135,807,645
3. Other components of equity	-140,811,144,570	-145,243,279,026
4. Accumulated other comprehensive income	-87,938,056,407	-21,613,303,561
5. Retained earnings	2,534,051,012,113	2,616,699,621,300
II. Non-controlling interest	310,676,173,821	295,300,578,670
Total equity	3,581,612,017,860	3,159,279,425,028
Total liabilities and equity	13,094,708,930,347	12,427,312,941,831

Consolidated Statements of Income

46th : From January 1 2014 to December 31 2014, 45th : From January 1 2013 to December 31 2013

Unit: KRW

Items	The end of 46 th	The end of 45 th
I. Sales	9,487,551,635,482	9,565,758,139,923
1. Construction operations	8,819,512,786,299	8,331,543,823,491
2. Housing construction and sales operations	183,026,469,824	889,048,679,647
3. Other operations	485,012,379,359	345,165,636,785
II. Cost of sales	9,058,878,451,140	9,944,941,939,289
1. Construction operations	8,440,625,659,737	8,885,712,110,160
2. Housing construction and sales operations	180,604,607,068	728,585,179,257
3. Other operations	437,648,184,335	330,644,649,872
III. Gross profit(loss)	428,673,184,342	-379,183,799,366
IV. Selling and administrative expense	377,504,509,377	556,266,718,979
V. Operating profit(loss)	51,168,674,965	-935,450,518,345
VI. Other income	334,933,247,653	377,111,500,252
VII. Other expenses	349,622,155,541	412,076,085,256
VIII. Valuation gain of investments in associates	5,934,693,632	9,519,221,301
1. Equity method income	5,934,693,632	9,583,744,263
2. Equity method loss		64,522,962
IX. Financial income	264,831,688,532	211,858,736,409
X. Financial expenses	336,865,366,283	244,139,959,187
XI. Profit(loss) before income tax(benefit)	-29,619,217,042	-993,177,104,826
XII. Income tax expense(benefit)	-7,166,534,530	-165,830,396,647
XIII. Profit(loss) for the year	-22,452,682,512	-827,346,708,179
1. Equity holders of the parent company	-41,071,813,801	-828,196,424,626
2. Non-controlling interest	18,619,131,289	849,716,447
XIV. Earnings(loss) per share attributable to the equity holders of the parent company during the year		
Basic and diluted earning(loss) per share	-667	-16,012

Consolidated Statements of Comprehensive Income

46th : From January 1 2014 to December 31 2014, 45th : From January 1 2013 to December 31 2013

Unit: KRW

Items	The end of 46 th	The end of 45 th
I. Profit(loss) for the period	-22,452,682,512	-827,346,708,179
II. Other comprehensive income(loss)	-105,686,489,028	67,014,558,076
Items that will not be reclassified to profit or loss		
1. Remeasurements of net defined benefit liability	-38,024,506,923	52,009,633,872
Items that may be reclassified subsequently to profit or loss		
1. Gain on valuation of available-for-sale financial assets	-1,004,203,215	291,997,626
2. Loss on valuation of available-for-sale financial assets	355,996,581	598,323,859
3. Share in other comprehensive income of associates	120,428,166	-112,203,316
4. Share in other comprehensive loss of associates	60,219,325	-72,197,222
5. Gain on overseas operations translation	-2,768,996,915	-6,856,156,692
6. Loss on overseas operation translation	-7,681,297,379	4,381,499,923
7. Gain on valuation of derivative instruments	-14,413,519,242	9,227,725,285
8. Loss on valuation of derivative instruments	-42,330,609,426	7,545,934,741
III. Total comprehensive income(loss) for the year	-128,139,171,540	-760,332,150,103
1. Equity holders of the parent Company	-145,003,776,527	-760,319,643,286
2. Non-controlling interest	16,864,604,987	-12,506,817

Consolidated Statements of Changes in Equity

46th : From January 1 2014 to December 31 2014, 45th : From January 1 2013 to December 31 2013

Unit: KRW

Items	Attributable to equity holders of the Parent Company					Total
	Capital Stock	Capital surplus	Other components of Equity	Accumulated other comprehensive income(loss)	Retained earnings	
I. Balance at Jan 1, 2013	255,000,000,000	159,012,656,312	-145,408,649,854	-38,290,499,238	3,397,888,262,565	3,628,201,769,785
II. Comprehensive income						
1. Net Profit	-	-	-	-	-828,196,424,626	-828,196,424,626
2. Gain on valuation of available-for-sale financial assets	-	-	-	286,436,932	-	286,436,932
3. Loss on valuation of available-for-sale financial assets	-	-	-	568,466,958	-	568,466,958
4. Share in other comprehensive income of associates	-	-	-	-112,203,316	-	-112,203,316
5. Share in other comprehensive loss of associates	-	-	-	-48,773,295	-	-48,773,295
6. Gain on overseas operations translation	-	-	-	-4,154,506,543	-	-4,154,506,543
7. Loss on overseas operations translation	-	-	-	4,381,499,923	-	4,381,499,923
8. Gain on valuation of derivative instruments	-	-	-	9,227,725,285	-	9,227,725,285
9. Loss on valuation of derivative instruments	-	-	-	6,528,549,733	-	6,528,549,733
10. Remeasurements of net defined benefit liability	-	-	-	-	51,199,585,663	51,199,585,663
Total comprehensive income(loss)	-	-	-	16,677,195,677	-776,996,838,963	-760,319,643,286
III. Transaction with equity holders of the Group						
1. Dividends to equity holders of the Group	-	-	-	-	-12,390,179,750	-12,390,179,750
2. Changes in scope of subsidiaries	-	-	-	-	-	-
3. Changes in the non-controlling interest	-	123,151,333	-	-	-	123,151,333
4. Others	-	-	165,370,828	-	8,198,377,448	8,363,748,276
Total transactions with equity holders of the Group	-	123,151,333	165,370,828	-	-4,191,802,302	-3,903,280,141
IV. Balance at Dec 31, 2013	255,000,000,000	159,135,807,645	-145,243,279,026	-21,613,303,561	2,616,699,621,300	2,863,978,846,358
I. Balance at Jan 1, 2014	255,000,000,000	159,135,807,645	-145,243,279,026	-21,613,303,561	2,616,699,621,300	2,863,978,846,358
II. Comprehensive Income(loss)						
1. Net Profit(loss)	-	-	-	-	-41,071,813,801	-41,071,813,801
2. Gain on valuation of available-for-sale financial assets	-	-	-	-998,642,521	-	-998,642,521
3. Loss on valuation of available-for-sale assets	-	-	-	435,849,847	-	435,849,847
4. Share in other comprehensive income of associates	-	-	-	120,428,166	-	120,428,166
5. Share in other comprehensive loss of associates	-	-	-	40,681,551	-	40,681,551
6. Gain on overseas operations translation	-	-	-	-1,532,752,258	-	-1,532,752,258
7. Loss on overseas operations translation	-	-	-	-7,681,297,379	-	-7,681,297,379
8. Gain on valuation of derivative instruments	-	-	-	-14,413,519,242	-	-14,413,519,242
9. Loss on valuation of derivative instruments	-	-	-	-42,295,501,010	-	-42,295,501,010
10. Remeasurements of net defined benefit liability	-	-	-	-	-37,607,209,880	-37,607,209,880
Total comprehensive income	-	-	-	-66,324,752,846	-78,679,023,681	-145,003,776,527
III. Transactions with equity holders of the Group						
1. Dividends to equity holders of the Group	-	-	-	-	-	-
2. paid-in capital increase	100,000,000,000	448,368,849,395	-	-	-	548,368,849,395
3. Convertible bonds	-	3,129,375,863	-	-	-	3,129,375,863
4. Changes in the non-controlling interest	-	-	-	-	-	-
5. Others	-	-	4,432,134,456	-	-3,969,585,506	462,548,950
Total transactions with equity holders of the Group	100,000,000,000	451,498,225,258	4,432,134,456	-	-3,969,585,506	551,960,774,208
IV. Balance at Dec 31, 2014	355,000,000,000	610,634,032,903	-140,811,144,570	-87,938,056,407	2,534,051,012,113	3,270,935,844,039

Consolidated Statements of Cash Flows

46th : From January 1 2014 to December 31 2014, 45th : From January 1 2013 to December 31 2013

Unit: KRW

Items	46 th	45 th
I. Cash flows from operating activities	571,531,449,457	-1,154,274,641,707
1. Cash generated from operations	652,457,892,700	-1,071,149,277,883
2. Interest received	63,911,595,428	54,106,269,112
3. Interest paid	-96,200,003,097	-101,371,115,875
4. Dividends received	779,603,849	532,694,498
5. Income tax paid	-49,417,639,423	-36,393,211,559
II. Cash flows from investing activities	-334,477,494,613	-65,003,595,050
1. Cash inflows from investing activities	1,157,966,733,954	717,538,138,750
(1) Decrease in other receivables	862,945,767,506	177,001,166,005
(2) Decrease in short-term financial instrument assets	7,250,000,000	25,557,457,739
(3) Decrease in long-term other receivables	124,098,044,060	88,751,919,991
(4) Decrease in long-term financial instrument assets	37,209,219,602	15,913,500,764
(5) Disposal of property, plant and equipment	71,787,605,734	154,763,360,053
(6) Disposal of intangible assets	18,123,021	18,016,606
(7) Disposal of investment property	53,578,923,925	255,044,895,861
(8) Decrease in cash and cash equivalents due to changes in subsidiaries subject to consolidation	-	487,821,731
(9) Investments in associates	1,079,050,106	-
2. Cash outflows from investing activities	-1,492,444,228,567	-782,541,733,800
(1) Increase in other receivables	893,541,116,815	313,553,418,040
(2) Increase in short-term financial instrument assets	47,382,861,476	57,770,776,537
(3) Increase in long-term other receivables	185,538,938,163	149,684,065,921
(4) Increase in long-term financial instrument assets	56,574,620,603	62,255,811,165
(5) Acquisition of property, plant and equipment	307,953,892,263	176,779,953,934
(6) Acquisition of intangible assets	1,220,805,647	19,432,299,266
(7) Acquisition of investment property	231,993,600	2,816,430,149
(8) Acquisition of investments in associates	-	248,978,788
III. Cash flow from financing activities	35,159,220,969	1,644,568,439,791
1. Cash inflows from financial activities	2,845,764,517,316	3,525,165,042,263
(1) Increase in short-term financial instrument liabilities	1,450,858,954,078	1,252,708,953,394
(2) Increase in long-term financial instrument liabilities	776,564,637,838	2,169,788,786,746
(3) Increase in other non-current liabilities	69,394,127,663	102,021,228,176
(4) paid-in capital increase	548,368,849,395	-
(5) Increase in the non-controlling interest	577,948,342	646,073,947
2. Cash outflows from financial activities	-2,810,605,296,347	-1,880,596,602,472
(1) Decrease in short-term financial instrument liabilities	2,578,750,663,334	1,404,004,143,780
(2) Decrease in other current liabilities	15,332,465,000	20,480,330,000
(3) Decrease in long-term financial instrument liabilities	174,630,912,502	228,208,529,858
(4) Decrease in other non-current liabilities	40,372,714,579	202,117,663,553
(5) Decrease in the non-controlling interest	1,518,540,932	13,379,454,146
(6) Dividends	-	12,406,481,135
IV. Exchange gains on cash and cash equivalents	13,465,979,362	9,938,679,526
V. Net increase(decrease) in cash and cash equivalents(I+II+III+IV)	285,679,155,175	435,228,882,560
VI. Cash and cash equivalents at beginning of year	1,865,508,077,008	1,430,279,194,448
VII. Cash and cash equivalents at the end of year(V+VI)	2,151,187,232,183	1,865,508,077,008

Independent Auditors' Internal Control over Financial Reporting Review Report



The Chief Executive Officer GS Engineering & Construction Corporation

We have reviewed the accompanying management's report on the operations of the internal control over financial reporting ("ICFR") of GS Engineering & Construction (the "Company") as at December 31, 2014. The Company's management is responsible for the design and operations of its ICFR, including the reporting of its operations. Our responsibility is to review management's ICFR report and issue a report based on our review. Management's report on the operations of the ICFR of the Company states that "Based on the assessment of the operations of the ICFR, the Company's ICFR has been effectively designed and has operated as at December 31, 2014, in all material respects, in accordance with the ICFR standard."

We conducted our review in accordance with the ICFR review standards established by the Korean Institute of Certified Public Accountants. These standards require that we plan and perform our review to obtain less assurance than an audit as to management's report on the operations of the ICFR. A review includes the procedures of obtaining an understanding of the ICFR, inquiring as to management's report on the operations of the ICFR and performing a review of related documentation within limited scope, if necessary.

A company's ICFR consists of an establishment of related policies and organization to ensure that it is designed to provide reasonable assurance on the reliability of financial reporting and the preparation of financial statements for external financial reporting purposes in accordance with accounting principles generally accepted in the Republic of Korea. However, because of its inherent limitations, the ICFR may not prevent or detect material misstatements of the financial statements. Also, projections of any assessment of the ICFR on future periods are subject to the risk that ICFR may become inadequate due to the changes in conditions, or that the degree of compliance with the policies or procedures may be significantly reduced.

Based on our review of management's report on the operations of the ICFR, nothing has come to our attention that causes us to believe that management's report referred to above is not presented fairly, in all material respects, in accordance with the ICFR standards.

We conducted our review of the ICFR in place as of December 31, 2014, and we did not review the ICFR subsequent to December 31, 2014. This report has been prepared for Korean regulatory purposes pursuant to the Act on External Audit for Stock Companies, and may not be appropriated for other purposes or for other users.

February 24, 2015

Management's Assessment of Internal Control over Financial Reporting

The Board of Directors and Audit Committee of GS Engineering & Construction Corporation

I, as the internal control over financial reporting officer ("ICFR Officer") of GS Engineering & Construction Corporation, assessed the status of the design and operations of the Company's internal control over financial reporting ("ICFR") for the year ended December 31, 2014.

The Company's management including the ICFR Officer is responsible for the design and operations of its ICFR. I, as the ICFR Officer, assessed whether the ICFR has been effectively designed and has operated to prevent and detect any error or fraud which may cause any misstatement of the financial statements, for the purpose of establishing the reliability of financial reporting and the preparation of financial statements for external financial reporting purposes. I, as the ICFR Officer applied the ICFR standards for the assessment of design and operations of the ICFR.

Based on the assessment of the operations of the ICFR as at December 31, 2014, no material weakness, in any material respects, has been identified for the standpoint of the Best Practice Guideline for ICFR.

Byeong-yong Lim

Chief Executive Officer

Shoeg-ho Sin

Internal Control over Financial Reporting Officer

February 24, 2015

This report is annexed in relation to the audit of the financial statements as of December 31, 2014 and the review of internal accounting control system pursuant to Article 2-3 of the Act on External Audit for Stock Companies of the Republic of Korea.

To the Stakeholders of GS E&C

The Korea Productivity Center (the "Assurer") was requested by GS E&C to conduct independent assurance on the information presented in "GS E&C Sustainability Report (the "Report")" and hereby provides following assurance statement:

Responsibility and Independence

GS E&C is entirely responsible for all information and opinions presented in the Report. The Assurer is solely responsible for providing the assurance statement for the contents of the Report. As an independent assurance agency, the Assurer was involved neither in the process of developing the Report with GS E&C, nor in any conflict of interest that may undermine our independence.

Assurance Standards

The independent assurance was performed in accordance with Type 1 & Type 2 (applied to specific performance information) and the Moderate Level of assurance engagement based on the AA1000AS(2008)¹⁾ assurance standards. The Assurer verified the suitability of inclusivity, materiality, and responsiveness based on the AA1000APS(2008)²⁾ assurance principle. Furthermore, the Assurer confirmed the compliance of the Report contents with GRI G4 Guideline standards and Construction and Real Estate Sector Supplement standards.

1) AA1000AS(2008): AA1000 Assurance Standard(2008) is an international assurance standard, set by AccountAbility, that provides method of reporting sustainability management issues by evaluating the organization management on performances, compliance with principles, and reliability of performance information

2) AA1000APS(2008): AA1000 AccountAbility Principles Standard(2008) is an international assurance standard set by AccountAbility that provides principles of the basis of AA1000 standards.

Limitations

The Assurer conducted an assurance of GS E&C' performance in 2014 in accordance with the standards above, and verified the credibility of the performance in the Report in following manners:

Financial data were verified through the financial statement and disclosed documents audited by an auditing agency. The baseline data for Environmental and Social performance are not verified, while the aggregated data are used for the verification. Limited on-site inspections were conducted in the headquarters, Seoul, and one domestic business site. The results can be affected if any additional verification procedures are carried out.

Methodology

The independent assurance of the Report was conducted following the methods below:

- Verified if the requirements for core options of GRI G4 Guidelines were fulfilled.
- Verified the compliance with the principles of the Report contents and quality based on GRI G4 Guidelines.
- Verified the appropriateness of material issues and contents of the Report through media research and benchmarking analysis.
- Verified the suitability of the contents and any errors in expression through comparison analysis with other sources.
- Verified the basis of core data and information and the internal process and system through on-site inspection at the headquarters in Seoul.

Findings & Conclusion

The Assurer verified that the Report accurately and fairly reflects GS E&C' sustainability activities and performance. The Assurer also verified that the Report meets the requirements for core options of GRI G4 Guideline.

In case of General Standard Disclosures, the Assurer verified that the Report is written in compliance with the requirements of core options. For Specific Standard Disclosures, the Assurer reviewed Disclosure on Management Approach (DMA) and indicators about material issues by using the reporting criteria process below.

Material Issues	DMA & Indicators
Strengthening the Primary Competitiveness of the Existing Business	N/A
Promoting New Growth Engine Business	N/A
Expansion of Global Business	N/A
Business Performance Focusing on Profitability	N/A
Strengthening of Cost Competitiveness	N/A
Response to Climate Change	DMA- Emissions, G4-EN15, G4-EN16, G4-EN17, G4-EN18, G4-EN19, G4-EN21
Energy Saving Activities	DMA- Energy, G4-EN3, G4-EN4, G4-EN5, G4-EN6, G4-EN7
Strengthening Eco-Friendly R&D	DMA- Products and Services, G4-EN27, G4-EN28
Development of Eco-Friendly Certified Building Technology	
Stomnger Connection Between Technology and Business	DMA- Effluents and Waste, G4-EN22, G4-EN23, G4-EN24
Development of Employee Work Competency	DMA- Training and Education, G4-LA9, G4-LA10, G4-LA11
Improve employees' Working Conditions and Welfare	DMA- Occupational Health and Safety, G4-LA5, G4-LA6, G4-LA7, G4-LA8
Prevent Safety Accidents	
Supplier Selection of Fairness and Transparency	DMA- Anti-corruption, G4-SO3, G4-SO4, G4-SO5
Strategic Social Responsibility Activities	DMA -Local Communities, G4-SO1, G4-SO2

• Inclusivity : Stakeholder Engagement

The Assurer confirmed that GS E&C defines its key stakeholders into 6 groups: customers, shareholders, investors, employees, local community, and suppliers. The Assurer also verified that GS E&C collects its stakeholders' opinions through clear categorization of communication channels and expectations of each group and through active communication.

• Materiality : Identification and Reporting of Material Issues

Based on issues in the previous report, GS E&C surveyed international standards for sustainable management, such as GRI G4 Guideline, UNGC, and ISO26000, media analysis, and issues from the domestic and overseas construction industry. GS E&C then identified and organized 37 sustainability issues. The company drew 15 material issues in importance for internal and external stakeholders by conducting the materiality test. The company also made sure that the information included in each page of the report was balanced.

• Responsiveness : Organization's Response to Issues

The Assurer verified that GS E&C identified major expectations that are effective to stakeholders' performance, took responsive measures for the matters, and properly presented such contents in the Report. GS E&C sincerely publicizes its response activities and performance for key sustainability issues in the Report. The Assurer has evaluated the reliability of data and information about water usage, waste water, waste, occupational accidents for Type 2 Assurance. The Assurer has interviewed the personnel responsible for the data and information in order to figure out the generation, aggregation and processing of data and information and reviewed the relevant documents and records based on which the statements in the Report are addressed.

Recommendation

The Assurer highly values GS E&C' various efforts and outcomes to enhance its sustainability, and suggests below for the company's future publication of the Report and improvement of its sustainability standards:

- To implement sustainable management in a systemic way, it is recommended to draw and manage tasks and key performance indicators (KPI) based on a strategic system for sustainable management and describe activities and performances regarding sustainability in the report in detail.
- It is necessary to reinforce activities for collecting direct opinions from stakeholders and identifying their expectations. It is therefore recommended to establish a process for stakeholder engagement. The Assurer also suggests that the company attempts to collect direct opinions of external stakeholders through various channels including interviews with outside experts and representatives of each stakeholder group and committees, along with Sustainability Committee.



D. S. Kim
Director Kim, Dongsoo

Kaegy
Researcher Oh, Beomtaek

Lee, Yang-ho
Team Leader Lee, Yang-ho

June, 2015

Korea Productivity Center

CEO Hong, Sun-Jik

Hong Sun Jik

The Sustainability Management Center of Korea Productivity Center is an assurance agency officially certified by AccountAbility [organization established AA1000, the international standard for stakeholder participation and verification] and is qualified to independence assurance engagements. Its Assurance Committee is comprised of competent experts who have in-depth experience in sustainability management consulting and assurance and have completed the relevant training.

GHG Verification Summary

GS E&C Corporation.

33, Jong-ro, Jongno-gu, Seoul, Korea

Introduction

KSA Certification, Ltd was commissioned by GS E&C Corporation. ("GS E&C") to verify the GS E&C's Domestic construction sites & Buildings Greenhouse Gas Inventory Report for the calendar year 2014 ("the report") based upon a reasonable level of assurance, to verify the GS E&C's International construction sites Greenhouse Gas Inventory Report for the calendar year 2014 ("the report") based upon a limited level of assurance. GS E&C is responsible for the preparation of the GHG emissions data on the basis set out within the WRI/WBCSD GHG protocol: 2004 and the principles set out in ISO14064-1:2006. Our responsibility in performing this work is to the management of GS E&C only and in accordance with terms of reference agreed with them. KSA expressly disclaims any liability or responsibility for any decisions, whether investment or otherwise, based upon this assurance statement.

Scope of Assurance

The emissions data covered by our examination comprise Direct emissions (Scope 1 emissions), Indirect emissions (Scope 2 emissions) and Other indirect emissions (Scope 3 emissions):

- International construction sites, Domestic Buildings & construction sites
- Reporting period under verification: Calendar Year 2014
- Organizational boundary for reporting:

Organizational Boundary	Number of Sites/Buildings	Verification activity
Buildings	12 buildings (Gran Seoul, Elysian Resort etc.)	Desk Review, Site visit, Activity data verification
Domestic construction sites	167 sites (in dept. of Architecture, Infra, Plant, Power)	Desk Review, Site visit, Activity data verification
International construction sites	36 sites (in dept. of Architecture, Infra, Plant, Power)	Desk Review Activity data verification

Verification Approach

The verification has been conducted by KSA from 30th Jan through 27th Feb 2015 and performed in accordance with the verification principles and tasks outlined in ISO 14064-3:2006, IPCC Guideline : 1996/2006, Emission Target Management system : 2014-186. We planned and performed our work so as to obtain all the information and explanations deemed necessary to provide us with sufficient evidence to provide a limited verification opinion concerning the completeness of the emission inventory as well as the reported emission figures in ton-CO₂ equivalent. As part of the verification process:

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

Conclusions

As a result of the work described above, in our opinion nothing has come to our attention that would cause us to believe that the GHG Emissions data set out in GS E&C's for the year 2014 were confirmed as below;

Greenhouse Gas Emissions of GS E&C Corporation from 2014

Unit: ton CO₂-e

Organizational Boundary	Direct emissions[Scope1]	Indirect emissions[Scope2]	Other indirect emissions[Scope3]	Total emissions
GS E&C Corporation	45,162	74,498	128,617	248,277

* In order to report the GHG emissions as an integer, the rounded number on the statement might be different from the number on the system with ± 1.0 tCO₂

* Total emissions = scope 1 + scope 2 + scope 3

April 30, 2015

KSA GHG Verifier Ryu-Jung-Il



ISO26000

Compliance with ISO26000

ISO26000 comprises of seven core subjects of organizational governance, human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement and development. ISO26000 is not a management system standard and it is not intended or appropriate for certification purposes, regulatory or contractual use; nonetheless, GS E&C seeks to treat it as guidance for strengthening the company's sustainability management.

Core Subjects	Related Activities	Activities	Page
Organizational Governance		Governance structure centered on the Board of Directors; operation of the Audit Committee and Outside Director Recommendation Committee	52
Human Rights	Due diligence	Operation of the Audit Committee	52
	Human rights risk situations	Not applicable	-
	Avoidance of complicity	GS E&C does not support any organization that violates human rights	-
	Resolving grievances	Operate company-wide communication channels, Trade Union, and Labor-Management Council	59, 60
	Discrimination and vulnerable groups	Provide equal opportunities in salary, education and training, placement, and dismissal regardless of gender or disability	59
	Civil and political rights	Provide and respect the freedom to exchange information and ideas through company-wide communication channels such as an online community	60
	Economic, social and cultural rights	Run programs such as customized vacation systems and family-friendly programs; supports for cultural activities, medical and health, labor, children education, and retirees	59, 60
	Fundamental principles and rights at works	Comply with International Labor Organization standards; respect freedom of association through operation of Labor Union and Labor-Management Council; prohibit child and forced labor; prohibit all forms of discrimination	46, 59, 60, 84
Labor Practices	Employment and employment relationships	Respect for employees; comply with international labor standards	37, 46, 59
	Conditions of work and social protection	Run programs such as customized vacation systems and family-friendly programs; supports for cultural activities, medical and health, labor, children education, and retirees	59, 60
	Social dialogue	Continuous dialogue through various employee communication channels, operate Labor-Management Council	60
	Health and safety at work	Pursue a number of safety management activities under the safety management guidelines and the goal of 'zero serious accidents'	38-41
	Human development and training in the workplace	Operate education and training program fitted with talent development system	37
	Environment	Prevention of pollution	Effort to reduce air pollutants such as fugitive dust, reduction of waste, appropriate treatment of waste
Sustainable resource use		Efficient use of resources and reuse technologies; carry out energy savings campaign	26, 64, 65
Climate change mitigation and adaption		Carry out greenhouse gas reduction activities; activate video conferencing system; develop renewable energy technology; promote green management, Nurturing low carbon Industry	25, 26, 30
Protection of the environment, biodiversity and restoration of natural habits		Carry out biodiversity protection activities around construction sites	64, 65
Fair Operation Practices	Anti-corruption	Establish ethics management system; implement a number of anti-corruption activities such as taking joint liability for unethical behavior	54, 55
	Responsible political involvement	Participate in development of public environmental policies; support a number of industry-based initiatives, GHG/Energy Target Management Program Test Project Participation	25, 85
	Fair competition	Take an oath to engage in fair competition (as part of Code of Ethics)	54, 55
	Promoting social responsibility in the value chain	Implement win-win management activities in four areas of finances, education and training, technology development and other forms of management	46, 47
	Respect of property rights	Not applicable	-
	Consumer Issues	Fair marketing	Not applicable
Protecting consumer's health and safety		Develop an indoor air quality sensor that detects chemical pollutants harmful to human body; provide cleaning service to housing customers	43, 44
Sustainable consumption		Develop many Green Smart technologies that save consumers' energy and water use	32, 33
Consumer service, support, and complaint and dispute resolution		Make customer complaint-receiving channels simple and efficient; implement customer-oriented complaint handling policies; operate Customer Relationship Management (CRM) Committee	43, 44
Consumer data protection and privacy		Comply with laws and regulations related to consumer protection	44
Access to essential services		Not applicable	-
Education and awareness		Publish Gagaxi/ Xi-story, active exchange of information through smart phone applications	43, 44
Community Involvement and Development		Community involvement	Carry out a number of social contribution activities to realize joint value as a corporate citizen
	Education and culture	Hopes and Dreams Study Rooms, scholarships, and support of cultural events	48, 49
	Employment creation and skills development	Provide indirect job opportunities in the local community by giving suppliers from the community more points when choosing a supplier	45, 61
	Technology development and access	Skill development classes specifically for the locals are not available	-
	Wealth and income creation	Give more points to the local suppliers when choosing a supplier	45
	Health	Aid Program for Developing Countries, House Repair of Hope Project	48, 49
Social investment	Social contribution activities such as House Repair of Hope Project, construct social infrastructures such as water treatment facilities	48, 49	

GRI G4 General Standard Disclosures

Aspect	Index	Core	Content	Page	Verified
Strategy and Analysis					
	G4-1	Core	Statement from the most senior decision-maker of the organization	3	●
	G4-2		Key impacts, risks, and opportunities	3, 16, 24, 27, 36, 42	●
Organizational Profile					
	G4-3	Core	Name of the organization	4	●
	G4-4	Core	Primary brands, products and services	8, 9	●
	G4-5	Core	Location of the organization’s headquarters	4, 5	●
	G4-6	Core	Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	5-6	●
	G4-7	Core	Nature of ownership and legal form	52, 53	●
	G4-8	Core	Markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	5-6	●
	G4-9	Core	Scale of the organization (Total number of employees, net sales, total capitalization, products and services)	4, 5	●
	G4-10	Core	Total number of employees	4, 5	●
	G4-11	Core	Percentage of total employees covered by collective bargaining agreements	60	●
	G4-12	Core	Describe the organization’s supply chain	45, 46	●
	G4-13	Core	Significant changes during the reporting period regarding the organization’s size, structure, ownership, or its supply chain	about this report	●
	G4-14	Core	Report whether and how the precautionary approach or principle is addressed by the organization	56, 57	●
	G4-15	Core	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	84, 85	●
	G4-16	Core	Memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization	84, 85	●
Identified Material Aspects and Boundaries					
	G4-17	Core	Entities included in the organization’s consolidated financial statements or equivalent documents	4, 5	●
	G4-18	Core	Process for defining the report content and the Aspect Boundaries	12, 13	●
	G4-19	Core	Material aspects identified in the process for defining report content	13	●
	G4-20	Core	Report the Aspect Boundary within the organization	13	●
	G4-21	Core	Report the Aspect Boundary outside the organization	13	●
	G4-22	Core	Effect of any restatements of information provided in previous reports, and the reasons for such restatements	about this report	●
	G4-23	Core	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	about this report	●
Stakeholder Engagement					
	G4-24	Core	List of stakeholder groups engaged by the organization	12	●
	G4-25	Core	Basis for identification and selection of stakeholders with whom to engage	12	●
	G4-26	Core	Organization’s approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	12, 13	●
	G4-27	Core	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting	12, 13	●
Report Profile					
	G4-28	Core	Reporting period for information provided.	about this report	●
	G4-29	Core	Date of most recent previous report	about this report	●
	G4-30	Core	Reporting cycle (such as annual, biennial)	about this report	●
	G4-31	Core	Contact point for questions regarding the report or its contents	about this report	●
	G4-32	Core	The ‘in accordance’ option the organization has chosen.	about this report	●
	G4-33	Core	Organization’s policy and current practice with regard to seeking external assurance for the report	76, 77	●
Governance					
	G4-34	Core	The governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	52, 53	●
	G4-35		The process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	52, 53	●
	G4-36		Report whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body	52, 53	●
	G4-37		Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body	52, 53	●
	G4-38		Composition of the highest governance body and its committees	52, 53	●
	G4-39		Report whether the Chair of the highest governance body is also an executive officer (and, if so, his or her function within the organization’s management and the reasons for this arrangement)	52, 53	●
	G4-40		The nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members	52	●
	G4-41		Processes for the highest governance body to ensure conflicts of interest are avoided and managed	53	●

Aspect	Index	Core	Content	Page	Verified
	G4-42		The highest governance body’s and senior executives’ roles in the development, approval, and updating of the organization’s purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	52	●
	G4-43		Measures taken to develop and enhance the highest governance body’s collective knowledge of economic, environmental and social topics	52, 53	●
	G4-45		The highest governance body’s role in the identification and management of economic, environmental and social impacts, risks, and opportunities	52, 53	●
	G4-46		The highest governance body’s role in reviewing the effectiveness of the organization’s risk management processes for economic, environmental and social topics	52, 53	●
	G4-47		The frequency of the highest governance body’s review of economic, environmental and social impacts, risks, and opportunities	53	●
	G4-48		The highest committee or position that formally reviews and approves the organization’s sustainability report and ensures that all material Aspects are covered	52	●
	G4-50		Nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	52, 53	●
	G4-51		Remuneration policies for the highest governance body and senior executives for the below types of remuneration	53	●
	G4-54		Ratio of the annual total compensation for the organization’s highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country	-	●
Ethics and Integrity					
	G4-56	Core	Organization’s values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	54, 55, Homepage	●
	G4-57		Internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines	54	●
	G4-58		Internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines	54	●

GRI G4 Specific Standard Disclosures

Aspect	Index	Content	References and Reasons for Omissions	Page	External Verification	
Environment						
Water	G4-DMA	Management approach		27		
	G4-EN8	Total water withdrawal by source		67	●	
	G4-EN9	Water sources significantly affected by withdrawal of water	No significantly affected water source	-	●	
	G4-EN10	Percentage and total volume of water recycled and reused		65	●	
Energy	G4-DMA	Management approach		24		
	G4-EN3	Energy consumption within the organization		25, 26, 67	●	
	G4-EN4	Energy consumption outside the organization		26, 67	●	
	G4-EN5	Energy intensity		67	●	
	G4-EN6	Reduction of energy consumption		25	●	
	G4-EN7	Reductions in energy requirements of products and services		25	●	
	Emissions	G4-DMA	Management approach		24	
G4-EN15		Direct greenhouse gas (ghg) emissions (Scope 1)		67	●	
G4-EN16		Energy indirect greenhouse gas (ghg) emissions (Scope 2)		67	●	
G4-EN17		Other indirect greenhouse gas (GHG) emissions (scope 3)		67	●	
G4-EN18		Greenhouse gas (ghg) emissions intensity		67	●	
G4-EN19		Reduction of greenhouse gas (ghg) emissions		25, 26, 29	●	
G4-EN21		Nox, Sox, and other significant air emissions		67	●	
Wastewater and Waste		G4-DMA	Management approach		27	
		G4-EN22	Total water discharge by quality and destination		32, 33, 65, 67	●
	G4-EN23	Total weight of waste by type and disposal method		32, 33, 65, 67	●	
	G4-EN24	Total number and volume of significant spills	No spill occurred	-	●	
	G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization’s discharges of water and runoff		65	●	
	Labor Practices and Decent Work					
Occupational Health and Safety	G4-DMA	Management approach		36		
	G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	The Health and Safety Committee consists of equal representatives from labor and management and holds quarterly meetings	38	●	
	G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender		41	●	
	G4-LA7	Workers with high incidence or high risk of diseases related to their occupation		40, 41	●	
	G4-LA8	Health and safety topics covered in formal agreements with trade unions		38, 39, 40, 60	●	
Training and Education	G4-DMA	Management approach		36		

Aspect	Index	Content	References and Stated Omissions	Page	Verified	
	G4-LA9	Average hours of training per year per employee by gender, and by employee category		37	●	
	G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings		60	●	
	G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category		37	●	
Social						
Local Communities	G4-DMA	Management approach		42	●	
	G4-S01	Percentage of operations with implemented local community engagement, impact assessments, and development programs		48, 49	●	
	G4-S02	Operations with significant actual and potential negative impacts on local communities		64, 65, 66	●	
Anti-Corruption	G4-DMA	Management approach		42	●	
	G4-S03	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified		45	●	
	G4-S04	Communication and training on anti-corruption policies and procedures		55	●	
	G4-S05	Confirmed incidents of corruption and actions taken		54	●	
						54
Sector Specific Indicators						
Energy	CRE1	Building energy intensity (unit: kWh/m²)		67	●	
Water	CRE2	Building water intensity (unit: m³/m²)		67	●	
Emissions	CRE3	Greenhouse gas emissions intensity from buildings (unit: kgCO₂eq/m²)		67	●	
	CRE4	Greenhouse gas emissions intensity from new construction and redevelopment activity		67	●	
Land Degradation, Contamination and Remediation	CRE5	Land remediated and in need of remediation for the existing or intended land use, according to applicable legal designations	No plan for the land remediation according to applicable legal designations	-	●	
Occupational Health and Safety	CRE6	Percentage of the organization operating in verified compliance with an internationally recognized health and safety management system		38	●	
Local Communities	CRE7	Number of persons voluntarily and involuntarily displaced and/or resettled by development, broken down by project	Internal management system development in process	-	●	
Product and Service Labeling	CRE8	Type and number of sustainability certification, rating and labeling schemes for new construction, management, occupation and redevelopment		30	●	

GRI G4 Other Disclosures

Aspect	Index	Content	References and Stated Omissions	Page	Verified
Economic					
Economic Performance	G4-EC1	Direct economic value generated and distributed		58	●
	G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change		25, 29, 30, 31	●
	G4-EC3	Coverage of the organization's defined benefit plan obligations		60	●
Market Presence	G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation		59	●
	G4-EC6	Proportion of senior management hired from the local community at significant locations of operation		59	●
Indirect Economic Impacts	G4-EC7	Development and impact of infrastructure investments and services supported		49, 61, 66	●
	G4-EC8	Significant indirect economic impacts, including the extent of impacts		58	●
Procurement Practices	G4-EC9	Proportion of spending on local suppliers at significant locations of operation		45	●
Environment					
Raw Material	G4-EN1	Materials used by weight or volume		67	●
	G4-EN2	Percentage of materials used that are recycled input materials		65, 67	●
Biodiversity	G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas		65	●
	G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas		65	●
	G4-EN13	Habitats protected or restored		65	●
	G4-EN14	Number of IUCN red list species and national conservation list species with habitats in areas affected by the operations of the organization, by level of extinction risk		65	●
Products and Services	G4-EN27	Extent of impact mitigation of environmental impacts of products and services		26, 31, 64, 65, 66	●
Compliance	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	7 cases / 7,680,000 KRW	64	●
Transport	G4-EN30	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.		26	●
Overall	G4-EN31	Total environmental protection expenditures and investments by type		62, 63, 67	●
Supplier Environmental Assessment	G4-EN32	Percentage of new suppliers that were screened using environmental criteria	GE E&C is not giving additional scores, but we have consulted related factors.	-	●
	G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken		64, Business Report 304-307	●

Aspect	Index	Content	References and Stated Omissions	Page	Verified
Environmental Grievance Mechanisms	G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms		64, 67	●
Labor Practices and Decent Work					
Employment	G4-LA1	Total number and rates of new employee hires and employee turnover		61	●
	G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation		59	●
	G4-LA3	Return to work and retention rates after parental leave, by gender		59	●
Labor/Management Relations	G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	No regulations, but notify the union	60	●
Diversity and Equal Opportunity	G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity		59, 61	●
Equal remuneration for women and men	G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation		59	●
Supplier Assessment for Labor Practices	G4-LA14	Percentage of new suppliers that were screened using labor practice criteria	ESG factors are included in the supplier selection criteria process.	45	●
	G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken		46	●
Labor Practices Grievance Mechanisms	G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms		60	●
Human Rights					
Investment	G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained		59	●
Non-discrimination	G4-HR3	Total number of incidents of discrimination and corrective actions taken		59	●
Freedom of Association and Collective Bargaining	G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights		60	●
Child Labor	G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor		61	●
Forced or Compulsory Labor	G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor		61	●
Indigenous Rights	G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	No violations occurred	48, 49, 59	●
Assessment	G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	Consider social risks when managing non-financial risks and carrying forward projects	56, 57	●
Supplier Human Rights Assessment	G4-HR10	Percentage of new suppliers that were screened using human rights criteria		46	●
	G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken		46	●
Human Rights Grievance Mechanisms	G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms		60	●
Social					
Public Policy	G4-S06	Total value of political contributions by country and recipient/beneficiary	No donations to political parties or politicians	-	●
Anti-Competitive Behavior	G4-S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes		55	●
Compliance	G4-S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations		54	●
Supplier Assessment for Impacts on Society	G4-S09	Percentage of new suppliers that were screened using criteria for impacts on society		45, 46	●
	G4-S010	Significant actual and potential negative impacts on society in the supply chain and actions taken		45, 46	●
Grievance Mechanisms for Impacts on Society	G4-S011	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms		64	●
Product Responsibility					
Customer Health and Safety	G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement		63-66	●
	G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	No such incidents occurred	-	●
Product and Service Labeling	G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements		30	●
	G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	No such incidents occurred	-	●
	G4-PR5	Results of surveys measuring customer satisfaction		44	●
Marketing Communication	G4-PR6	Sale of banned or disputed products		43, 44	●
	G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	No such incidents occurred	-	●
Customer Privacy	G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	No losses of customer data, no such complaints received	44	●
Compliance	G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	No such violations occurred	-	●

UN Global Compact

Participation and Compliance with the Principles

On August 4, 2010, GS E&C joined UNGC, a voluntary corporate initiative that promotes and encourages corporate social responsibility. By supporting the 10 Principles on human rights, labor, environment, and anti-corruption, GS E&C is taking its part in the global standard on corporate social responsibility and is reassuring its will to pursue sustainability management both nationally and internationally. GS E&C will continue to support and comply with the 10 Principles in order to respect the basic human and labor rights and respond to the global environmental crisis, by focusing on developing eco-friendly technologies and products as well as on managing and monitoring of corruption-prone activities. Please find our activities and policies related to the Principles in the table and the corresponding pages below.



UNGC Principles and Related Activities

Area	Related Activities	Principle	GRI G4	Page
Human Rights	Comply with ILO and UNGC Hold sexual harassment prevention session and cross-cultural management session	1. Businesses should support and respect the protection of internationally proclaimed human rights;	G4-HR2, G4-HR7, G4-HR8, G4-HR9, G4-HR12, G4-S01, G4-S02	46, 48, 49, 56-61
		2. Make sure that they are not complicit in human rights abuses.	G4-HR1, G4-HR10, G4-HR11	
Labor	Operate the labor Union and Labor-Management Council Comply with ILO and the ten principles of UNGC Set internal policy against any form of gender discrimination, No gender-based discrimination in compensation. Evaluate related to human rights of major subcontractors.	3. Business should uphold the freedom of association and the effective recognition of the right to collective bargaining.	G4-11, G4-HR4, G4-LA4	38, 61
		4. The elimination of all forms of forced and compulsory labor.	G4-HR6	46, 61
		5. The effective abolition of child labor.	G4-HR5	46, 61
Environment	Comply with the regulation regarding emissions on site, Build environmental management system at worksites, Conduct environmental impact evaluation, Conduct GHG and energy consumption reduction activities, Nurture low carbon industry, Support to spread Green management	6. The elimination of discrimination in respect of employment and occupation.	G4-10, G4-EC5, G4-EC6, G4-LA1, G4-LA3, G4-LA9, G4-LA11, G4-LA12, G4-LA13, G4-HR3	46, 59, 60, 61
		7. Businesses should support a precautionary approach to environmental challenges.	G4-E2, G4-EN1, G4-EN3, G4-EN8, G4-EN15, G4-EN16, G4-EN17, G4-EN20, G4-EN21, G4-EN27, G4-EN31	25, 26, 29, 30, 31, 54, 65, 67
Anti-Corruption	Set an objective to reduce 30% GHG emissions against BAU by 2020, Eco-friendly construction/design/operation, Conduct environmental impact evaluation Expand renewable energy business, Develop eco-friendly technologies, Applies 'Green Concrete', eco-friendly construction material	8. Undertake initiatives to promote greater environmental responsibility.	Overall Environment Aspects	25, 31, 64, 65, 66, 67
		9. Encourage the development and diffusion of Eco-friendly technologies.	G4-EN6, G4-EN7, G4-EN19, G4-EN27, G4-EN31	25, 26, 31, 64, 65, 66, 67
Anti-Corruption	Operate the Ethics Committee, establish and implement ethics management policy, run whistle-blowing program to eliminate anti-corruption	10. Business should work against corruption in all its forms, including extortion and bribery.	G4-S6, G4-S7, G4-S8, G4-S03, G4-S04, G4-S05, G4-S06	42, 45, 64, 65, 66

Associations / Awards

Division	Association
Plant	Construction Industry Institute, Korea Plant Industries Association, Korea-Qatar Friendship Association, The Korea International Trade Association, International Contractors Association of Korea, Korea-Egypt Economic Cooperation Committee, Korea-Oman Friendship Association, Korea Price Data System, AACE International, The Gasification Technologies Council, International Register of Certified Auditors, Korea Gas Union
Power Plant and Environment	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, The Korean Society of Combustion, Korean Society of Thermal Environmental Engineers, Korean Organic Resource Recycling Association, Korean Society of Waste Management, Korean Fluid Machinery Association, Society of Odor Research and Engineering, Korea Associate Council of Incineration Technology, The 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, YU Environmental Research Institute, Automated Waste Collection Technology Association, Korea Electric Association, Korea Institute of Project Management Technology, Korea and Energy Industry Association, Korea Atomic Industrial Forum, Korea Institute of Nuclear Safety, The Korean society of Combustion, Korea Wind Energy Industry Association, Korea District Heating & Cooling Association, Korea Information & Communication Contractors Association, Korea Software Industry Association, Korea Urban Railway Association
Civil Engineering	Korean Society of Transportation, Korean Society of Civil Engineers, Korean Society for Rock Mechanics, Korean Geotechnical Society, The Korean Society for Railway, The Korea Railway Association, Korea Port & Harbour Association, Korean Society of Coastal and Ocean Engineers, Korean National Committee on Large Dams, Korea Water Resources Association, Korean National Committee on Irrigation and Drainage, Korea Road & Transportation Association, Korean Society of Road Engineers, Korean Society of Steel Construction, Korea Geosynthetic Society, Korean Society of Coastal Disaster Prevention, Korea Rail Engineering Association, Korean Tunneling and Underground Space Association, Korea Concrete Institute
Housing & Architecture	Korea Housing Association, Korea Remodeling Association, The Korean Institute of Electrical Engineers, The Korean Institute of Illuminating and Electrical Installation Engineers, Korea Institute of Construction Engineering and Management, Korea Institute of Building construction, 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 Solar Energy Society, Korea Council of Tall Building and Urban Habitat, Korea Air Cleaning Association, Korea Institute of Architectural Sustainable Environment and Building Systems, Korean Association for Energy Service Companies (ESCOs), Korean Institute of BIM(Building Information Modeling), Korea Institute of Ecological Architecture and Environment, The Korean Institute of Landscape Architecture
Technology	Korea Engineering & Consulting Association, Korea Industrial Technology Association, The Korea Construction New-Technology Association, BuildingSMART Korea, Korean Geo-environmental Society, Korean Society of Hazard Mitigation, Architectural Institute of Korea, The Korean Society for Noise and Vibration Engineering, Korean Society of Road Engineers, Earthquake Engineering Society of Korea, DEMS, Korean Society of Ecology and Infrastructure Engineering, KSEIE, Korea Wind Energy Association, Computational Structural Engineering Institute of Korea
Management	Korea Business Council for Sustainable Development, Korea Federation of Construction Contractors, The Korea Employers Federation, Korea Chamber of Commerce and Industry, The Federation of Korean Industries, Korea IR Service, American Bar Association, Fair 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, Korea Organization Management Development Association

Area	Description	Award date
Economic	2014 Overseas Construction Award (Money Today) - UAE 4th NGL Project, MOLIT Award	03.26
	2014 Well-being Apartment Award (Hankyung Business) - Central Xi Han River, First Place	07.01
	2014 Hankyung Residential Culture Award First Half (Korea Economic Daily) - Yeoksam Xi, Best Well-being Apartment	07.03
	2014 Best Apartment to Live Contest (Maeil Business Daily) - Yeongdeungpo Art Xi, Second Place	07.17
	2014 Korean Luxury Housing Award (Money Today) - Central Xi Han River, First Place	08.25
	2014 Hankyung Residential Culture Award Second Half (Korea Economic Daily) - Park View Xi Bomun, Best Well-being Apartment	12.03
Environment	2014 Residential Service Award (Money Today) - Central Xi Han River, First Place in Energy Efficiency Category	05.28
	2014 Green Construction Award (Asia Today) - Central Xi Han River, First Place in Energy Saving Category	10.29
	2014 Green Housing Award (Korea Times) - Central Xi Misa Gangbyeon, Best Green Eco	11.07
	2014 E-Daily Construction Industry Award (E-Daily) - Central Xi Misa Gangbyeon, Best Landscaping	11.17
	2014 Eco-friendly Construction Industry Award (Joongang Ilbo) - Central Xi Han River, MOLIT Award	11.20
	2014 Green Residential Culture Award (The Herald Business) - Xi Gyeonghuigung, Best Design	12.10
	2014 The 5th Korea Green Construction Award (Seoul Daily) - Central Xi Misa Gangbyeon, MOLIT Award	12.11
social	2014 The 17th Civil Structure of the Year Award (Korean Society of Civil Engineers) - Yeosu Bridge, Gold Medal	03.28
	2014 Asia Construction Award (Asia News) - Best Overall Partnership	08.26
	2014 Aju Construction Award (Aju Economic Daily) - Best Customer Service	10.29
	2014 Korea Construction Culture Award (Seoul Economic Daily, MOLIT, Korea Institute of Registered Architects) - National Museum of Contemporary Art, Best Public Sector	11.05
	2014 Korea Construction Culture Award (Seoul Economic Daily, MOLIT, Korea Institute of Registered Architects) - Mecropolis, Best Co-housing	11.05
	2014 Korea Construction Culture Award (Seoul Economic Daily, MOLIT, Korea Institute of Registered Architects) - NC Soft Pangyo R&D Center, Second Place	11.05
	2014 Korea Construction Culture Award (Seoul Economic Daily, MOLIT, Korea Institute of Registered Architects) - Naver Data Center Chuncheon "Gak", Second Place	11.05
	2014 Korea Apartment Award (Korean Business TV) - MOLIT Award in Safety Management Category	11.26
	2014 The 10th Civil Engineering Award (Maeil Business Daily) - NC Soft Pangyo R&D Center, Second Place	11.27