

GS E&C INTEGRATED REPORT 2013

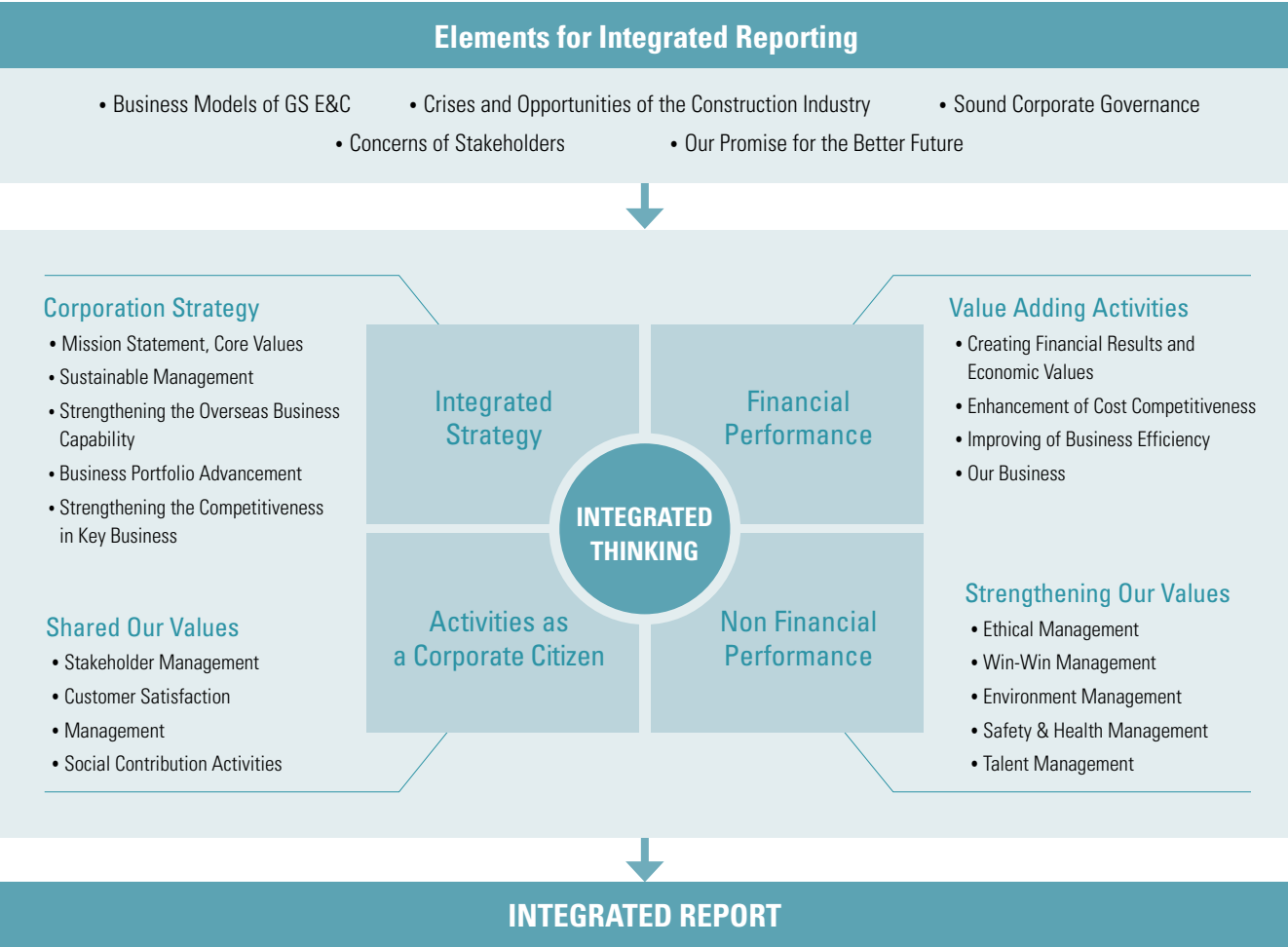
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GS E&C INTEGRATED REPORT

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 2013 to December 2013(including part of the performance for 2013)
Reporting Scope	Major supply chain and all operating sites in Korea and aboard
Reporting Standards	GRI(Global Reporting Initiative) G3.1 Guidelines, ISO26000, UN Global Compact
Reporting Base	Based on fiscal year. At least 3 year time series
Reporting Cycle	Annually
Organization of Report	Preferential reporting of material issues based on materiality, ‘Performance Index’ to see data at a glance
Disclosure Principle	The report available on the web site www.gsconst.co.kr The appendix on the compliance with GRI Guidelines, UNGC and ISO26000 available
Further Information	Please contact GS E&C Strategy Planning team +82-2154-1579



INTRO	CEO's Message	02
	Company Profile	04
	Our Business	06
GREAT CHALLENGE	Episode 01. Creating Sustainable Value	
	Management Philosophy	10
	Vision and Performance	11
	Stakeholder Participation	12
	Selecting Key Issues	13
	Governance	14
	Ethic Management	16
	Risk Management	18
	Episode 02. Strengthening the Strategic Business Competitiveness	
	Strengthening the Overseas Business Capability	20
Business Portfolio Advancement	21	
Strengthening the Competitiveness in Key Business	22	
GREAT INNOVATION	Episode 03. Eco-Friendly Construction	
	Eco-Friendly Management System	28
	Eco-Friendly Construction Activities	31
	Response to Climate Change	33
	Episode 04. Eco-Friendly Technical Capability	
	Business of Technology	38
	Eco-Friendly R&D Infrastructure	39
	Development of Eco-Friendly Technology	40
GREAT PARTNERSHIP	Episode 05. Global Talent Development	
	Enhancement of Employee Work Competency	46
	Safety & Health Management	49
	Episode 06. Sustainable Partnership	
	Customer Satisfaction Management	52
	Growing Together with Suppliers	54
Local Community Partnership	57	
APPENDIX	Report of Independent Auditors	61
	Financial Performance	62
	Report of Independent Accountants' Review of Internal Accounting Control System	66
	Report on the Operations of the Internal Accounting Control System (IACS)	67
	Green Management System Certification Scheme	68
	The Third Party Assurance Statement on Greenhouse Gas Inventory	70
	ISO26000	71
	GRI Index	72
	UNGC	76
	Associations/Awards	77

CEO's MESSAGE



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

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

Since the foundation in 1969, GS E&C has focused on the Plant, Power, Civil Engineering, Architecture, Housing, and made effort to meet the customer satisfaction.

For us, the year 2013 was a difficult year. Therefore, we put our efforts to make a quick recovery and quality growth by focusing on strengthening and expanding our EPC capability and innovating cost structure for order taking processes from the conventional growth method based on quantity. In 2014, we are expecting the increase in orders and net profit from large overseas projects as well as completing the projects that imposed hardships due to complications in the past.

We will do our best to become a sustainable global company.

To GS E&C, it is not only important to pursue economic growth but also social and environmental responsibilities highly. We are enacting sustainable management activities in compliance with our core values of Great Innovation, Great Challenge, Great Partnership.

In the perspective of environment, we are pursuing in becoming an eco-friendly company through the eco-friendly design, development of green concrete and energy saving activities. In the social perspective, we have run the social contribution programs for the public society in order to help those in need of economic assistance. We have tried to build the mutually beneficial system with subcontractors through the transparent management system. We are also trying to form a good relations with stakeholders by changing the company cultures.

The Integrated report contains contents on various activities and efforts for the sustainable management of GS E&C and links the sustainable management to the corporate strategy and value creation.

This year, we do not expect a drastic improvement of domestic economy and the competition will be intense in overseas market such as Africa and Asia, etc. Under such hard circumstances, GS E&C will make an effort to create new opportunities by utilizing an active mind and will be reborn as your best business partner through the endless development and innovation.

From now on, we will continue to focus on our economic, environmental and social responsibilities to become a sustainable global company.

Thank you.

June 2014
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 a top-tier company that puts the priority on 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 : 195 sites, Overseas : 76 sites Total : 271 sites
Main Businesses	Plant, Power, Civil Engineering, Architecture, Housing
Credit Ratings	A+ by Korea Ratings (as of Dec.2013)
No. of Employees	6,789 (as of Dec.2013)

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
	GLS Service	Services
	GCS Plus	Services
	BSM	Processing services
	GS O&M	Services
	Sanglak Food Co., Ltd.	Contract food service management
	GLPFV1	Real estate business
Overseas	Oksan-Ochang toll road	Construction
	Eunpyeong Saegil Co., Ltd.	Construction
	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 India Private Ltd.	Construction
	GS (Cambodia) Development Co.,Ltd.	Construction
	GS Construction Arabia Co.,Ltd.	Construction
	GS Saudi Co.,Ltd.	Construction
	GS E&C Poland SPZO.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



Main Overseas Contracts by Division(2013)

Unit: millions of USD

Division	Project(Country)	Contract Value
Plant	NSRP Refinery Project (Vietnam)	1,050
	STAR Project (Turkey)	1,037
	Integrated Petrochemical Complex 2 Phase (Kazakhstan)	1,403
Power	220kV Iringa-Shinyanga Substation Project (Tanzania)	16
	IRRQAA 380kV OHTL T/L (Saudi)	92
Civil Engineering	Doha Metro Redline South Underground Project (Qatar)	512
	Vam Cong Bridge Construction Project (Vietnam)	170
	Thomson Line T203 Metro (Singapore)	235
Architecture	Marina South Project (Singapore)	526
	Phnom Penh AEON Mall (Cambodia)	85
	AEON Mall BSD City (Indonesia)	142

OUR BUSINESS

In 2013, GS E&C made some adjustments to the business portfolio considering characteristic and synergistic effect of our sectors. The Environment Division merged with the Plant Division, while the Power generation and control business merged with the Power Division. Also, the Housing Division merged with the Architecture Division to form Architecture & Housing Division.

Plant

2013 Performance Summary

In 2013, Plant Division got large overseas orders like the Kazakhstan's KLPE project and Turkey's STAR Refinery Project, recording total amount of 4.2 trillion KRW. This strengthened our position in the Middle East and emerging markets such as Turkey and CIS regions. In the meantime, as the unexpected risks such as increase of labor cost occurred, the profit was decreased by the effects of profit and loss accompanied to the increase of predetermined cost ratio.

2014 Outlook and Plans

With mega Projects worth 1 trillion KRW or more in the Middle East and the emerging markets of Iraq and Iran in the pipeline, plant construction field will become our strategic business. We have established the risk hedge plans to normalize management. We will strengthen the value engineering activities, change management activities, run the special organization and fast track and develop new vendors. In addition, we will focus more on private contract, and development-type projects rather than the public bidding contracts. In the perspective of diversification, we will continue to develop the new growth fields such as LNG business and gasification business in addition to the existing business such as refinery, petrochemicals and gas.

Unit : billion of KRW	
New Orders	4,254
Order Backlog	14,282
Sales Revenues	3,796
Sales Profit	881

Power

2013 Performance Summary

In 2013, Power Division got the orders for Shin Boryeong Coal Fired #1/2, and Saudi IRRQAA 380kV OHTL T/L Project. But due to sluggish global economy and the cost rise in some workplaces, we suffered the operating losses. From the perspective of quality, we showed our potentials in technology to the world by successfully constructing the H-Class high efficiency gas combined thermal power plant (Bugok LNG Combined Cycle Power Plant Unit #3/5, Purchase & Install of Main Equipment & Service for Andong CCPP) and ultra super critical coal thermal power plant (Yeongheoung Coal Fired Power Plant Unit #5/6, Shin Boryeong Coal Fired #1/2)

2014 Outlook and Plans

Power Division prioritizes large overseas development-type projects based on our track record and experiences from various international/domestic projects. We have dispatched our sales personnel to run our own branches in Africa to get the orders for the coal thermal power plants and new business of tram. With the use of these networks, we attempt to attain quality front log. Also, we will focus on the equity investment in IPP instead of just participating in EPC project. We will cooperate with GS Energy E&R, GS EPS, GS Power, and other associates to stabilize business structure and enhance competitiveness.

Unit : billion of KRW	
New Orders	370
Order Backlog	1,822
Sales Revenues	1,044
Sales Profit	9



01 Ruwais Refinery Expansion
• Location : UAE
• Project Period : 2009.12 ~ 2014.12

02 Oman Sohar II IPP
• Location : Oman
• Project Period : 2010.09 ~ 2013.04

Civil Engineering

2013 Performance Summary

Though the domestic public market was sluggish in 2013, Civil Engineering Division showed good performance in the overseas market, receiving orders of 1.2 trillion KRW and sales of 1.1 trillion KRW. By region, we laid a strong foundation by getting orders of Thomson Line T203 in Singapore and Vam Cong Bridge in Vietnam. We also won the contract for a metro project in Doha, Qatar, which is one of our strongest fields.

2014 Outlook and Plans

In the overseas Civil Engineering market, we aim to expand market share by getting quality orders and diversify markets to Middle East/Africa regions. In the Asian region, we plan to invest in PPP(Public Private Partnership) projects by contributing to financing and organizing the optimal joint ventures. In Middle East, we will actively participate in bids as there would be a lot of infrastructure projects. We will also focus on risk management activities such as the fitness of quote and verification of stable funding to improve the profitability.

Unit : billion of KRW	
New Orders	1,276
Order Backlog	4,042
Sales Revenues	1,147
Sales Profit	30

Architecture · Housing

2013 Performance Summary

In 2013, Housing Business Division was successful in sales of Kwanggyo Xi Apartment in Shinbong 2 Stage, Yongin, which is mainly composed of medium and small sized units and the Gongdeok Xi and Gongdeok Park Xi which are the urban redevelopment project of Mapo-gu. As the domestic real estate business is in doldrums, we focused more on profitability rather than quantity. We got the orders of 1.2 trillion KRW and the sales of 1.7 trillion KRW. In Architecture Business Division, due to the sluggish domestic construction sector and private sector, the order decreased by 25% year on year to 1.8 trillion KRW. But we made a strong foothold in the South East Asian market by getting the Marina South project in Singapore and Aeon Mall project in Indonesia.

2014 Outlook and Plans

Thanks to the effects of Korean government's policy to stimulate the housing market and recovery of trading volume of small and medium sized apartments in metropolitan area, we continuously put our efforts on the new business for the good public housing site where the marketability has already been secured, early commercialization of the business site which has already acquired to improve profitability. In addition, we are currently preparing for the successful sale of apartment in the urban redevelopment project in Gimpo and Seoul and actively promoting business such as housing related investment. Architecture business division will focus on ensuring internal stability by improving competitiveness through selective bidding. Through business development focusing on technical competitiveness such as Pre-Con, we are going to pursue long-term growth by broadening the overseas market base and improving competencies in cooperation with advanced overseas companies and local companies based on our differentiated technology and knowhow accumulated through large scale projects.

Unit : billion of KRW	
New Orders	3,108
Order Backlog	17,022
Sales Revenues	3,339
Sales Profit	439



01 Down Town Line3 C937
• Location : Singapore
• Project Period : 2010.07 ~ 2016.12



02 Aeonmall BSD City
• Location : Indonesia
• Project Period : 2013.09 ~ 2015.04



03 Yeongdeungpo Art Xi
• Location : Yeongdeungpo-gu, Seoul
• Project Period : 2011.06 ~ 2014.03

GREAT CHALLENGE

DIRECTION

GS E&C strengthens its internal management system by improving corporate governance structure, ethic management and risk management. Also, we will try to achieve sustainable growth by strengthening the existing/future businesses along with the improvement in business portfolio.

IN 2013

GS E&C plans to strengthen capability of global business execution by globalizing the overseas support system and conducting differentiated network strategies. In addition, we are making an effort to continuously push ahead the new growth projects and diversify the regional and project-type portfolio to improve the profitability. We are continuing to achieve the full potential of the existing projects and high value new growth engine simultaneously. We are also doing the various cost innovation activities to improve the competitiveness.

Episode 01. Creating Sustainable Value

- Management Philosophy, Vision and Performance, Stakeholder Participation, Selecting Key Issues, Governance, Ethic Management, Risk Management

Episode 02. Strengthening the Strategic Business Competitiveness

- Strengthening the Overseas Business Capability, Business Portfolio Advancement, Strengthening the Competitiveness in Key Business



Episode 01

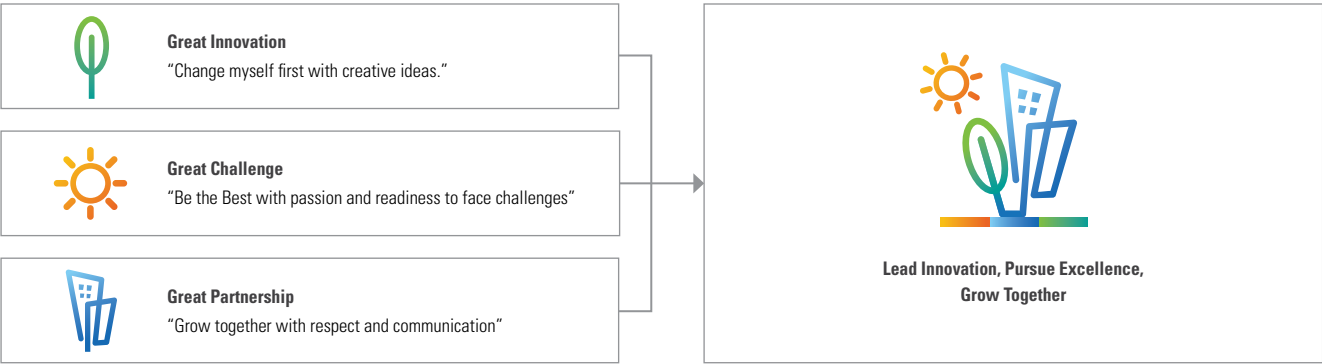
Creating Sustainable Value

Management Philosophy

Mission Statement & Values System

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. 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.

Together with Customers	Customers are part of the GS E&C family We think and act from the customers' perspective, and want to be near the always.
Dream for a Better Tomorrow	GS E&C realizes the dream for a better future We cultivate and realize the potential of business and people, and our passion and readiness to face challenges help create a better future.
New Ideas	GS E&C stays ahead of the times We respond well to the demands of the time with an open mindset and lead progress.
Creation of Value of Lifestyle	GS E&C leads to improve the value of life We create tangible and intangible value to make life more comfortable and pleasant, helping all in society to enjoy a higher quality of life.



2014 Management Strategic Directions

In 2014, we will set the management policy of "Constructing a global competitiveness based on the strong implementation" for the minimization of risk from project and attainment of profitability.



Vision and Performance

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

Strategic Directions	Specified Strategies	Action Plans	Major Achievements in 2013	Major Objectives in 2014
Strengthen Growth Regime	Strengthening the Overseas Business Capability	• Globalizing the overseas business support system • Expanding overseas network through systematic strategies	• Conversion of human resources of domestic business to overseas • Increasing the employment of local manpower and the ratio of local administrator	• Strengthening the capacity of global partnering • Establishing a global system of designing department • Improving the accurateness of overseas quotations
	Business Portfolio Advancement	• Strategic Promotion of new growth business • Diversification of customers and project types • Concentration of technology-oriented construction	• Performance of 15 new growth national projects • Secure performance of LNG Plant Test-Bed • Business opportunities expanded Value Chain model	• Visualizing the result of growth-driving business • Develop global technology-intensive projects
	Strengthening the Competitiveness in Key Business	• Reinforcing the primary competitiveness (New orders/Cost) • Strengthening the capability of performing main business	• Deriving and applying 20 cost-innovative projects • Entrants in Middle East Metro, Transmission and transformation of electric power market • A new advancement of plant market into Kazakhstan	• Internalization of the capacity of cost innovation • Secure global leadership in the core technology construction
Establish Eco-Friendly Management System	Systematization of Eco-Friendly Management System	• Operation of Eco-friendly Management System • Promote overseas environment management certification • Systematization of environment performance management system	• Development of GS Q-HSE Audit Program • Proceed GGBS certification of Singapore • Achieved the KPIs of environment management	• Operation of Audit Program • Achieve the GGBS certification • Internalizing of the KPIs of environment management
	Eco-Friendly Construction Activities Expanded	• Expand Eco-friendly R&D • Expand Eco-friendly business	• Applied 68 technologies to 53 construction Projects • Activities to mitigate environmental impacts	• Continues to Eco-friendly R&D • Expand Application of Eco-friendly design factor
	Strengthening the Response to Climate Change	• Nurturing low carbon industry • Diversification of GHG reduction activities	• Operating Energy management committee • Participation of GHG/Energy target management program test project • Supported the dissemination of green management	• Responds to GHG/Energy target management program of construction industry • Expand nurturing low carbon industry • Establishing roadmap of GHG reduction
Build a Relationship on Trust & Social Responsibility	Established an Advanced Corporate Culture	• Strengthening the ethical management • Disseminate core values to more employees	• Overall revision of the code of ethical • Reestablishing G-SPIRIT and applying new HQ building • Operating a family-friendly program	• Zero cases of ethical standard violation • Zero cases of anti-corruption and anti-trust violation • Enhance employee satisfaction
	Strengthening the Safety Health Management	• Operating a safety innovation school • Strengthening the activities preventing safety accidents	• Reducing the death toll from an industrial accident • Being awarded with a prize for safety at overseas sites • Operating GS Q-HSE evaluating program	• Zero cases of industrial fatality
	Establishment of Win-Win Partnership	• Settling a win-win cooperation with suppliers • Selection and concentration of social contribution activities	• Increasing the ratio of cash payment • Expanding financial support of suppliers • Performing social contributive activities specialized for construction industry	• Strengthening the support system of and communication with suppliers • Continuing the strategic social contributive activities

External Evaluation of Sustainable Management



Dow Jones Sustainability Indexes

Ever since being selected for DJSI World for the first time in 2010, GS E&C was placed on sustainable index world by Dow-Jones four years in a row. Being included in DJSI World means the company's integral management of economy, society and environment such as win-win operation, risk management, ethical management, Eco-friendly management, response to climate changes, social contributive activities, training talents and more has been performed in the global level.

See more information about sustainable management organization



Stakeholder Participation

Communication Channel for the Interested Parties

In order to effectively deal with stakeholders’ main interests and expectations, GS E&C has defined the key stakeholders into ten different categories which we can establish a communication channel considering the characteristics of the interested parties to collect their opinions.

- Stakeholders’ Effects
- GS E&C’s Roles
- Communication Channels

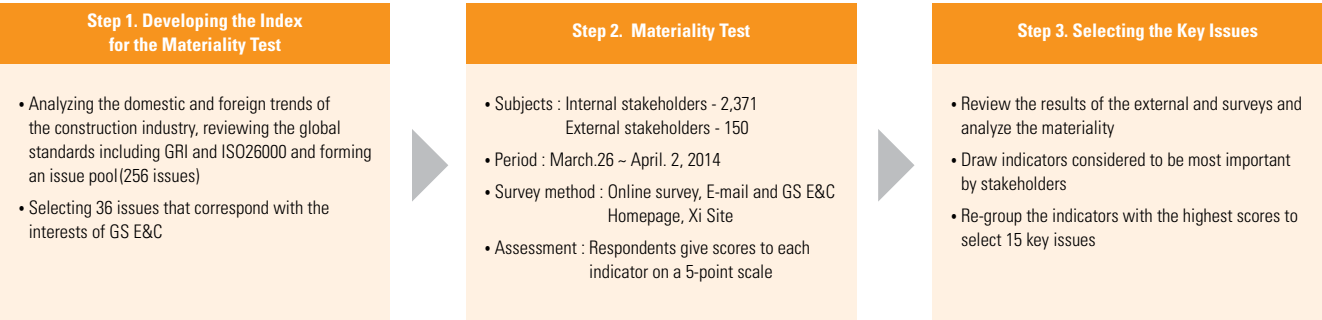


Selecting Key Issues

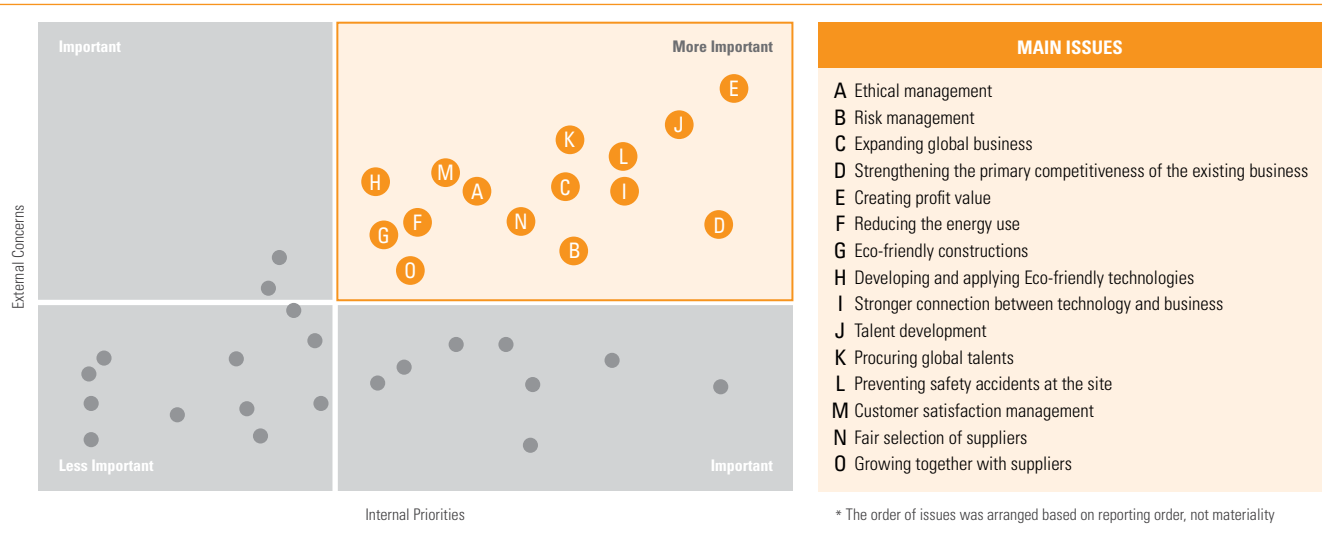
Materiality Test

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



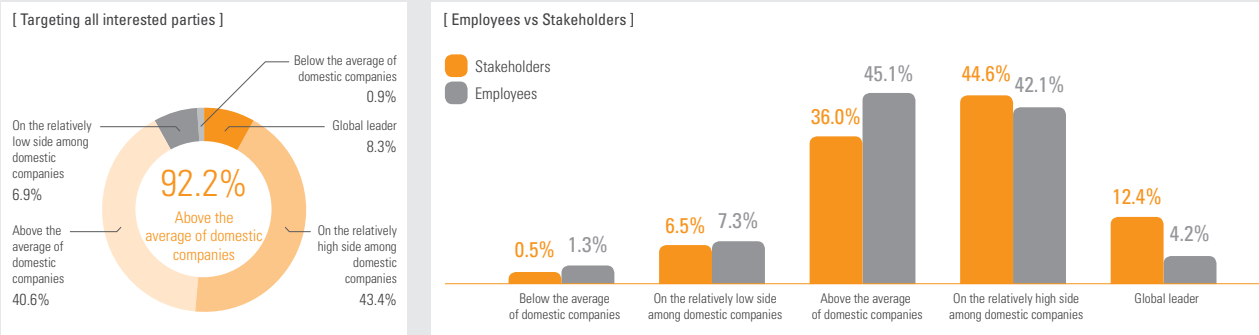
Test Results



Results of a Survey on Stakeholders’ Awareness of Sustainable Business Management

According to a survey conducted on the stakeholders’ awareness of sustainable business management, 92.2% of the surveyed responded that GS E&C was above the average of domestic companies. It showed that the outside interested parties have provided more positive evaluations than the executives and employees.

Question. How would you rate GE E&C’ sustainable business management?




Governance

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, reinforcing sustainable management structure in the future.


BOD Composition

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. The GS E&C's board of directors has a unitary board structure composed of three inside directors and five outside directors. The Board is chaired by the Chairman of GS E&C in order to ensure responsible management. The outside director independently participates in decision making in the management policy of the company and also supervises and supports the board of directors as a member of the directorate.


Standing Directors (Inside, 3)



Chang-Soo Huh
Chairman of the Board
Chairman of GS E&C




Myung-Soo Huh
Vice-Chairman




Byeong-Yong Lim
President and CEO


Non-Standing Directors (Outside, 5)




Byung-Hwa Jin
Former director of the Korea
Technology Finance Corporation




Young-Ho Hur
Former President and CEO at
LG Innotek



Seong-Woo Moon
Attorney at Law Firm Barun



Hyuk Choe
Professor of Business school at
Seoul National University



Ho-Seon Yu
Professor of Department of
Mechanical Engineering at
Soongsil University

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. 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.

BOD Committees

To ensures 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. Our outside directors consist of an economic expert, a CEO of a company, a legal expert, a financial expert, and a professional engineer. We receive their thoughts and opinions on corporate strategies, financial status, and domestic and overseas projects discussed in BOD to improve the process of policy making. The company 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.

Performance of the BOD in 2013	
Board Meetings	13 times
Issues on the Agenda	22 issues
Average Attendance rate for outside directors	98.5 %

See more information about operation of the board of directors



BOD Committees Status

Board of Directors	<div>Audit Committee</div> <ul style="list-style-type: none">Members: Byung-Hwa Jin, Young-Ho Hur, Hyuk ChoeDuties: To oversee corporate accounting and business at a company level
	<div>Outside Director Recommendation Committee</div> <ul style="list-style-type: none">Members: Chang-Soo Huh, Young-Ho Hur, Ho-Seon YuDuties: To recommend candidates for outside directors to a general meeting of shareholders
	<div>Sustainable Management Committee</div> <ul style="list-style-type: none">Members: Byung-Hwa Jin, Young-Ho Hur, Seong-Woo Moon, Hyuk Choe, Ho-Seon YuDuties: To share company-wide sustainable vision and strategy.

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. Salaries and compensations for BOD and top management are made open each year through a business report. The average employee compensation equals 5% of CEO compensation. 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.

Current State of the Remuneration of Director/Audit

Unit: person, millions of KRW			
Division	Person	Total Remuneration	The average remuneration per person
Standing Directors	3	3,132	1,044
Outside Directors	2	125	63
Audit Committee member or Audit	3	185	62
Total	8	3,442	429

- * Total remuneration is the amount including the wage paid to the director and audit retired during this term
- * The average remuneration per person is to be calculated after applying a simple average method to the total remuneration according to numbers of people

Current State of the Remuneration of Major Standing Directors

Unit: millions of KRW			
Standing Directors	Position	Total remuneration	Calculation standards
Chang-Soo Huh	Chairman	1,727	The total remuneration of 1.727 billion KRW is all earned income - The earned income is composed of 1.595 billion KRW of salary and 132 million KRW of bonus - It is not applicable to other and retirement incomes
Myung-Soo Huh	Vice Chairman	635	The total remuneration of 635 million KRW is all earned income - The earned income is composed of 579 million KRW of salary and 56 million KRW of bonus - It is not applicable to other and retirement incomes

- * Salary, bonus and severance pay shall be paid according to the personnel management regulation for the executives (the approval of the board of directors)

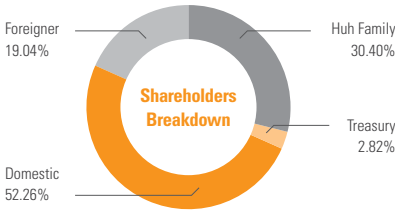
Shareholder Composition & Equity

As of the end of 2013, the company's largest shareholders were domestic institutional and individual investors who held 52.26% of the company's shares. The rest of the shares were foreign investors(19.04%), persons with special interest(30.40%) and GS E&C as treasury stock(2.82%).

Shareholder Right

GS E&C respects 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 stake 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.

2013 BOD Self-Assessment Results(Out of 5)	
Unit: point	
Roles	4.6
Responsibilities and Duties	4.6
Composition	4.4
Independence	4.6
Operation Procedures	4.8
Agenda	4.1
Committees' Structure & Operation	4.7
Audit Committee's Evaluation	4.6



Ethic Management

GS E&C has been continuously developing various activities such as an operation of related system, education and publicity to realize an ethical management since the ethical standards were established in 1994. We are making our best efforts to fulfill the ethical management not only in the domestic but also in the overseas by revising the code of ethics and translating 6 languages of the countries where we are doing business.

Ethics Management System

Revision of the Ethical Standards and Coverage

GS E&C revised the overall existing ethical standard system in 2013 to help realize an autonomous ethical management and our employees understand a policy of the ethical management. It was revised to supplement the problems of low application and utility in operation and due to the similarity and complexity of the existing standards and to satisfy the level suggested by the global criterion. The revised ethical standards classify the interested parties into customers, executives and employees, stockholders and investors, competitors and suppliers, environment and safety, and nation and society to suggest criteria of action of members. Furthermore, it is translated into the languages of main countries where GS E&C's overseas business has advanced into six languages to be utilized for their work. The ethical standards not only apply our employees and affiliated companies but also to suppliers who have contract with us. In case of a violation, suppliers will be given a disadvantage 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 a commercial practice and culture. The guideline priorly applies to four countries in Middle East and five Asian 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 (CFO), and its members composed of directors from different 14 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 web-site, phone, e-mail and mail. The investigation results are sent to informants via phone or e-mail and they are protected under the company's policy. As a result of implementing its internal/external reporting system and regular assessment initiative, 24 disciplinary actions were taken in 2013. GS E&C will continuously carry forward unethical behavior-exterminatory activities and try to become a company trusted by the customers and society through a transparent and fair management.

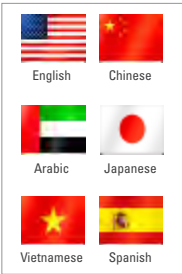
Three key Factors of Ethics Management



Ethical Management Guidebook



Core of Ethics (6 languages)



Violations of Ethical Management



Disciplinary Actions against Violations

Details	2011	2012	2013
Discipline/Dismissal	-	-	3
Suspension	3	-	12
Wage Cut	8	-	6
Reprimand	3	-	2
Others ¹⁾	3	4	1
Total	17	4	24

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

Operation of Ethics Management Training

Ethics Management Training

GS E&C conducts 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 ruminating their role and accountability in practice of ethics management.

- Gathering Education: GS E&C carries out education mainly about actual cases for the main executive groups such as sales/management and introduction for new and experienced employees.
- Online Education : All employees take an online course on ethical management once a year. GS E&C runs on-line courses focusing on the ethics management policy and dilemma cases for employees to internalize ethics mindset. It carried out education courses for 2013 in the beginning of 2014 as it has developed a new online curriculum where the contents of the ethical standards revised at the second half of 2013 were reflected.

Operation of a Program Realizing the Ethical Management

Ethical Pledge

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.

Report and Reward Scheme

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 his supervisor faces the same level of punishment in case that he did not take any action despite awareness of his subordinate's unethical practice.

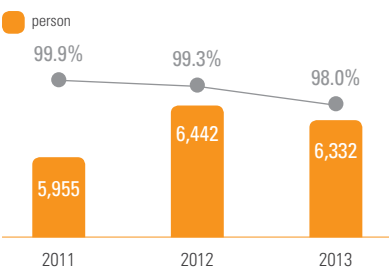
Management Consultation Activity

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

Antitrust Policy

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 of a penalty of 19.8 billion KRW by Fair Trade Commission in 2012 with regard to a mutual consent in turnkey construction of the four-river project. GS E&C will observe the principles and laws rather more strictly to prevent a recurrence of such issue. Every executive, employee and affiliated companies of the company will do their utmost to observe antitrust policy/anti-corruption regulations on all partner companies and suppliers.

Ethical Management Training Attendance (On-line)



* Education for 2013 was carried out in the beginning of 2014
* Implemented on all employees(except dispatched worker) of GS E&C

Ethical Management Training Attendance (Gathering)



Risk Management

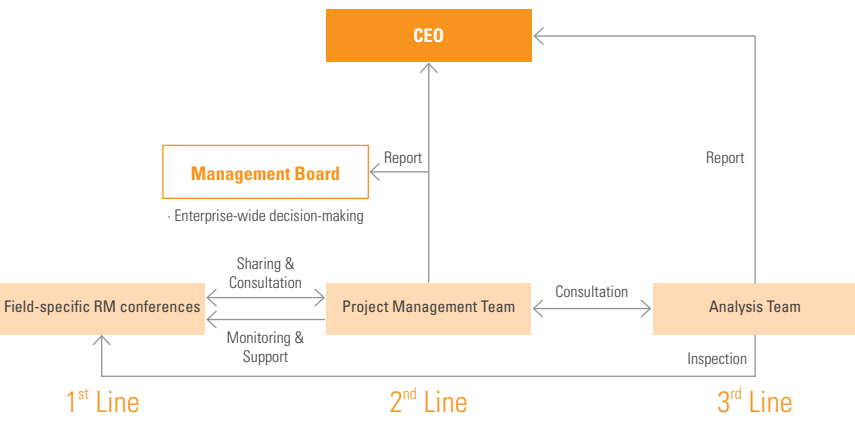
GS E&C systematically manages risks through an activation of risk-sharing activity between the related departments, integrated management by a risk control group and a management Board / Business Deliberation Committee to respond to the rapidly changing management environment and uncertainty. Especially, we manage risks by categorizing them into business environment factors and project execution factors due to an increase of mega projects.

Business Environment Risk Management

Management System

GS E&C defines 51 items of 10 areas such as management performance, process cost control, bond management, safety management, management of shortage signs as a financial/nonfinancial risks affecting the environment of the company and analyzes the importance, possibility and influence of each risk. Risk items are checked in real time through an integrated risk management which has been operated since its establishment in 2011 to allow a prompt response when there is a danger factor occurred. And it responses to problems in real time with prior sensing of matters carrying a great influence to the company and RM system operation by areas and fields when they occur.

Risk Management System



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, we are intensifying our risk-preventative measures through regular domestic and foreign economic forecasts.

Non-Financial Risks

Safety management, business partner and member company management, litigation management are categorized as non-financial risks. Monitoring through in-depth analysis and situation-specific response capabilities are being reinforced.

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 contributes 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



* Cash flow data by each project are monthly collected, and the project manager can access to the data through this system.

Operation of RM Committee

GS E&C runs the RM committee at all time to manage the cause of risk, find out the solution and take actions to solve them.

	Field	Core Issue
RM Committee	Compliance	• Dispute, lawsuit, reputation of the company and legal risks
	Resource	• Capital supplement and management of total amount of payment guarantees • Liquidity management • Hidden risks by the nature of business performance
	Fraud	• Risk of not following the precision management, risk of organization culture
	HR	• Employment, maintenance and training management of human resources • Manpower excess, risks of labor and management
	Macro-Index	• Risks of a change in main index of economic and financial markets

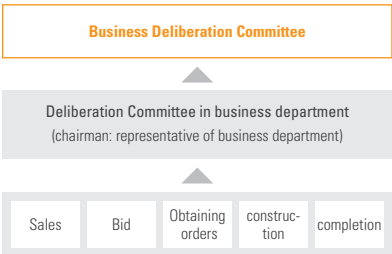
Business Execution Risk Management

Management System

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).

Pre-Project Launch Risk Management	Mid-Project Risk Management	Project Completion Risk Management
Safety evaluation of owners, feasibility of the business, contractual form establishment of a consortium), procurement of resources, suitability of construction period, application of new technology/new construction methods, duration of planning and assessments, success or failure to follow bidding regulations, etc.	Performance of business partners, cost rate, compliance with construction period regulations, safety/quality/environmental management, compliance with drawings and specifications, mobilizing appropriate resources, management of civil complaints and media, etc.	Postponement of construction completion, managing maintenance and repair, decline of management quality, etc.

Project Execution Risk Management System



Activity of Reinforcing Risk Control Function

In 2013, GS E&C managed to strengthen its prior risk management capacity through heightened availability of its risk management system for improving the performance in the areas of business process, profits and losses and business characteristics and determining the cost trends. Particularly in the case of plant business risk management is advanced through upgrading a Total Project management System(TPMS), optimized for business support.

Process	Profits and Losses	Business Characteristics
Improvement of the TPMS with a focus on usability and autonomy to increase the utilization value of each project's process control function · 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	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 · 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	Improving an appropriate TPMS such as plant EPC, etc., including planning and sales · Improving planning, sales and spacio-temporal information distribution infrastructure · Establishing a TPMS ideal for a comprehensive process support

Episode 02

Strengthening the Strategic Business Competitiveness

Strengthening the Overseas Business Capability

Globalizing the Overseas Business Support System

Due to the continued sluggish global economy and the active bidding by the large overseas companies and other companies in emerging countries like India and China, the competition for getting the overseas order is getting more difficult. In 2013, GS E&C dispatched our officials to the main overseas locations to get the more orders. The administrative and purchasing teams were also dispatched to main locations in UAE, Vietnam and Singapore. In the perspective of labor, the engineers are dispatched to the sites. For the training of engineers for conversion from the domestic projects to overseas project, we are operating the plant school. In addition, we are expanding the hiring of global people to smoothly conduct the overseas project and establishing the place for sourcing the overseas labors. We are now establishing the global HR system and global labor performance management system for the efficient management of overseas labor.

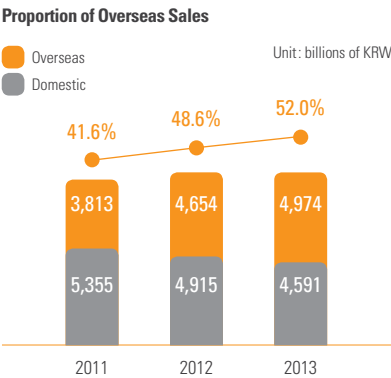
Overseas Network Strategy

In 2013, GS E&C was awarded with quality projects in Middle East and Asian regions. In the emerging market, we conducted the order taking through the selective screening for quality projects. Accordingly, we accomplished the new entry into Kazakhstan and Turkey. Based on the proposal resources and profitability, we plan to expand our markets into South American, and North African areas.

In the Plant Division, we plan to enter into CIS regions starting with the order taking in Kazakhstan. We also try to expand our business into the non-conventional resources fields such as oil sand and shale gas, etc. based on our experience in Blackgold oil sand project in Canada. In the Civil Engineering Division, we tried to get orders in Middle East where we took a good position with our reputed plant business, and succeeded in getting the order of Metro project in Qatar. In addition, we opened a new branch in Johannesburg, South Africa in 2013 to enter into the African infrastructure market.

Regional Expansion Strategy & Major Projects in Emerging Markets

Region	Strategy
Americas	<div><ul style="list-style-type: none">Central and South America – Great potential with rich natural resources- Need to create business opportunities through financial arrangement<ul style="list-style-type: none">North America, increased opportunity for new business- Increasing demand for IOC/IPC customers</div>
Turkey · CIS	<div><ul style="list-style-type: none">Tendency to put orders based on relationship- Need to take opportunities with sales based on network to secure profitability</div>
Africa	<div><ul style="list-style-type: none">Increase private/suggestion type business opportunity from the mid and long term perspective- Getting the experience through the ODA business- Active actions for the localization needs in North Africa- Taking initiative in Sub-Saharan Africa with early stage of sales operation</div>



	Canada Blackgold Oil-sand Project (2010.08~2014.06)
	Kazakhstan KLPE Project (2013.10~2014.08)
	Uzbekistan UGCC Ethylene Plant Project (2012.06~2015.09)
	Turkey STAR Project (2013.05~2017.08)
	Bangladesh Bibiyana-Kaliakoir 400kV Transmission Line Project(2012.01~2014.07)
	Tanzania Arusha 132kV OHTL Project (2013.02~2014.11)

Business Portfolio Advancement

New Growth Business & Expansion Value Chain

GS E&C is expanding and promoting value chain and new growth engine businesses by escaping from the existing growth models which focus on contracted businesses in the existing core business fields. First of all, we classified the type of growth engines by considering performance, experiences, ease of securing required capability, and opportunities for large scale global growth. For selected work types including LNG liquefaction, nuclear energy, and coal-fired thermal power, we are promoting various commercialization plans including performing national projects, M&A, and equity investment. We also have an interest in long profitable investment projects. And as a pilot project, we are promoting the Test Bed project called Lingbao water treatment in China. Secondly, from the aspect of expanding value chain, we are making an technological investment in the project called Coal Upgrading by Palm Oil Residue (CUPO) to secure feed stock capability, which is the basic condition for operating coal-fired thermal power plant. On the other hand, we have made efforts to enter the general project management area where we can create high value products based on the existing EPC technical skills and performance capability. And as a result, first time ever in Korean companies, GS E&C succeeded in getting the order of the general management service and PMC(Project Management Consultant) projects to carry out El Palito Oil Refining plant in Venezuela.

2013 Major Performance

Business	Performance 2013	Plans in 2014
Coal Upgrading by Palm Oil Residue(CUPO)	Entered into MOU with the Korea Institute of Energy Research	<div><ul style="list-style-type: none">Secured the technical cooperation of Korea East-West Power Co.Completion of the production facilities in Indonesia for commercialization</div>
LNG Liquefaction	Acquisition of performance for completing the test bed for LNG plant applied with the liquefaction design technology which was commercially developed for the first time in Korea.	<div><ul style="list-style-type: none">Acquisition of technology and performance through the implementation of government projectParticipation in equity when the gas well is acquired by LNG importerGetting the business opportunity in cooperation with LNG liquefaction licensor</div>
Nuclear Power	Suggestion for localization of Saudi nuclear power plant (cooperation system with KEPCO)	<div><ul style="list-style-type: none">Development of construction technology for closed furnace through the implementation of government projectsGetting overseas projects in cooperation of KEPCO/KHNP</div>
Core-Fired Plant	Obtained the orders from Coal Thermal Power Plants Shin Boryeong #1/2	<div><ul style="list-style-type: none">Entered the overseas markets by strengthening sales based on technical skillsIssued and promoted the projects of good quality by operation to be responsible for the three areas including Middle East and Africa, Asia and Central and South America</div>

Focusing on the Technology-driven Projects

The Civil Engineering Division tries to get the high value projects with special and unique technologies using newly developed technologies by GS E&C’s research center.

- Special long spanning bridge: Based on the completion of Yeosu Bridge and Mokpo Bridge which are the cable stayed bridges spanning more than 400m and the order of Vam Cong Bridge in Vietnam in 2013, GS E&C will plan to enter into the global market in cooperation with overseas engineering companies by running the special engineering organization.
- Deep underground traffic network: Based on the performance of C913 Slurry TBM (tunnel boring machine) in Singapore, Thomson Line in Singapore and Doha Metro in Qatar, GS E&C will plan to expand our business to the countries having the potential of large scale sea tunnels.
- Port: Based on the performance of UAE RRE#7 site and the engineers, GS E&C will expand our business into the port projects in Middle East in cooperation with overseas engineering companies and good subcontractors.

The Architecture Business Division is doing the green smart building business which constructs eco-friendly certified buildings through the proposal of green technology. In 2013, GS E&C completed Chuncheon NHN IDC (Internet data center), which was the certified as LEED platinum. We also succeeded in getting the order of Marina South, a skyscraper building in Singapore.



01 Mokpo Bridge
· Location : Mokpo, Korea
· Project Period : 2004.11~2012.12

02 Downtown Line No.2 C913
· Location : Singapore
· Project Period : 2009.09~2015.07

Strengthening the Competitiveness in Key Business

Cost Saving Strategy

GS E&C has focused its organizational capability to maximize the profits through the improvement of the cost structure of the existing projects and cost savings to prevent the cost from rising. In 2013, we found the chance for restructuring the cost structure and getting the good results.

We tried to find out the factors for reducing the costs based on the analysis of the projects conducted in the past and found out the cost innovation tasks in 7 EPC projects and 13 construction projects. We conducted the performance monitoring to reduce the cost every quarterly, led by the cost innovation team. In addition, we used the lessons learned for each stage prior to the start of the project and applied the example of the good cases in the past to all projects for improvement in cost competitiveness.

The cost innovation tasks are focused on the achievement of consolidation and efficiency of works. The main tasks include the acquisition of competitiveness in purchasing, strengthening quotation capability, and minimization of error in design stage. For the efficient implementation of cost innovation, we assigned the goal for every champion and organization and conducted the periodic monitoring and self assessment and expand the system throughout the company centering on the company wide control tower. In addition, through the operation of knowledge system for the expansion of the successful cases, we have prepared a system to internalize the innovation capability and the creation of additional performance. We have conducted the system to preemptive deal with the cost risk through the project based on cost management approach such as early cost management and concentrated management of the project expected to get loss.

Performance of 2013 Management Innovation Activities

Division	Method	Major Performance
Cost Innovation	Implementation of company-wide cost innovation task	<ul style="list-style-type: none">Achievement of the effect of 55.6 billion KRW by applying the 20 tasks to the fields<ul style="list-style-type: none">- Impact of 3.1 billion KRW, 1 billion KRW and 51.2 billion KRW by the enhanced competitiveness in the fields of design, purchasing and implementation capabilityGoal for additional EPC tasks of 27.6 billion KRW<ul style="list-style-type: none">- 5.8 billion KRW for competitiveness in design and 21.8 billion KRW for competitiveness in purchasing
Work Smart	Enhanced management speed	<ul style="list-style-type: none">Improvement in the rate of completed approval by 85% through the change in approval processChange in meeting and reporting system
	Improvement and support of cooperation	<ul style="list-style-type: none">Establishment of communication channel by managing the internal customer satisfaction indexImplementation of 400 ERRC (Eliminate, Reduce, Raise, Create) activitiesNew filing and use of 2,000 lessons learned

Key Cost Innovation Activities

- Rationalization of safety management
- Standardization of materials
- Minimization of error at design stage
- Upgrading of VE in Housing/Architecture/Civil Engineering business
- Internalization of VE in Plant/Power business
- Improvement in the system of management of outsourcing
- Construction of Pre-con system in Architecture/Housing
- Expansion of joint purchasing pool and total order placement
- Plant purchasing section
- Optimized outsourcing in design of Plant/Power business

Strengthening Capability of the Existing Mainstay Business by Division

Plant

The mainstay businesses of The Plant Division are EPC projects in refinery, gas and petrochemical plant. In case of downstream, the continuous orders would come from Middle East, Africa, and Central and South America areas and the gas market focusing on the North America is expected to make a rapid growth. The Plant Division tries to diversify the market into the markets of growth potentials.

Taking a lesson that the loss was incurred by the increase of cost due to the local implementation resource problems in some projects received during the period of fierce competition in the past, we will promote the qualitative growth together through the innovation of the cost structure and by receiving the projects focusing on the profitability. From the lessons, we have learned to plan to change the cost structure and put priority on the profitable projects rather than on volume. For this purpose, we plan to focus on the private projects or development type projects rather than open bidding projects to improve the profitability from the projects.

In case of upstream, the offshore market for marine plant and equipment is expected to gradually grow while the onshore market is expected to decrease. To cope with the changes in the market trend, we plan to perform the diversification strategy in terms of customers and markets. In case of onshore business, the concentrated effort is required for acquisition of customer network and price competitiveness. But in case of offshore business, the emphasis is put on the performances, high quality and on time delivery as it is the technology intensive business. We are considering that, making efforts to get the experts and technologies.

Power

In the second half of 2013, The Power Business Division was established by merging the Power Generation Business of the former power generation and Environment Business with the Power Control Business of the Architecture and Housing Business. The main business of The Power Division is the businesses related to the power plant for production of electric power, and EPC business for transmission and transformation of electric power. Public power market in domestic is based on the construction project. In case of private work, it is currently being ordered in the form of EPC business, and the project scale is being expanded. Hereupon, the public construction field is focusing on the reinforcement of sales capability and also on the acquisition of competitiveness through the establishment of consortium. In the field of private order, it is intended to actively participate in the electronic power generation EPC and IPP (Independent Power Plant) development business to derive profits on a stable manner.

The overseas power EPC market gets competitive as Chinese companies are trying to enter the market with the low quote. Considering the profits and sizes, we focus more on the power transmission and distribution market in Middle East and also try to enter the markets of Africa and Asia regions. In addition, we try to participate in the IPP which is expected to bring good profit in the way of EPC, equity investment and direct development. For this purpose, we are trying to construct the cooperative network with global developers and participate in the bidding with top-tier suppliers of power generation equipment.



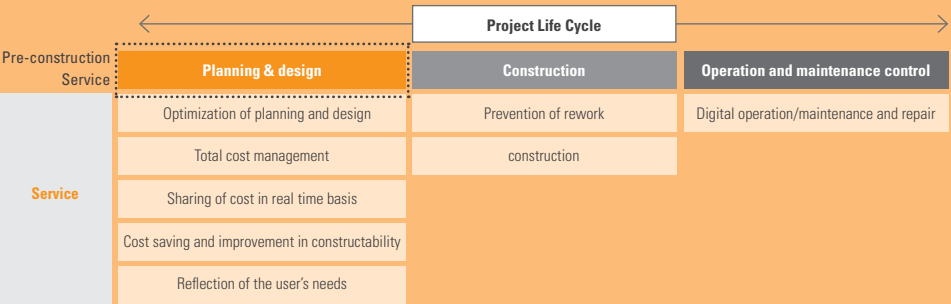
01 UGCC Ethylene Plant Project
· Location : Uzbekistan
· Project Period : 2012.06 ~ 2015.09



02 Shin Boryeong Coal Fired #1, 2
· Location : Chungcheongnam-do, Boryeong-si
· Project Period : 2013.06 ~ 2017.06

Pre-construction Service(Pre-con)

More than 80% of the contents and budget of a construction project are decided at the stages of planning and design. Accordingly, if the project is managed effectively from the initial stage, the project can be completed with the competitive budget and high quality. The pre-construction service is provided to the client at the stages of planning & design in order to meet the client's demand for budget, schedule and quality.



Value Created Activity. Inducing Indirect Economic Effect

Construction tends to stimulate more economic activities than other industries. According to the Bank of Korea, the production inducement coefficient of Korea's construction sector is 2.250 for every 100 million KRW. If you calculate our domestic production inducement effect for 2013, you will get 21.523 trillion KRW. From the perspective of the national economy, added value means how much an individual company contributes to the national income. Based on the added value inducement coefficient of 0.717 for every 100 million KRW announced by the Bank of Korea, we helped generate more than 6.858 trillion KRW in economic activities contributing to the national economic growth in 2013.

Civil Engineering

The mainstay businesses of Civil Engineering Division are the civil engineering projects from public section. In case of domestic civil engineering market, the overall volume of civil engineering project is shrinking after the early investment for preventing the economic downturn. Like the architecture construction market, the competition gets severe. Accordingly, GS E&C is trying to strengthen the competitiveness in terms of cost and order taking. With the strict preliminary study, we select the proper projects for us and concentrate on them. In the overseas market, we will make efforts to expand the business into the technology intensive projects such as development of long spanning bridge and underground transportation infrastructure. In this process, we will focus on the profit taking by putting emphasis on the preliminary study on the feasibility of the projects and stability of the projecting funding means. In case of PPP business, we will get the competitiveness by making the proper financing and organizing the optimal joint venture.

Architecture · Housing

The mainstay businesses of the Architecture Business Division include the general projects from public organization, associated companies and private clients. Due to the economic downturn and finishing of the main public projects, the domestic architecture construction market would not get better in near future. Also, the structure of the overseas market is turning the structure where it would get harder to make profits. Accordingly, in the domestic public sector, we are strengthening our capability of design and engineering proposal for improved competitiveness while in private sector, we are trying to focusing on the proposal business, giving priority on the profitable projects. In the overseas market, we are planning to enhance the competitiveness by selectively participating in the bidding, considering on the profitable projects rather than large projects. The mainstay businesses of the Housing Division are new development and maintenance of apartment buildings. Due to the stagnant market, the competition gets severe and the profit gets reduced, thus making our market size shrinking. In this hard circumstance, we try to reposition ourselves using our premium brands or “Xi”, differentiated CS, community, landscaping and special design for the maximization of profits. On the other hand, the subcontracting business will be promoted selectively around the new projects having the good public housing sites secured the marketability and in case of maintenance business, we will focus on securing the profitability through selecting the good maintenance projects in the capital region and early commercialization of sites already acquired.



01 Vam Cong Bridge
· Location : Vietnam
· Project Period : 2013.11~2017.11



02 Marina South
· Location: Singapore
· Project Period: 2013.08~2016.08

Value Created Activity.

Creating Social Values; Participating in the Construction of Public Facilities and Infrastructure

GS E&C is contributing to the national economic growth as it helps buildings social infrastructure for the public good. In 2013, we took order for domestic projects such as Ulsan Municipal Solid Waste Treatment Plant and Hwasun Port Development Project Phase 2. Internationally, we are helping developing countries through the construction work of social infrastructure, including Vam Cong Bridge in Vietnam.



Hwasun Port Development Project Phase 2
· Location : Jeju
· Project Period : 2013.10 – 2017.15

Economic Performance

2013 was a difficult year according to overseas businesses’ loss and the long downturn in the domestic real estate business. Despite this company put up a good fight in the Plant Division, the strategic business, the total orders recorded 9.87 trillion KRW which was a decrease of 1.09% compared with the previous year and sales did 9.5658 trillion KRW which was a decrease of 0.03% compared with the previous year due to the slump of overseas power sector and domestic public sectors. In the profit and loss aspect, the business loss recorded 935.5 billion KRW as extensive damage of overseas business was reflected.

Based on K-IFRS, Unit: billions of KRW

Indicator		2011	2012	2013
Sales	Total	9,168	9,569	9,566
	- Plant	3,875	4,492	3,796
	- Power	594	655	1,044
	- Civil Engineering	1,097	1,237	1,147
	- Architecture · Housing	3,303	2,904	3,339
	- Others	299	281	240
Gross Sales		1,054	765	(379)
Operating Profit		410	176	(935)
Earnings before Tax		524	182	(993)
Net Income		407	95	(827)
Total Assets		11,779	11,776	12,427
Total Loans		1,775	2,460	4,247
Amount of Orders	Total	13,253	9,107	9,008
	- Plant orders	4,180	3,195	4,254
	- Power orders	1,799	1,697	370
	- Civil Engineering orders	1,685	557	1,276
	- Architecture · Housing	5,589	3,639	3,108

GREAT INNOVATION

DIRECTION

GS E&C minimizes environmental effects of processes for projects ranging from technical development and design to purchase, transportation, construction, and operation. Also, we strive to strengthen the Eco-friendly management capability by extending and practicing the green projects and activities.

IN 2013

GS E&C arranged systematic environmental management business by building Eco-friendly management systems and minimized the environmental and social costs successfully. We also gained environmental value by actively responding to the climate change through CO₂ reductions in our operations, and created social value by practicing and encouraging green communication for the subcontractors. In addition, we focused on finding new projects based on various green technologies by building green technical infrastructures and made efforts to maximize Eco-friendly management performance. In effect, we were able to reduce environmental risks by strengthening the connection between the technical aspects to the managerial aspects to achieve Eco-friendly management systems.

Episode 03. Eco-Friendly Construction

– Eco-Friendly Management System, Eco-Friendly Construction Activities, Response to Climate Change

Episode 04. Eco-Friendly Technical Capability

– Business of Technology, Eco-Friendly R&D Infrastructure, Development of Eco-Friendly Technology



Episode 03 Eco-Friendly Construction

Eco-Friendly Management System

Environment Management System













GS E&C sets 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

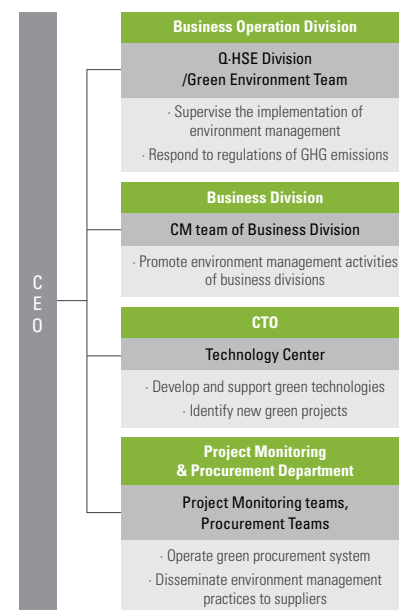
Strategic Target	Eco Global Top Tier in Eco-Friendliness Reducing GHG emission by 30% by 2020 (compared to BAU)		
Strategic Directions	Raising awareness inside the company and among suppliers	Implement projects to reduce GHG emissions and energy consumption	Reinforcing GHG management system
Strategic 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

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 an enterprise-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 to prevent environmental risk and manage environmental management performance indicators efficiently.

KPI	Definition	Mid/Long-term Target(2020)	2013 Achievement	
Direct GHG emissions (tCO _{2-e})	Annual direct GHG emissions	7.1% on-site compared to BAU level, Building 26.7% reduction	 High	 85%
Indirect GHG emissions (tCO _{2-e})	Annual indirect GHG emissions		 Achieved	 107%
Rate of waste reused and recycled (%)	Proportion of waste reused/recycled to the total waste	Recycling rate over 90%	 Achieved	 135%
Rate of raw/subsidiary materials obtained through green procurement processes (%)	Proportion of expenses on materials with green certification to the total materials costs	11.8% above	 High	 90%
Environmental protection activities(No. of activities)	Annual number of activities to protect biodiversity and the local environment	Annually 50 cases above	 Achieved	 158%
Rate of R&D investment to develop greenProducts (%)	Proportion of investment in green technology to the R&D investment	70% Above	 Achieved	 132%

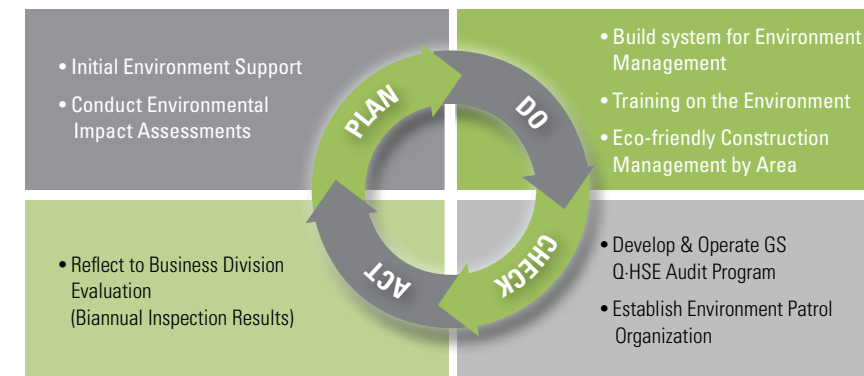
Organizations for Eco-friendly Management



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 environment management guide-book which include green management regulations, major cases, and etc., every February annually. We also promote an environmental management activities that are geared to onsite through the P-D-C-A cycle method which provides environmental information about procedures, standards, cases, check lists and education by area.

PDCA Cycle Process



Strengthening /Set-up Support of Initial Site

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 2 months of its commencement. We also prevent environmental accidents and provide efficient environmental support through management of on-site by level.

Conducting Environmental Impact Assessments

GS E&C prepares the outline plans on managing the environment for each construction site. For those sites that are subject of environmental impact assessments, we conduct post construction environmental impact evaluations quarterly. Through this procedure, we are able to manage environment facilities and preserve the surrounding ecology.

Building System for on-site Management of Environment

Since 2005, GS E&C has been designating a person to be in charge of managing environment-related R&R at each construction sites to reduce the environment-related risks. The onsite assistant foreman holds an additional position as an environment manager and also assigns an employee to be in charge of each of the four high risk areas (environment-related documents, environmental facility management, environmental monitoring, green information system operation).

Environmental Management Training

GS E&C arranges training program annually to strengthen the environmental managers' capability, 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).

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 are promoting activities related with pollution management and protection of biodiversity in order to minimize the impact of surrounding environment and local residents.

Developing Classification of Construction Site by Construction Type and Environmental Risk

Division	Classification Standards	Ratio
Level 1	<ul style="list-style-type: none"> · Sites with highly possible accidents (Based on the statistics of 5years) · Large scale construction sites (The scope of environmental management is wide) 	23%
Level 2	<ul style="list-style-type: none"> · The sites where potential environmental accident can occur · The sites where civil complaints are expected 	24%
Level 3	<ul style="list-style-type: none"> · The sites with less environmental accident factors 	53%

Environment Management Training




* 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.

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

CHECK

Operation of GS Q-HSE Audit Program

In 2013, GS E&C developed ‘GS Q-HSE Audit Program’ specialized for the company. The program benchmarked advanced method of the environment management such as ISO14001 and ConSASS of Singapore and appropriately applied for us. The Audit Program used for inspection and evaluation contributes to manage construction sites more effectively.



4 Bands	
BAND 1	BAND 2
Plan/Procedure	Reflecting the project's characteristics
BAND 3	BAND 4
Implementation	Monitoring/Result measurement/ Perpetual enhancement

※ ConSASS(Construction Safety Audit Scoring System): Audit Program of Singapore

Establishment of Environment Patrol Organization

GS E&C operates an environment patrol organization within the Safety Innovation Team in order to manage environmental risks and prevent accidents. The environment patrol organization intensively inspects management activities and strengthens environmental management capabilities by implement training by categorization of environmental risks.

ACT

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 2013, the improvements of the early establishment of environmental plans, eligibility of education & training, and precautions of unqualified details were carried out. We plan to improve the environmental management levels through regular environmental evaluations and improvement activities.




On-site Environment Inspection Result		Unit: case		
	2011	2012	2013	
Check of Guidance	72	15	24	
Special Inspection	3	74	37	
Patrol Inspection	-	-	89	
Total	75	89	150	

Overseas Environmental Management Certification

Promotes Certification of Singapore GGBS

GS E&C is minimizing noise damage of local residents by preserving natural resources through the 3R(Reduce, Reuse, Recycle) activities, doing excavation work by low noise, installing 8m sound proof walls around the site, and monitoring it regularly in the Singaporean site. And based on these activities, acquisition of GGBS certification conducted by the Building and Construction Authority(BCA) is being arranged in 2014.

<Singapore DTL3 C925 >



Low-noise cutting method

Install soundproof walls by 8m

Dispute Prevention activity

* 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

Contents of GGBS evaluation

Environment Management System
Environmental policy, Set KPIs, Establish procedure of environment management, etc.
Environmental Achievement
Reuse waste, Save water use, Water recycling, etc.
Environment Activity for Improvement
Manage environmental facilities, Apply renewable energy sources, Activity for reducing the number of civil complaints, etc.
Others
The number of awards received in environmental area, etc.

Eco-Friendly Construction Activities

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 8 project sites, including P9 section of the Paju LG Display project and Gran Seoul (new headquarter built in 2013). The Green Concrete Technology enabled to reduce the material cost and GHG emissions by 1.06 billion KRW and 45,027tCO₂-e (aggregate).

Environmental Accidents and Dispute Prevention

GS E&C has set up an environmental accidents database and shares 487 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. There were a total of 7 environmental-related accidents, same number of incidents as the year of 2012, however, the cost of settling disputes slightly increased.

- Dongtan Central Xi Construction Site
In order to reduce noise pollution, GS E&C plants trees and installs sound barrier on the areas that are expected to undergo damages.

- Gajeul 4 Redevelopment Construction Site
GS E&C uses drop head system which minimizes dropping impact to reduce noise pollution when molds are taken apart.

Activities to Mitigate Environmental Impacts

GS E&C is monitoring and managing energy and resource usage to minimize environmental impacts during construction period.

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.

Protection of Biodiversity

GS E&C is promoting various biodiversity activities in order to prevent damage to the ecosystem as a result of construction. In 2013, pre/post environment impact assessments were conducted at Boryeong LNG Terminal site, Dangjin 4 Biomass Power Plant site, etc.

Green Concrete Technology-applied Sites in 2013

Project Sites	GHG emissions Reduction (tCO ₂ -e)	Cost Reduction (Hundred Million of KRW)
Shinhwamyung Riverview Xi	5.3	4.4
Gajeul 4 Redevelopment	4.1	3.4
Gongdeok Park Xi	2.2	1.8
Sinchon Xi ella	1.0	0.8

Causes of Environmental Accidents

Unit: case			
Cuase	2011	2012	2013
Waste	1	0	1
Dust	2	2	1
Water Quality	0	0	0
Noise and Vibration	6	5	5
Soil Pollution	0	0	0
Total	9	7	7

Activities to Preserve the Ecosystem at Samcheok -Donghae Expressway Section 3 Construction Site

Activities to Preserve the Ecosystem

Prior to construction on the Samcheok-Donghae Expressway section 3 project, GS E&C conducted environmental impact assessments. The results revealed a wide variety of wild life, such as endangered otters, short ninespine sticklebacks, long-billed ringed plovers, mandarin ducks and kestrels, are living around the construction site. Following this, the area under construction was monitored monthly and measures to restore riparian vegetation, and the installation of grit chambers and silt protectors were conducted to minimize any damage to the plant and wildlife and environment.

Building of Temporary Bridge

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, 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 24.4tCO₂-e emission and zero accidents with the local residents.

| 30 | GREAT CHALLENGE GREAT INNOVATION GREAT PARTNERSHIP

GS E&C INTEGRATED REPORT 2013 | 31 |

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. And we are also providing financial rewards by exempting contract performance securities to outstanding companies. In addition, we regularly provide information to suppliers for easy monitoring of green procurement policy at the on-line GS-Constmat board.

Green Transportation

Eco Driving Campaign

GS E&C continues the Eco Driving campaign to minimize environmental impact during transportation process. Drivers of on-site equipment and construction vehicles are given in-house training on preventing pollution, maintaining appropriate driving speeds and restrain from use of aged equipments 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 2013 totaled 11,475(aggregate) which equals a reduction in GHG emission by 1.95tCO₂ *

* This is similar to the amount of carbon dioxide emissions by a 2,000cc car traveling round trip 14 times between Seoul–Busan.

Green Operation and Demolition

Expansion of Eco-Friendly Certified Buildings

GS E&C has constructed Eco-friendly buildings applying various green technologies to our systems. These efforts have been recognized through Green Building Certifications. A total of 27 commercial and housing buildings completed through 2013 have acquired the certification statuses as Eco-friendly structures and green buildings. We will continuously strive to increase the number of its certifications such as LEED(Leadership in Energy and Environment Design) certification of the U.S. and Singapore’s Green Mark.

Establishment of Eco-friendly 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. 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.

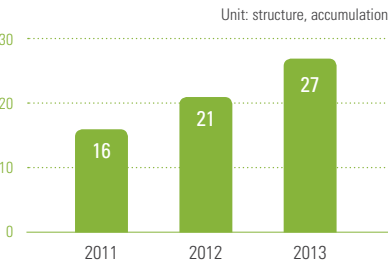
Proper Disposal Process of Waste Asbestos



Green Procurement Records in 2013

Unit: hundred millions of KRW	
HB Label	18.94
High-Energy-Efficiency Equipment & Materials	125.91
Energy Efficiency Ratings 1~2	65.36
Eco-label	76.19
Total	286.40

Eco-Friendly Structure Certifications



Eco-Friendly Structure Certifications in 2013

Structure	Certification Type	Certification Date
Se-Jong Government Complex Guard Station	Certification	2013.02
Military Culture Research Center	Pre-certification	2013.01
Changwoon Gyeongsang National University Hospital	Pre-certification	2013.01
GS Homeshopping 2nd HQ Office	Pre-certification	2013.04
Ssangyong Office Remodeling	Pre-certification	2013.05
Sinchon Xi ella	Pre-certification	2013.05
Yeoksam Xi	Pre-certification	2013.12

Response to Climate Change

Operating Energy Management Committee

GS E&C operates the Energy Management Committee for representatives of business divisions and building managers to discuss way to efficiently save energy. The committee sets the energy reduction goals and monitor periodically for areas that needs to be improved. In 2013, the energy diagnosis result was shared with committee members and discussed about methods of energy reduction. The discussion material will be given to use a guideline for energy reduction when the goals of GHG emission will be assigned to each business division. In 2013, the campaign was carried out 4 times and it is being rolled out to construction sites, the headoffice and throughout the entire company.

Energy Saving Activities

Each business divisions has established and developed a method for energy saving during the process from design, execution, maintenance. We are continuing the activities such as operating temporary office with renewable energy, turning off unnecessary office lights during lunch time, prohibiting of idling in on-site and using bicycles.

• **Cheongju Municipal Solid Waste Treatment Plant #2**
Use electricity of temporary offices by using new regeneration energy (cogeneration) of waste incinerating facilities

• **154kV T/L Baikhak Project**
Reduce electric power as the whole construction sites are shut down after the closing hour by installing the power disconnecting device.

Nurturing Low Carbon Industry

Development of LNG Plant

Since the natural gas is thought of as a clean, stable, and convenient alternative to fossil fuel, the interest for LNG plant industry, including the processes for pre-treatment and liquefaction of natural gas, has rapidly grown. GS E&C is equipped with commercial LNG plant design technologies, construction and operation know-how, and it is the first local Korean company to successfully complete LNG plant Test Bed with LNG production of 100 tons per day.

Smart Grid

GS E&C has participated in the Jeju Smart Grid Test Bed since December 2009 to secure core technologies of the operations. The Test Bed facilities are equipped with smart metering system, smart home appliance, cooling & heating system using seawater, fuel cells, photovoltaic and wind power. The renewable energy technologies are installed to produce heat and power within the system.

• **GS Bldg** 172 km, 10F
• **GS Bldg** 245 km, 1F
• **GS Bldg** 220 km, 5F
• **GS Bldg** 307 km, 5F

Energy Savings Campaign

‘Green & Health Stairway’ Campaign at the HQ Building

GS E&C is continuously carrying out ‘Green & Health Stairway’ (taking the stairs up to fifth-floor office) Campaign to save electricity costs and to promote employees’ health at Gran Seoul, the new headquarter building of the company.

Energy Savings Campaign

- Saving paper towels
- Energy saving activities in an office environment
- Information on energy saving type clothes
- Ways of saving electricity in an office

Energy Savings Poster



Operating Green Information Management System

GS E&C operates a green information management system to manage and monitor environmental performance systematically. Through the green information management system, we are continuously monitoring the GHG inventory and environmental performances real-time(raw/subsidiary materials, water, waste, green procurement, on-site green management activities, etc.).

Role of Environmental Information Management System	
Establish and Implement Green Management Strategies	<div><div>• Establish and monitor quantitative targets for green management</div><div>• Manage green management performance indicators</div></div>
Prepare for Potential Regulatory Risks Regarding Climate Change	<div><div>• Prepare for potential regulatory risks regarding climate change by measuring and analyzing GHG emissions</div></div>
Cost Reduction	<div><div>• Replace off-line activities and paper copies with on-line business practices</div><div>• Unify information collection channels to prevent excessive workload</div></div>
Raise Awareness on Green Management	<div><div>• Raise employee awareness by sharing information on a real-time basis</div><div>• Disseminate green management practices into construction sites</div></div>

Respond to Regulation of Climate Change

Participation of GHG/Energy Target Management Program Test Project

Since 2010, the Korean government has been operating the GHG Target Management Program in order to meet the national GHG reduction goal. In 2014, the construction industry was included as the program expanded. Although the GHG reduction goals for construction industry is still unclear, GS E&C participates in the GHG-Energy Target Management Program Test Project to be prepared ahead.

Responsible G-SCM (Support Project to Spread Green Management)

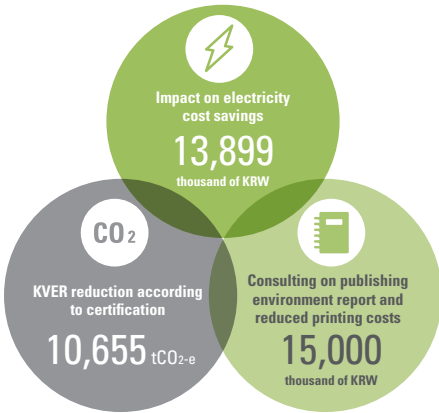
For the sustainable growth of its partner companies, GS E&C supports our partners by establishing a green management system, nurturing green management experts, establishing a GHG inventory, and bringing about green communication through the “Support Project to Spread Green Management in the Construction Industry” led by the Ministry of Environment. In 2013, three of ten companies that participated were included as procurement partner companies with the establishment of green management systems, obtaining green technology certification, publishing an environmental report and participating in overseas exhibitions in order to support the establishment of green management in our partner companies.

Key G-SCM activities in 2013	
Establishing Green Management System	Nurturing Green Management Experts
<div><div>• Practicing green management awareness survey and status diagnosis</div><div>• Supporting green management vision and goals</div></div>	<div><div>• Carrying out Energy Management Committee workshops & training to nurture experts</div><div>• Supporting overseas benchmarking programs</div></div>
GHG/Resource and Energy Management	Green Communication
<div><div>• Diagnosing the efficiency of resources and energy & Establishing items that have been reduced</div><div>• Registering KVER(Korea Voluntary Emission Reduction)</div><div>• Supporting Greenbiz/Environmental new technology/Carbon labelling Certification</div></div>	<div><div>• Distributing posters on saving energy and guidelines on reducing GHG/Energy</div><div>• Promoting to publish environment reports</div></div>

Signing Ceremony for GHG/Energy Target Management Program Test Project



Major Performance of Suppliers through G-SCM Project



LIFE CYCLE VALUE CREATED ACTIVITY

GS E&C is also creating environmental and social value by decreasing the environmental pollution and maximizing the customer satisfaction, as well as, economic value including cost innovation in the whole process of businesses. We will check the process to create Eco-friendly value ranging from the design phase to the construction and operation process through the construction process of Gran Seoul which is being used as the new company building of GS E&C.

01 Design Phase

Applied Details	Cost Saving Effects
① Added Double Low-E Vertical spandrel glass	· Increased energy efficiency
② Used LED lighting and NGR reflecting plate	· Reduced energy of 40% than that of the existing fluorescent lamp
③ Provided additional ventilator volume/Used Eco-Friendly refrigerant	· Reduced 31.6% of the annual usage of drinking water
④ Reflected Water efficiency water saving toilet facilities / Intelligent Building System	· Reduced 8.72% of energy consumption ¹⁾
⑤ Heat source system (Cogeneration system, Ice storage system, Geothermal heat pump)	· Reduced 23.11% of energy costs ¹⁾

1) Compared to standard buildings of ASHRAE (American Society of Heating Refrigerating and Air Conditioning Engineers)



02 Construction Phase

Applied Details	Cost Saving Effects
<div><div>• Managed internal and external environment under construction</div><div>: Used Eco-Friendly finish materials</div><div>: Minimized spillage of pollutants and dust</div><div>: Managed the interior air quality</div></div>	<div><div>· Reduced requests for halting the construction work and administrative litigation</div><div>· Reduced environmental disputes and civil complaints with local residents</div></div>
<div><div>• Secured rest space in the urban area</div></div>	<div><div>· Built positive corporate image</div></div>
<div><div>• Restored cultural properties</div></div>	<div><div>· Kept historically and regionally</div></div>
<div><div>• Recycled waste materials / Used recycled materials, Used materials produced in the local area(MR)</div></div>	<div><div>· More than 20% of the used materials is recycled materials</div></div>



Created Abundant Green Space and a Park

03 Operational Phase

Applied Details	Cost Saving Effects
<div><div>• Introduced the elevators which register choice floors in advance</div></div>	<div><div>· Increased 30%~50% of elevator efficiency Reduction of return time of elevator</div></div>
<div><div>• The high efficiency low emission vehicle parking permit program</div><div>• Installed bicycle racks</div></div>	<div><div>· Reduced green-house gases</div></div>
<div><div>• Introduced the building energy management system</div></div>	<div><div>· Reduced 5%~15% of energy expenditure</div></div>
<div><div>• Introduced the Eco-Friendly electricity / facility system</div></div>	<div><div>· Reduced energy consumption and used water resources effectively</div></div>



Bicycle racks

04 Eco-Friendly Building Certification

LEED Gold Grade	Green Building Certification Excellent(Green 1st Grade)	Energy Efficiency Rating 1st Grade	Seoul Barrier-free Building Certification

* LEED(Leadership in Energy and Environmental Design) : United States' Eco-Friendly Building Certification

Material Flow

Sustainable Construction Process

INPUT

01

Green Technology Development and Design

- Strengthen green technology development
- Commercialize green technologies

02

Green Procurement

- Green certified product procurement
- Expand green procurement by partner companies

03

Green Transportation

- Build green transportation system

04

Green Construction

- Activities to reduce resource use
- Activities to minimize environmental impact

05

Green Operation

- Eco-friendly construction technology
- Expand development and certification

06

Green Demolition

- Minimize construction waste
- Proper handling of asbestos
- Recycling resources

OUTPUT

Investment in Environmental R&D Activities
(Unit: millions of KRW)

Resource Consumption

Water Consumption
(Unit: m³)

Energy Consumption

2011

1,785

2012

1,269

2013

1,127

Sand

73,097 m³

Plaster board

1,714,138 m³

Ready-mix concrete

1,753,558 m³

Cement

129,694 ton

Aggregate

295,351 m³

Asphalt concrete

452,506 ton

Reinforcement bar

253,602 ton

Recycled Aggregate

17,935 m³

Tap Water

1,239,879

Underground Water

663,666

River Water

369,187

Total

2,272,732

Total

2,846.3 TJ

Compared to Previous Year

3.4% reduction

Building

Civil Engineering

Architecture/Housing

Power

Plant

2013

212.8

1,408.3

829.9

89.1

306.2

2012

240.6

1,308.9

885.0

102.7

407.7

2011

242.3

1,579.2

1,235.3

71.7

346.0

Unit: TJ

Consumption by Energy Source

Amount of Waste, Wastewater and Waste Asbestos

Amount of Waste Disposal

Amount of Wastewater

Amount of Waste Asbestos

Waste Concrete

218,509 ton

Waste Asphalt Concrete

16,801 ton

Construction Waste Soil and Stones

20,020 ton

Construction Sludge

518 ton

Mixed Construction Waste

98,076 ton

Waste Synthetic Resins

5,752 ton

Waste Wood

3,281 ton

Total

362,957 ton

Greenhouse Gas Emissions

Intensity of GHG by Sales Revenue (GHG emissions/Sales)

Scope 1 (direct)

Scope 2 (indirect)

Scope 3 (other forms)

2013

21,091.4

47,072.1

110,250.6

2012

19,624.2

50,635.4

112,471.0

2011

21,170.6

54,451.1

143,483.3

Unit: tCO₂-e

Exceeded 2013 GHG emission reduction targets

1,736 tCO₂-e

Reduction of Intensity of GHG Emissions at floor space

0.02 tCO₂-e/m²

Energy and power Reduction at the headquarters (compared to 2012)

8.5 %

36 | GREAT CHALLENGE GREAT INNOVATION GREAT PARTNERSHIP

GS E&C INTEGRATED REPORT 2013 | 37 |



Episode 04 Eco-Friendly Technical Capability

Business of Technology

Technology Division is leading the entrance of new projects and strengthening low carbon green projects by securing differentiated technologies which has the potential to be one of the core GS E&C's competitiveness. We also arrange studies to develop convergence technologies that cost innovation technologies, specialized technologies, and element technologies are integrated with each other. While continuing this, improvement of core business capability, solution of technological problems in projects, improvement in productivity, and prevention of negligent accidents by connecting technologies to projects organically are being carried out thoroughly.

2013 Business Performance

In 2013, Technology Division concentrated on concentrated on strengthening technology-based cost competitiveness and on the minimization of risks on projects. The division reinforced bidding and design support of the projects and safe technical inspection activities in other countries and special sites. This improved the R&D performance system and the developmental technologies' commercialization system. And it made a contribution to the operational headquarter's orders by technological public relations for improving utilization of the developed technologies and publicity of technical skills of this company by holding the internal and external technological events. In addition, we again established the 13 technology roadmaps about the major new growth projects of the operational headquarters and obtained the good results to develop the 31 core technologies.

Business Outlook and Plans for 2014

Technology Division will plan to develop projects by aiming at cost innovation activities, development of differentiated technologies, strengthening safety-based technological support, and securing of the global technological capabilities. This is essential for overseas projects which are dependent on the core technologies (structure, the ground, materials, disaster prevention, and building energy, etc.). First of all, the purpose of cost innovation activities are to solve risks of on-going projects and strengthen/ensure internal ability. Therefore, it will make an effort to strengthen technical support and expand application of the existing technologies to improve productivity. Second, we will build the anticipatory technological support system to strengthen technological safety activities which focus on specialization, advancement, and prevention of technological support. Last of all, we will build effective technological infrastructure by systemizing the supporting system for R&D and educating technological support professionals.

Value Created Activity.

An example of development of the specialized engineering technology

GS E&C developed the core disaster prevention technology to apply design in order to focus on performance of the firefighting relations act applied to large buildings and pass design screening of projects smoothly. This decision maximized fire safety performance of high-rise complex buildings by setting fire scenarios, and evacuation simulation technologies which are the core details of this technology. This was successful for improving reliability of design for the buildings constructed by our company and secured technological economics. It created the cost reduction effect of 1 billion KRW in the AEON Mall project in Cambodia by utilizing this technology. And it secured the effect to improve fire safety of the high rise buildings in the extension work of Gran Seoul and Parnas Hotel.

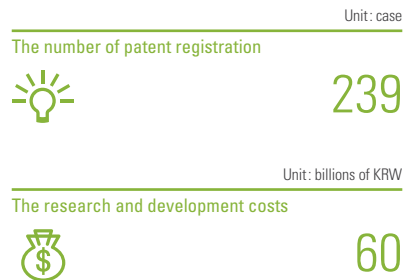
We will plan to utilize this in screening of design(firefighting) of architecture projects for smooth passage and disaster prevention design support of the infrastructure(tunnel) & plant fields actively.



AEON Complex Mall

• Location : Cambodia

• Construction period : Dec. 2012 to Jun. 2014



Eco-Friendly R&D Infrastructure

Eco-Friendly Research and Development

Energy Saving Activities

GS E&C is promoting investment in research facilities and specialization of human resources to strengthen Eco-friendly technology capability. The budget for Eco-friendly research and development in 2013 was 1.13 billion KRW. It was spent to develop prior technologies and was active to support these technologies. Total of 37 professional research and development human resources were sent to support of the core technology fields including LNG plant, waterworks, seawater desalination, reuse of water, resource recovery from waste, Eco-Friendly architecture, and energy grid.

Certification of the Green Technology

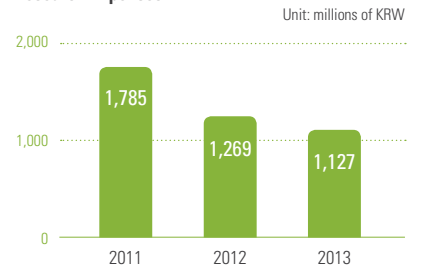
The green technology certification is a certification for minimize emission of green-house gasses and pollutants by saving and using energy and resources in the whole process of the social and economic activities. History of excellence in regards to the green performance technology for our company can be observed through the certification of the green technology.

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 to 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	Major Content
The technology to build EEH (Energy Efficiency House)	Developed the technology to build houses to prove high efficiency of energy which utilized architectural materials to reduce environmental load and applied cost-efficient passive technology
The development smart city energy management system for CO ₂ reduction	Developed the management system to be able to support decision making for optimal design of energy supply systems of cities and draw the optimal scenario to operate energy
The integrated certification system of green house gas emission to revitalize green buildings	Seek carbon reduction in the whole process of projects by making the database about green-house gases generated from buildings' life cycle and build the analytical system and verifying them through actual projects
Research of promoting green retrofit based on market demands	Establish the design/construction/maintenance process to revitalize green remodeling and build performance evaluation/monitoring methods through actual projects of green modeling

Research Expenses



* Net research project expenses except personnel expenses and tooling costs

Technologies Certified by the Ministry of Environment

Certified Technology	Expected Effect
Technology to reuse sewage	Energy saving (Reduced 10% of the power costs)
Technology to dispose heavy metal-polluted underground water and leachate	Higher efficient treatment, Lower maintenance expenses
Self-assembly coagulative precipitation facilities for turbid water treatment	Reduced more than 40% of the costs of equipment
Environment-friendly pipeline routes Trenchless renovation technology	Reduced 20 to 40% of construction expenses BPA ¹⁾ No use, No toxic substance
Seawater desalination system applied with the reserve osmosis filtration process with split partial	Energy saving (Reduced 25% of maximum electric power) Reduced discharge concentration of concentrate water

1) BPA : Bisphenol-A

Award in Eco-Friendly architectural technology

'JW Marriott' Seoul Dongdaemun Plaza was selected as an example for applying the Eco-friendly energy reduction element technologies and systems including the reduction of energy and CO₂ emissions. The entire operational processes were effected ranging from planning, design, construction, maintenance, and disposal. The hotel won the excellence award in the technological category of the Korea Ecological Architecture and Environment Award on Nov. 2013.



Development of Eco-Friendly Technology

Development of Eco-Friendly Technology

GS E&C made contributions to the reduction of carbon emissions of operations through the development of the energy saving technology of buildings and the empirical studies including reduction of lighting energy, new regeneration energy air conditioning and heating systems, and efforts made to maximize customer satisfaction through quality management of the construction phases by sector. (included building energy, air quality, and noise.) This promoted energy saving and energy efficiency in areas/cities with the development of urban energy management systems and is having the carbon emissions of the projects managed with the use of the green-house gas emission evaluation and integrated certification systems.

Classification	Concept	Relevant technologies	Application
Energy Saving Technology	· Reduces energy needs and maximizes efficiency by applying new materials for insulation, new regeneration energy, and energy management systems	· Technology to reduce air conditioning and heating load · Technology to apply and optimize new regeneration energy · Technology to supply and control integrated energy · Subterranean heat air conditioning and heating technology	· Reduced 50% of air conditioning and heating energy in Dongtan Central Xi · Applied outside insulation in Sinchon Xiela · Optimal design of LED lighting in the parking lot of Singeumho
Noise Reduction Technology	· Provides interior environment without noise transfer by removing external noise, noise between upstairs and downstairs, and facility noise effectively	· Controls active noise · Optimal sound design · Insulation panel of the new concept · Soundscape design	· Applied the dry sound insulation wall in Pangyo Hotel and Gyeongsang National University
Technology to Improve Air Quality	· Provides safe and clean interior environment which is removed harmful substances including chemical gas, virus, and mold	· Eco-friendly materials which utilize nanomaterials · Design to prevent diffusion of pollutants · Intelligent air cleaning system	· Improved the air in the rooms in the Korean house construction sites

Eco-Friendly Design Elements by Field

Energy Reduction

GS E&C is maximizing energy efficiency by using cogeneration generators, ice thermal storage and solar heat hot water supply systems, and subterranean heat systems and applying Eco-friendly design which minimizes environmental problems to construction sites. Energy consumption can be reduced by developing the related-technology to optimize heat source facilities design and cost. The efforts to improve energy performance were secured in the various projects including the Jincheon Sports Training Center 2nd phase project through utilization of this technology.

Protect Ecological Environment

GS E&C is minimizing damage of local residents around the project construction sites by applying the upper part of bridges of the U shape bridges, continuous welding rail, and high tension sodium light sources to minimize environmental effects due to noise, vibration, and dust generated in the project construction sites. In the case of the actual construction site of Euijeongbu Light Rail Transit, the effect to minimize local residents' inconvenience was secured by reducing the construction period with the application of 'The pier coping pre-assembly method' and the rapid construction technology of bridge substructures.

Waste Reduction

GS E&C is creating economic value by reducing waste treatment expenses and resources with the effect of reducing the environmental pollution through zero level of waste, reduction in the use of paper forms, and reutilization of heavy water. In the results of applying to the Metropolitan High Speed Railway(Suseo-Pyeongtaek) Lot No.9 construction work, we have secured the stable water quality, the reduction of maintenance cost and the improvement of treatment efficiency. In addition, among the constructions applied with eco-friendly coagulants, the wastes can be reduced by applying the turbid water treatment technology.

Energy Certificate of Jincheon Sports Training Center Construction Sites



Uijeongbu Light Railway Transit Project



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

Development of Water Resources

Application of the Water Saving Technology

GS E&C is preparing for water resources conservation projects and the environmental risks relating to the water including water scarcity. The system to reuse water consists of advanced water treatment, reuse of sewage, and resource recovery of sludge. The system is able to create a 20% cost reduction regarding water unit costs, reduce TOC(Total Organic Carbons) for industrial water, and even treat sludge type in order to recover resources.

Development of the Seawater Desalination Technology

Seawater desalination technology is a new growth area with great potential which can help GS E&C enter the global desalination market as well as create huge added value. We have acquired the boron control technology and Smart WE(Water Energy) technology which minimize the electricity costs that account for 40% of the operating expenses of desalination RO facilities. Currently, a new technology, SWRO-PRO(Pressure Retarded Osmosis) is undergoing development. With the success of development, the core technology will become imminent with an ability of being able to reduce the unit cost of production through energy reduction of a maximum of 25%.

Development of the Technology to Reduce TOC of Treated Sewage Water

GS E&C developed the TOC reduction technology, the high efficient coagulation precipitation, and removal technology for the application to treatment and recycling of sewage. This effectively created a reduction of 10% of the operating expenses through the reduction of 20% for the sites and increased treatment efficiency when compared to the existing technologies. This technology was used as a model in the designing of Gumi Sewage Reuse Plant project. Other studies are being arranged to expand the application scope as advanced water treatment and the agreements of the rights to carry out the technology are being reviewed for applicability in various fields and level of effectiveness in the results.

Waste-to-energy Solution

Application of Automated Waste Collection System

The automated waste collection system is the method to collect waste through underground pipe channels. When comparing with the traditional system with the utilization of human resources and vehicles, the new system can see such benefits as sanitation, agreements, and residents' convenience. Due to these benefits, this collection system is being successfully implemented in new cities. We were also able to improve the collection rate of waste and the waste inlets/outlets and reduce the overall malodor and corrosion. This played a big role in leading to the order for the Yeongjong Sky City project. Compared to the overseas technologies that were implemented for the haengbok city projects in the past, there was a cost reduction effect of 2.88 billion KRW, a reduction of 1,100Mwh of electric power and as well as 1,136tons of CO₂ reductions. We were able to create a higher level of economic efficiency with the improvement of the recycling rates of resources.

Stronger Connection Between Technology and Business

In 2013, GS E&C has arranged technical support for 23 cases in the 53 projects by utilizing the developed technologies.

Major Developed Technologies	Applied Projects
Medium size clear span(60m) PSC girder	· Sejong Government office building 2-1 · Rural Development Administration Region relocation project(1 Zone)
MBT ¹⁾ Food waste sorting technology Applied the automated waste collection technology	· Daegu Waste Energy(RDF) Facility · Yeongjong Sky City
The main room type dust separating device of apartment houses	Daejeon Central Xi
Green concrete	Shinbundang Extension Subway Line (Jeongja-Gwanggyo)
Reuse treated sewage water(TOC reduction technology)	Gumi Sewage Reuse Plant

1) MBT(Mechanical Biological Treatment): Waste pre-treatment facilities

Smart WE technology's Overview

Smart Grid System	Apply information technology to the supply and demand sides of power grid: Manage changing electricity prices due to balance between supply and demand on a real time basis
Smart Water System	The optimal system of low energy seawater desalination: The system to optimize split-partial RO
Smart Energy System	Hybrid low energy technology which integrated the existing electric power with new regeneration energy
Smart Water Energy Management System	Operational management system of electric power and electric charges



High Efficiency coagulative precipitation Pilot Plant



Automated waste collection pilot plant

2013 Major Achievements in the Development of Eco-Friendly Technologies

Classifica-tion	Technical product	Description	Eco-Friendliness	Major Project in 2013	Major Objective in 2014
Plant	Large-Capacity LNG Plant	The project to construct LNG plant including pretreatment and liquefaction process of natural gas	- Reduce GHG emissions	- Train-1 construction - Train-2 detailed design	- Train-2 construction - LNG Plant Feed Package
	CCS(The technol-ogy to collect and store CO ₂)	The technology to collect CO ₂ in the facilities to emit a lot of CO ₂ (plants, factories) and store it underground	- Reduce GHG emissions	- Overseas joint research: Worleyparsons, RITE(Canada), AIMT株式会社(US) - Carried out the CO ₂ EOR national project of the Ministry of Trade, Industry and Energy CO ₂ EOR	- Continue to carry out the CO ₂ EOR national project - Carry out the pilot test in Indonesia (1,000 ton)
Environ-ment	Low energy Seawater desalination plant	The technology to minimize electricity consumption to be less than 3.0kWh/Ton(Aiming at reducing 25% of the existing electricity consumption) and discharge low concentration water	- Reduce carbon emissions - Minimize the amount of power used - Minimize marine pollution by discharging low concentration water to the sea	- Overseas joint research : KAUST, USC, INIMA株式会社 - the national project of the SWR-PRO hybrid processing development - Promoted the MASDAR Project - Completed the processing research of pretreatment for controlling birds	- Continue to carry out the national project of the SWRO-PRO hybrid processing development
	Water reuse system	A low-energy technology of construction and operation for water treatment using inorganic membrane	- Minimize energy consumption - Minimize waste water and industrial wastes	- Developed the technology to reduce 10% of electric power costs when compared to the existing MBR sewage treatment technology and the technology to reduce TOC for using industrial water	- The study on improvement of dewaterbility of additional sludge to assure performance to treat sludge in sewage treatment plants(water content rate) and reduce the operat-ing expenses
	Integrated management of waterworks	The total solution technology to operate and manage the whole process of tap water ranging from water-intake to water supply in real time and optimally based on the ICT technology	- Produce and supplied customized tap water to meet the raw water quality and customer needs - Efficiency of use of limited water resources - Minimize water intake, conveying water, and water supply pump energy	- Carried out the national project of Eco smart waterworks by the Ministry of Environment - Carried out the national project of next generation intelligent water distribution systems by the Ministry of Environment	- Develop the optimal operating system of intelligent water treatment plants - Build the integrated management system of waterworks and secure operating performance. - Promote participation in the integrat-ed operating management system of waterworks in Ho Chi Minh, Vietnam
	Large-capacity clean incineration plant	The project to construct the plant to treat waste and collect energy and materials by incinerating combustible waste	- Reduce GHG emissions	- Completed the development of large stocker incinerator with the daily capacity of 200 to 500 tons	- Apply the technology to domestic and overseas projects
	Optimal MBT process for high WUR(water uptake rate) waste treatment	The project to design and construct an waste treatment and energy/ materials recovery plant turning combustible waste into RDF	- Reduce GHG emissions	- Reflected the process in the Daegu Green Energy Center and the Daejeon SOC project	- Application of the SOC projects to the new cities in Gyeongbuk - The next study on the system to select light combustible waste
	Biogas production process	The project to design and construct an waste treatment and energy/ materials recovery plant turning organic waste into biogas	- Hazadous waste-to-energy - Reduce GHG emissions	- Developed optimization of the Hybrid Biogas process and element technology	- Complete development of the hybrid biogas process technology
	Automated waste collection system	The facilities to collect/treat waste generated in the large apartment complexes. The project to construct the door to platform system to transport waste by using air	- Reduce GHG emissions	- Develop automated one-way waste collection system for buildings	- Promote application of the technology to Gwacheon Jugong 6 Complex and Banpo Hanyang - Reflect the technology in the 3 steps of happiness T/K design
	Design and construction of offshore Wind Farm	The technology to design offshore wind farm, to design and interpret wind farm structure, and to develop green construction method	- Application of new regeneration energy - Reduce GHG emissions	- Supported F/S design of the offshore wind farm complex - Took the hydraulic model test of the device to reduce underwater noise of offshore wind farm	- Continue to support F/S design of the offshore wind farm complex - Support the offshore wind farm technology - Manufacture the prototype of the device to reduce underwater noise of offshore wind farm
Architec-ture	Green concrete	The Eco-friendly technology which can reduce 46% of CO ₂ and more than 6% of prime costs when compared to general concrete by utilizing flyash and logslag cement as substitutional goods	- Reduce GHG emissions (Reduced 3,284tons of CO ₂) - Reduce GHG emissions (Reduced 3,203tons of CO ₂)	- Samcheok Green Power Coal Treatment Facilities site (Construction supply: 90,316m³) - Andong Central Xi and other 5 construction sites (Construction supply: 88,073m³)	- Expand application of the technology to the Plant and Power Division - Expand application of the technology to the Architecture and House Division

Environment Performance

Category		Unit	2011	2012	2013
Amount of Construction Materials Used (Domestic Sites)	Amount of ready-mixed concrete used	m³	2,617,233	2,063,610	1,753,558
	Amount of cement used	ton	112,842	1,236,241	129,694
	Amount of aggregates used	m³	606,450	341,262	295,351
	Amount of asphalt used	ton	592,687	362,964	452,506
	Amount of sand used	m³	95,469	88,694	73,097
	Amount of steel used	ton	399,108	218,300	253,602
	Amount of plaster boards used	m²	3,031,365	2,230,998	1,714,138
Improvement Rate of Raw Materials Consumption by Unit		%	-	57	38
Amount of Recycle Aggregates Used[Domestic Sites]		m³	168,382	20,414	17,935
Amount of Water Used (Domestic Sites + Buildings)	Total	m³	1,892,825	2,040,096	2,272,732
	Amount of service water used	m³	797,725	1,124,730	1,239,879
	Amount of groundwater used	m³	640,362	564,210	663,666
	Amount of river water used	m³	454,738	351,156	369,187
Intensity of Building Water ¹⁾		m³/m²	3.96	4.21	3.91
Amount of Energy Used (Domestic Sites + Overseas Sites + Buildings)	Total	TJ	3,474.44	2,945.04	2,846.31
	LNG	TJ	60.98	103.12	52.82
	Kerosene	TJ	72.17	15.37	18.04
	Diesel	TJ	2,131.48	1,675.12	1,716.53
	Gasoline	TJ	84.58	102.45	85.42
	Electricity	TJ	1,121.14	1,042.57	969.21
	Others	TJ	4.09	6.41	4.29
Intensity of Building Water ²⁾		MWh/m²	0.14	0.13	0.12
Amount of Generated Waste (Domestic Sites)	Total	ton	347,277	299,835	362,957
	Amount of concrete waste	ton	160,240	152,307	218,509
	Amount of asphalt waste	ton	102,781	27,195	16,801
	Amount of sand and stone waste	ton	5,557	27,854	20,020
	Amount of construction waste	ton	58,416	84,155	98,076
	Amount of synthetic resin waste	ton	9,903	4,923	5,752
	Amount of timber waste	ton	661.84	3381.88	3,281
Ruse Rate of Waste	Amount of construction sludge	ton	9,718	18	518
		%	94	97	98
Amount of Debris Emission(Domestic Sites)		ton	46	226	274
Amount of Wastewater Discharge(Domestic Sites) ³⁾		ton	908,282	299,012	3,412,959
Amount of Greenhouse Gas Emissions (Domestic Sites + Buildings + Overseas Sites)	Total	tCO ₂ -e	219,105.05	182,730.57	178,414.05
	Scope 1(Direct emission)	tCO ₂ -e	21,170.62	19,624.20	21,091.36
	Scope 2(Indirect emission)	tCO ₂ -e	54,451.13	50,635.36	47,072.13
	Scope 3(other forms of indirect emission)	tCO ₂ -e	143,483.30	112,471.01	110,250.55
Intensity of Greenhouse Gas Emissions by Floor Space ⁴⁾		tCO ₂ -e/m²	0.10	0.10	0.08
Intensity of Greenhouse Gas Emissions by Sales Revenue		tCO ₂ -e/100 million KRW	4.40	3.98	4.09
Green Procurement Costs		100 million KRW	477.30	230.23	286.40
Number of Environmental Disputes		Case	5	12	14
Number of Environmental Accidents		Case	9	7	7
Environmental Dispute Adjustment Costs		100 million KRW	8.6	12.8	14.5
Eco environment Course Completion Status		People(total)	3,343	3,476	2,819

1) Building water intensity = sum of annual water consumption/sum of floor area(9 buildings owned including the headquarters)
2) Building Energy Intensity = sum of annual electricity use/sum of floor area(9 buildings owned including the headquarters)
3) Due to a large amount of leakage water coming from the underground at one site(about 3,000,000 ton), the amount of waste water being processed was significantly increased. However, it was legally processed.
4) Greenhouse gas emissions intensity from buildings = sum of annual tons CO₂ equivalent/ square meters of floor space(9 buildings owned including the headquarters)

GREAT PARTNERSHIP

DIRECTION

GS E&C establishes a corporate culture of mutual confidence, based on active communication and cooperation with various interested parties such as customers, employees, suppliers, and local community. We will create more developmental future, sharing created value with the interested parties through such efforts.

IN 2013

GS E&C continues to make investments into education to reinforce the capacity of employees and improves the satisfaction level through reward of fair and rational result evaluations and communication activities. We also focus on reinforcing the safety accident-preventative program in total dimension and on an establishment of advanced safety culture through a site-oriented safety and health management system. For customers, we implement customer satisfaction activities aiming emotion management and the sensitivity control and fulfill our social responsibility through a social contributive program in which the features of construction industry are reflected. And we promote win-win growth with suppliers with management, financial, educational and technical supports by establishing an ethical and transparent relationship for accompanied growth.

Episode 05. Global Talent Development

– Enhancement of Employee Work Competency, Safety & Health Management

Episode 06. Sustainable Partnership

– Customer Satisfaction Management, Growing Together with Suppliers, Local Community Partnership





Episode 05 Global Talent Development

Enhancement of Employee Work Competency

Human Resource Development Strategy

GS E&C contributes to a systematic improvement of capacity and a development of career of employees through a performance management system and provides them with education, coaching seminars and various opportunities to experience real works on the basis of result-oriented human resource development strategy. We also utilize diverse methods such as online education, video education and smart phone application to increase the effectiveness and timeliness of education.



Global Work Competency Enhancement Program

Global Language Course

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.

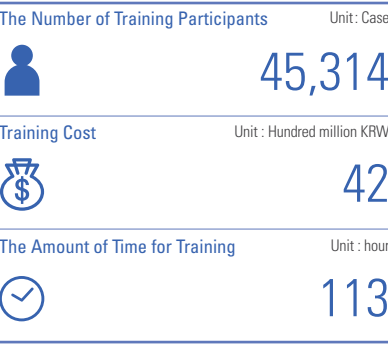
GSE(foreign worker) Curriculum

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.

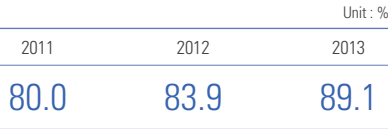
Fair Performance Evaluation and Rewards

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.

Employee Training Results



Ratio of Employees Received Official Performance Evaluation and Career Development Reviews



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

Respecting Human Rights and Diversity

Wage of entry level employees who have graduated university is around 389% contrasted with the legal minimum wage and there is no gender discrimination for wage. There have not been any related violations according to gender, age or academic ability and GS E&C, furthermore, tries to prevent a possibility of discrimination and human rights abuse in advance through an annual sexual harassment-preventative education.

As the employment of excellent local manpower with better understanding of local culture and business increases by an expansion of overseas business, it registered the ratio of local administrators of 12% in 2013, a 5%p increase from previous year. Mainly local manpower is hired for overseas corporations according to the employment policy of hiring natives first and the importance of local manpower for Thailand, Indonesia and Egypt is exceeding 90%. Therefore, it has newly introduced education program related to human rights to protect human rights of foreign workers in the company in 2013.

Organization Culture Innovative Activity Based on G-SPIRIT

GS E&C has reestablished 'G-SPIRIT(GS E&C Great Spirit)' which includes the directing point and core value of the organization culture to reconcile thought and deed of employees mainly on the core value of the company and overcome the management crisis. The concept of 'G-SPIRIT' has been applied to the design of various places inside the new building 'Grand Seoul' to promote continuous realization of the core value. Furthermore, it spreads a practical proclamation 'safety, fairness and action before words' and utilizes at in-house meetings and events.

Family-Friendly Company Culture Program

Childbirth/Parental Leave

GS E&C guarantees the spouses of its employees with 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 childbirth/motherhood protection to be of help to a solution of lower birthrate problem. The return rate of the employees who have used a parental leave was high by 96% in 2013 and the retention rate of working more than 12 months after returning to work maintains 100%.

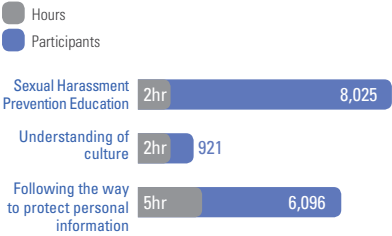
Benefits for Employees

GS E&C operates diverse welfare programs to support employees' health, leisure life, family events to establish a work environment that supports the balance between work and life. Also, we have implemented defined benefit retirement pension plans to ensure retirees' stability later in life.

Employee Satisfaction

GS E&C conducts an annual employee satisfaction survey, composed of 9 categories. According to the survey in 2013, the average score was 61 points which were decreased by 8 points compared with the previous year due to an increase of working fatigue. We will henceforth try to manage the stress of our employees continuously and improve their satisfaction level with fair performance evaluation result and organization managements.

Education Regarding Human Rights Current State of Operation of Education Regarding Human Rights



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

Welfare Benefit Policy

Leisure Assistance

- Establishment of informal group/Activity expense support
- Assistance for use of recreational facilities, such as membership resorts
- Customized leave policy

Childbirth/Maternity Protection Support

- Support and child care benefits
- Operation of nursery facilities in 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
- Guarantees the spouses of employees' with medical expenses for childbirth

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
- Other supports(cars, goods, etc.)

Value Created Activity

Local Economy Promotion

Construction companies lead to job creation and local economy promotion. GS E&C's local suppliers in Korea account for 28.2% on the basis of the completed amount. As for overseas business, we follow local policies and employ local residents of the country. We also support the development of local communities in foreign countries by transferring advanced technology and professional skills to local employees.

Employment Effect

GS E&C creates demand for related businesses and suppliers throughout the entire business process, including material purchasing, designing, and construction. According to the annual inter-industry relations table released by the Bank of Korea, the employment inducement coefficient in the construction industry in 2013 was 10.5 people/ 1 billion KRW. GS E&C's direct and indirect employment effect was 100,443 people in 2013.

Family-Friendly Program

Program	Contents		Participants (cases)
Family Love Program	A program aimed at employees who live away from their families for their field work, to improve their enthusiasm and work engagement		
	University Admission Information Session	A program which provides customized university admission information (Target audience : high school seniors)	206 peoples
	Children’ Dream Search Program	A program which supports children’s potential career path through positive attitude formation and clear vision creation(Target audience : middle school students)	135 peoples
	Self-Directed Learning Program	A program that teaches self-directed learning methods(Target audience : middle school students)	182 peoples
	Happy Family Creation Program	Special lecture program on communication techniques, child-rearing and education, health care, etc., for family management(Target audience: spouses of employees)	103 peoples
Overseas Deployed Employee’s family Invitation Event	Invites overseas deployed employees through our Overseas Deployed Employees’ Family Invitation Event, in which we express our gratitude to employees’ families and to enhance the bond between overseas deployed employees’ families.		
Professional Counseling Program	Outside professional counselors provide advice not only on work-related issues but also on personal matters (Target audience : employees, spouses, children)		651 cases
Family-Friendly Welfare Benefits Policy	Running a family-friendly welfare benefits policy to establish a family-friendly corporate culture, including medical indemnity insurance support, in-house nursery facility operation and parental leave		

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 leader to exchange thoughts widely on the pending issues of management with major team leaders in each business department and cultivate a change agent playing a role of communication medium between the company and employees and utilize such as the advance guard of open management. 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 maintain 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 manager meeting to share the CEO’s message and other management issues.

Shared Cooperation of Labor-Management

GS E&C is running a labor union which consists of 1,107 permanent employees (20.2%) below the rank of deputy manager (excluding the administration position group of finance and economy, planning, personnel, and general affairs). We respect labor’s the primary rights, 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 work environment, working conditions, safety and health, employees’ health care.



Walk & Talk Program with CEO



Kick-off meeting after moving to the new headquarter building

Percentage of Employees Registered in Labor Union

Unit : %		
2011	2012	2013
19.2	19.2	20.2

Safety & Health Management

Strengthening Safety and Health Management System

Safety & Health Management System Operation

GS E&C is implementing advanced safety management and site-centered safety management through a focus on the fundamentals to achieve “Zero major accidents”. We introduced GS Q-HSE evaluation program for the original management of risks in safety and health, prevention of accident and continuous improvement in 2013. It has prepared a foothold for activity of continuous improvement to respond to the evaluations and demands of owner company in advance and perform objective Q-HSE result evaluation and prevent a reoccurrence of disaster/incongruity.

Safety & Health Management Organization

GS E&C has a Quality, Health, Safety and Environment (Q-HSE) steering committee at company level, to improve safety and health management and to strengthen quality and environment management activities. Q-HSE management committee is a committee where the representatives of each business department (headquarter) and supporting departments attend and it shares the current state of safety management of the company and the main Q-HSE issues and prepares countermeasures. The management commission deals with the safety issues related to the company, reasons of serious disasters of other companies and measures to prevent a reoccurrence of such in the very beginning to spread a will of safety and health management of CEO to every employee.

Preventing Accidents

Confined Space & Emergency Drill

GS E&C has distributed fire safety guide books to every construction site throughout the country and implements emergency simulation training at every site in and outside of Korea to prepare for any emergency states such as fire, explosion and life damage. We try our utmost to find measures in case of an accident and to minimize life damage by analyzing the risks according to the result after the training.

Reinforcement of Permit to Work(PTW) System

GS E&C operates Permit to Work(PTW) system which establishes a safety action plan against possible risk factors before carrying out work to prevent safety accidents in the works with a high risk of accident and requires a prior permit for work performance. PTW written daily is to be posted at a work place where works with a risk of fire/explosion are implemented and at a sealed work space and occurrence of safety accident is actively prevented with a person in charge of safety regularly inspecting the observance of PTW.

Diversification of Communication Channels

GS E&C implements ‘visiting consulting service’ to prevent safety accidents and increase the level of site management. A consulting team composed of safety team, quality team, green environment team and equipment management team performs close site assistance and for highly risky constructions. The teams simulate a construction situation under the cooperation with the field and Technology Division to grasp risk factors in advance and implement PCM(Pre-Construction Meeting) for applying the preventative measure to the site. We created a joint management-worker health and safety committee where labor and management discuss and decide on important health and safety issues to protect workers from potential risks or health problems.

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



Preferential Propulsion Goal

Improving Skills	· Achieve a goal through teamwork · Strengthen Leadership · Establish action plans
Implementing Safety culture	· Learn safety culture through experience · Safety management practices
New Start	· Build the spirit of change and innovation · Tasks by position
Safety Innovation Mindset	· Reinforce Beliefs · Create a sense of engagement



Fire mock drill

Accidents Status Management

GS E&C traces and manages the state of safety accidents through Q-HSE information system. We implemented 1,540 support inspections on total 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-preventative and safety accident-preventative 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 addition, as a result of making a lot of efforts to minimize the accidents through segmentalized operation of organization such as Q-HSE team/CM team by each business department, safety team, safety innovation team, technical safety team and equipment management team, the number of deaths decreased drastically compared with the previous year and it also maintained a very low level of the hazard rate compared with the average rate of domestic construction industry.

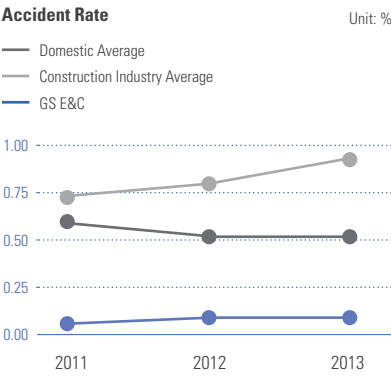
Q-HSE Support Inspection on Sites							Unit : cases
Safety(including Education)	Quality	Green Environment	Safety & Innovation	Construction Equipment	Technology Safety	Joint inspection	Division
340	54	63	476	70	282	61	194

Safety Innovation School

GS E&C founded a safety innovation school in March 2006, the first of its kind in Korea's construction industry. In 2013, we carried out education on the sites of a risk of fire/explosion and the emergency simulation training sites and tried to strengthen the executive ability and change of awareness and improve complex risk-managing ability of workers at the site through a case study and safety practical education. Specially, we provided training by organization at construction site, a change from the previous training by the type of work, and aimed a change in safety awareness and reinforcement of belief through practice training.

In addition, we regularly monitored those who finished the course to see if they were actually applying what they learned at sites while paying special attention to those who did not receive safety training. Thanks to the efforts, our safety innovation school is benchmarked by many other domestic companies and South East Asian nations. Field construction personnel from overseas sites, including Veetro in Vietnam and JCT project in Singapore, visited the school.

Safety Innovation School Program [A course for 3 days and 4 nights]			
First Day MIND SET	Second day Case Study 1	Third day Case Study 2	Fourth day Management of Emotional Safety
•Course introduction •Reinforcement of belief toward goal attainment •Special lecture from principal •Improvement and practice •Creative problem-solving •Rescue, first-aid training	•Practice related to electric shock •Practice of fire/explosion/suffocating situation	•Construction equipment •Disaster related to a collapse of temporary facility •Virtual safety experience •Simulation training of emergency states	•Emotional coaching skill •TBM(Tool Box Meeting) •Making the site into a joyful place •Completion ceremony



Casualties			Unit : persons
2011	2012	2013	
6	9	2	

* Source of domestic and industrial average : Industrial Accidents in 2013, Ministry of Employment and Labor
* GS E&C's data : converted accident rate (The converted number of industrial accident victims/The number of permanent workers x 100)

Workers Completed the Education from Safety Innovation School			Unit : persons
2011	2012	2013	
2,699	1,682	1,112	

Professional Equipment Manager Training

GS E&C sets the goal of 'Zero accident' through equipment manager training. We carried out a case study course on construction equipment for 608 employees over 19 times in total in 2013. In addition, 78 site-equipment managers were taught how to manage the equipments through a group education. Furthermore, we secured the safety of equipments by carrying out education on rented equipments such as a tower crane and a construction lift and restricting the use of defective equipment at site with a preliminary inspection on the rented equipments. We performed 74 times of equipment-expert dispatch and operational consulting for the sites that lack such experts and prevented risks of disaster from equipments and safety accident which possibly occur in overseas construction through PCM. We also tried to inspect disasters from construction equipment regularly to prevent them in advance by producing and distributing specialized guide books on construction equipments.

Safety Management on Overseas Sites

Construction Safety Handbook

GS E&C has produced and distributed 'construction safety handbook' to introduce the company's safety guides and systems to its local employees working at the overseas sites and improve their safety consciousness. The handbook consists of total 17 units from personal protective equipment wearing to safety requirements when working inside a sealed place and at a high place and is utilized usefully to help local employees' understanding of the company's safety programs.

Tool Box Meeting(TBM)

In 2013, 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 made 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

In order to spread the company's new safety guidelines, accident cases and 'Lessons Learned' and strengthen the capacity of the employees, GS E&C carries out HSE video education. It will consistently grasp the demands for education to raise the quality of education and select essential education to be performed priorly.

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 the eviction from the site in case of a violation of Cardinal Rules our essential safety regulations.



Annual Safety Award Convention
DTL C913 site in Singapore was awarded with a gold medal by being recognized of Project HSE Management which put safety as its top priority at ASAC event in 2013 sponsored by Land Transport Authority of Singapore.



Construction Safety Handbook



Tool Box Talks Card

Episode 06

Sustainable Partnership

Customer Satisfaction Management

Maximizing Quality Management

Quality Organization and Activity

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, TIMS system. We performed an internal evaluation on 25 sites and 75 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.

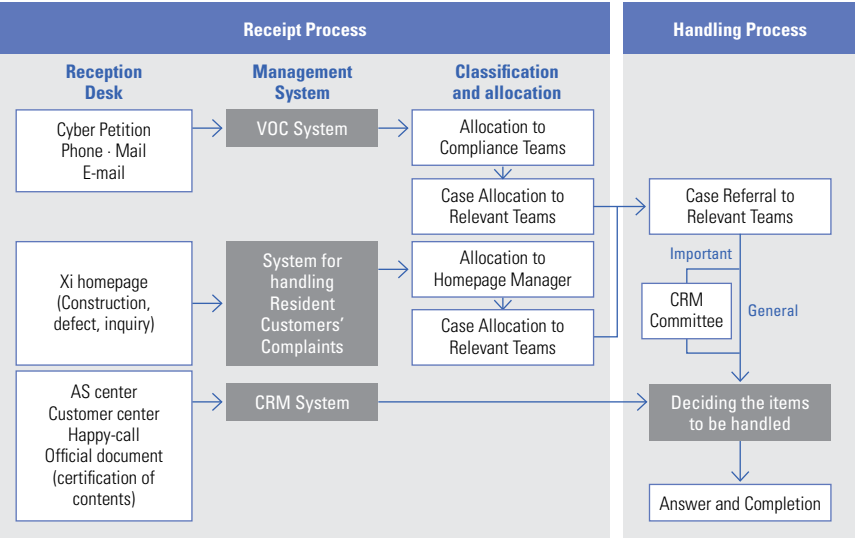
Pre Quality Control(PQC) before Occupancy

GS E&C performs PQC and holds Gagaxi Event (self-judging contest) as defect-prevention activities before residents move in to proactively prevent customer compliants. The PQC manual describes 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 defect before and after moving-in. With this kind of effort, the number of defects indicated during the inspection before the residents are moving in has drastically decreased by below 3 at present from average 10 in the past.

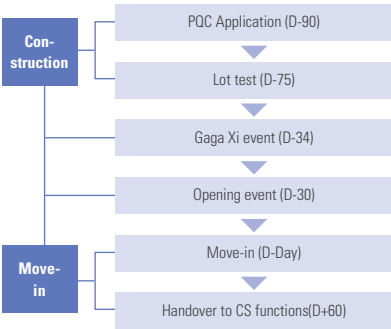
Real Time Control System of Customer Complaints

GS E&C operates VOC (Voice of customer) system, customer complaints system and customer relations management(CRM) system. Based on those communication channel, we manage to take prompt measures by monitoring complaints that every customer 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 systematically manage not to occur similar complaints again by giving feedbacks to every interested party.

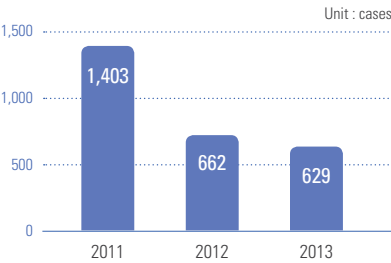
VOC System



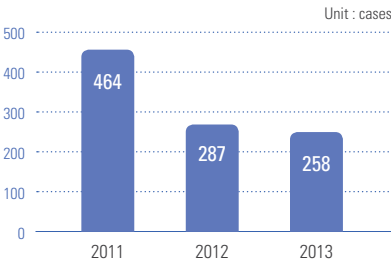
Manual Process for PQC



The Number of Home Buyer Complaints



The Number of Complaints through VOC System



Customer Emotion Management and Activities for Satisfaction

Reinforcement of Customer Communication

We communicate with customers by publishing 'Gaga Xi', a lifestyle magazine aimed at residents and contractors, and sending contractors 'Xi Story', an additional newsletter describing 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

GS E&C provides personalized customer service for every inquiry, including household checks, scheduling, customer call service on delays and defects, and a happy call service after problem-solving, depending on an individual customer's schedule and situation. Especially, we developed a 'Mobile Happy Call' system in 2012, which was unprecedented in the industry. It enables customers to evaluate their satisfaction on results of customer service directly and submit complaints through SMS. We also operate 'safe text messaging service for customer' which provides information from an acceptance of A/S to the time of visit for final problem handling and A/S details.

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 during resident's initials moving-in process. We also make a visit to households moved in each complex at the first year since they have moved in to provide them with a cleaning service for bedroom, bathroom and kitchen.

Customer Privacy Protection

GS E&C operates a corporate personal information protection committee and conducts a variety of activities, including the establishment of a role and direction for personal information protection, creation of a privacy agreement, examination of amendments, etc. 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. 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 surveys to determine customers' needs and complaints and offer better service. "Xi", GS E&C's representative apartment brand, has been ranked No. 1 for 9 consecutive years in the Global Customer Satisfaction Competency Index(GCSI) which is survey conducted by the Japan Management Association. Meanwhile, we conducted a questionnaire on project management, human resources, communication to provide high-quality services for our clients. The results of investigation are actively reflected and utilized when a project is implemented.

Publication of defect casebook



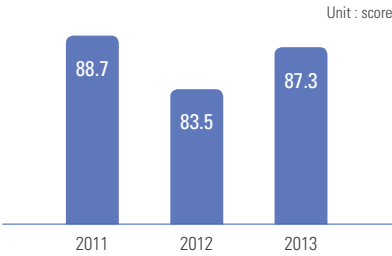
GS E&C published a casebook on the main defects and distributed to relevant departments and sites to reinforce the prior defect-preventative activity.

Results of GCSI Surveys

[Brand name : XI]			Unit : score
2011	2012	2013	
71.4	71.9	72.0	

Results of Clients Satisfaction Surveys

[A total sum of customer satisfaction index average]



Xi Manager's Activity



Xi-Green Service

Growing Together with Suppliers

Establishment of Win-Win Partnership

Distribution Chart of Suppliers

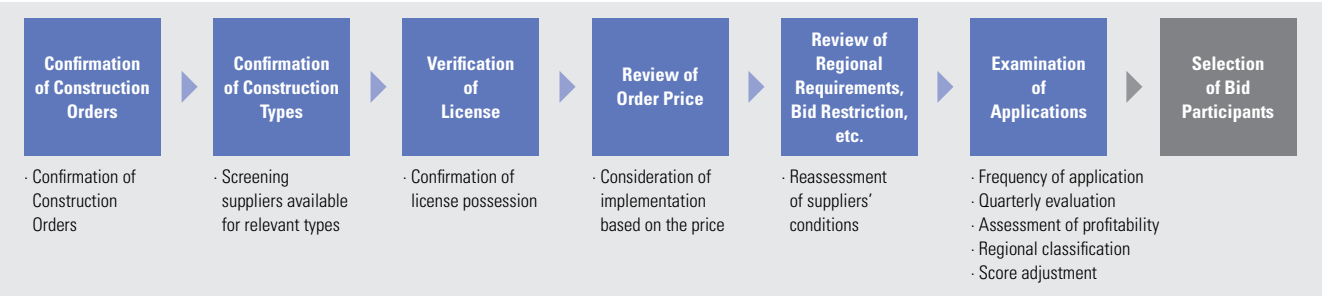
GS E&C considers a supplier as a long-term business partner contributing to a successful project implement on the basis of stable capability and makes a lot of efforts for accompanied growth. As of 2013, there were 650 suppliers in total securing a partnership with GS E&C and 72.1% of major domestic suppliers were located in Seoul and Gyeonggi areas. The expenses spent on the use of local suppliers were 64.2% of the whole service charge of the suppliers with an increase of 3.4%p compared with the previous year. There was no new supplier registered due to a change of the business schedule of the company in 2013.

System to Select, Manage, and Evaluate 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.

Selection Process for Bid Participants

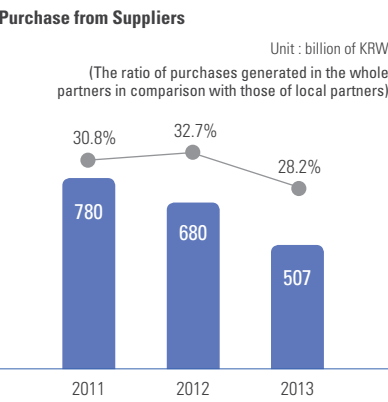


Evaluation of Suppliers

Division	Details
Evaluation Policy	<ul style="list-style-type: none">Quarterly assessment : Conduct management of construction, quality, environment, safety evaluation for each site by suppliersOverall assessment : Conduct an evaluation once a year based on results of the quarterly performance review
Evaluation Standards	Specified by characteristics of contract products
Evaluation Items	Price competitiveness, quality level, delivery and completion by deadline, defect management, safety management, level of cooperation, etc.
Evaluation Results	<ul style="list-style-type: none">Evaluation results are open to suppliers transparently to secure the fairness of the evaluation and its managementAssessment results with feedback are used for re-registration, selection and promotion of suppliers

Risk Management of Suppliers

GS E&C is promoting diverse risk management performance, including inspection of suppliers, monitoring the volume of transaction of insolvent construction firms, credit grade management based on management guidelines of suppliers. High-risk suppliers are subject to bid restriction. Meanwhile, 36 companies of all suppliers went bankrupt due to their financial difficulty according to the persistence of economic stagnation in construction industry in 2013. However, the prediction of default rate improved by approx. 9% compared with the previous year so the company could reduce the risks from such project implementation.



Management of Human Rights of Suppliers

For subcontracting with every outsourcing construction-cooperative company, GS E&C requests a consent of integritous fulfillment for an ethical management. We also conduct a regular evaluation on 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 an investment agreement (contract). We conducted a human right evaluation on 650 main suppliers in 2013 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 according to the prolonged economic stagnation as well as the continuous recession of construction industry and develop commensally between major companies and small and medium companies. We operate Great Partnership Package to achieve accompanied growth by reinforcing mutual competitiveness, not only 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 the price competitiveness and to establish mutual trust with an improvement of financial and a 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.

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 fundWin-win cooperation depositImprovement of payment conditionsXi CEO forumPotential CEO trainingBusiness doctor program	<ul style="list-style-type: none">Automatic bidder selection systemCycle management by groupSite manager trainingSafety innovation school	<ul style="list-style-type: none">Technology contestHandover between preceding and following companiesQuantification and optimization of bid conditionsGreen management Promotion	<ul style="list-style-type: none">Shared growth commissionSubcon BoardOnline portal websites of domestic and international suppliersTPMSCyber petition

Activities to Improve Communication

Activities	Main Contents	Major Program
GS Partner (Domestic)	<ul style="list-style-type: none">Shared growth and education information offerBid · Contract · Purchase ManagementSupplier information management	<ul style="list-style-type: none">GS E&C Shared Growth Commission (Operating by establishing ties with GS Group Shared Growth Council in the group level)Xi CEO ForumGreat Partnership Shared Growth Commission
GS Partner (Overseas)	<ul style="list-style-type: none">Global project information offerBid · Contract · Purchase managementManagement of 2,500 domestic and foreign companies	<ul style="list-style-type: none">Subcon Board
TPMS	<ul style="list-style-type: none">Daily task management systemProcess · Recourse · ManagementReduction of unnecessary elements and increase in productivity	-
Cyber-Petition	<ul style="list-style-type: none">Understanding opinions of suppliersPrevention of unfair tradeEthical management practice	-
Technical support	<ul style="list-style-type: none">Supporting improvement of and sharing technology competitivenessAward suppliers with excellent technologiesConclusion of a technical tie-upTechnology leakage-preventing system (Technology Escrow)	<ul style="list-style-type: none">Technology Workshop & SeminarTechnology ContestJoint Development of New Technology



XI CEO Forum



Great Partnership Shared Growth Council

Results of 2013 Win-Win Management Activities

Division	Program	Main Contents	Major Achievements 2013
Financial Support	Business Support Fund	<div><div>• Provide an advance upon request</div><div>• Scale of up to 15 billion KRW per year</div></div>	<div><div>• Supported 15.1 billion KRW to 10 suppliers</div></div>
	Win-Win Cooperation Deposit	<div><div>• Create the Win-Win Cooperation Deposit amounting 30 billion KRW to support loans (loan interest reduction by 1.5%)</div><div>• Decreased the volume of deposit from 60 billion KRW to 30 billion and increased the reduction rate of loan interest from 1% to 1.5% for practical support effects</div></div>	<div><div>• Depositing the total of 30 billion KRW of the company</div><div>•Supported 21.1 billion KRW to 27 suppliers</div></div>
	Network Loan	<div><div>• Recommend suppliers to financial institutions to provide preferential loan examination</div><div>• Loan limit: 1/6 of the record of transactions with GS E&C in the previous year</div></div>	<div><div>• Conclusion of Network Loan with Woori Bank</div><div>• Joint overseas expansion with the Export-Import Bank of Korea Signing an agreement for mutual cooperation program</div></div>
	Improvement of Payment Conditions	<div><div>• Improve the ratio of cash payment</div><div>• 100% compliance with the ratio of cash payment</div></div>	<div><div>• The proportion of cash payment : 82.1% (up 5.3%p from 2012)</div><div>• 100% of cash payment</div><div>• Payment date :To be paid within 10 days from the date for payment</div></div>
	Exemption of Bid Bond	<div><div>• Exempt excellent/meritorious suppliers from bid/warranty bond to reduce their cost burden</div></div>	<div><div>• Commission reduction assistance by 1.19 billion KRW per year</div></div>
Education -Training and Communication Improvement	Education for new CEO's at Suppliers	<div><div>• Provide opportunities to foster the next CEO's management capabilities</div></div>	<div><div>• Completed by 25 people</div></div>
	Training for Suppliers' Current Site Supervisors	<div><div>• Improve site supervisors' work competency</div></div>	<div><div>• Completed by 90 people</div></div>
	Training for Suppliers' Incoming Site Supervisors	<div><div>• Provide advance education for suppliers' candidates for future site supervisors</div></div>	<div><div>• Completed by 60 people</div></div>
	Safety Innovation School	<div><div>• Experimental learning for safety awareness</div></div>	<div><div>• Completed by 264 people</div></div>
	Training for Suppliers' Working-Level People	<div><div>• Provide education for suppliers' working-level officials on labor affairs, leadership, and quality</div></div>	<div><div>• Completed by 187 people</div></div>
	Xi CEO Forum	<div><div>• Invite distinguished speakers for presentation and award excellent/meritorious suppliers</div></div>	<div><div>• Held twice</div></div>
	Subcon Board	<div><div>• Gatherings to collect suppliers' opinions</div></div>	<div><div>• Held third</div></div>
Technological Support	Joint Development of New Technology	<div><div>• Undertake joint development and patent application of new technology</div></div>	<div><div>• 9 joint development</div></div>
	Technology Workshop · Seminar	<div><div>• Organize workshops & seminars to raise technological competitiveness</div></div>	<div><div>• Held 24 times</div></div>
	Supplier Technology Contest	<div><div>• Award suppliers with excellent technologies and adopt those onto the construction sites</div></div>	<div><div>• 7 cases awarded(6 cases signed for technological cooperation)</div></div>
	Technology Escrow	<div><div>• Protect important technologies of suppliers by putting the technologies in escrow services offered by public agencies</div></div>	<div><div>• 4 escrow contracts signed for agreement</div></div>
Management Support	GS Group Shared Growth Council	<div><div>• A Group-level council for pursuing shared growth</div><div>• Members include suppliers' CEOs</div></div>	<div><div>• Held twice</div></div>
	GS E&C Shared Growth Committee	<div><div>• Review the existing shared growth programs and discuss additional programs</div></div>	<div><div>• Held twice</div></div>
	Great Partnership Shared Growth Council	<div><div>• Top management discusses shared growth with suppliers' CEOs</div></div>	<div><div>• Held once</div></div>

Local Community Partnership

Strategic Social Responsibility Activities

GS E&C's corporate social responsibility activities, which are not temporary charity activities, are performed as strategic activities to contribute to business performance and excellent employee retention in connection with corporate business strategies. 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 a demand of 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 companionate 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 (education support for families)	Playground of Dreams and Hopes (Safe Playground)
	Common activities of Labor-management (Blood Donation of Love, Support for the single elderly)	Exciting after-school classes (after-school education support)	House Repair of Hope
	Sharing of Kimchi of Love	Scholarship assistance (school life support)	
	Employee fundraising activity (Pot / Money Box of Love)	GS E&C's University Volunteer Corps	

Social Welfare Program

Support Activities for Social Disadvantaged Class

GS E&C proceeds business such as “Side Dishes of Love” support to the elderly living alone with difficulty in living or those in a family of veterans, Kimchi delivery to lower-income group, heating oil support. Specially, all employees can participate in the ‘Fundraising Activity’ with smaller contribution. We expect that these activities will assist low-income earners and help the employees reflect on the importance of community service.

Education & Culture Program

GS E&C's ‘University Volunteer Corps’ and ‘Study Room of Dreams and Hopes’

GS E&C is running a university volunteer corps to promote a volunteering culture in university students, who will take the leading role in GS E&C in the future, and help them become talented people with respectable personalities and work competencies. We support activity allowances for volunteers selected from a yearly contest and provide education, and information related to volunteering activities. We use the operation of University Volunteer Corps as an opportunity to secure excellent personnel and establish a positive image of GS E&C for the future generation.

We select 40 students every year and visit to decorate their study rooms. After decorating their study rooms, we also conduct mentoring activities. And we provide admission fees, registration fees, and expenses for early settlement for excellent students who will attend a university to help them graduate from the university independently and achieve their dreams.

<Main Activities>

- **Decoration of Study Room:** After a pre-investigation, we work on papering, flooring changes, improvement of the electricity system and other improvements. We also provide necessary goods for the study room, such as a desk, lamp, and computer.

• **Career Search Program:** We provide counseling on studying and other personal issues, mentoring programs, site-tours at universities.



Total Number of Assisted Study Rooms of Dreams and Hopes

120 Rooms

Environment & Safety Program

‘Playground of Dreams and Hopes’

GS E&C provides playgrounds, in which low-income families’ children can play with each other actively and safely, through our ‘Playground of Dreams and Hopes’ Project. Besides, we are advancing a Green Sharing Project to cure and prevent children of low-income families from being affected by environment-related diseases such as atopic dermatitis, asthma, and rhinitis. The profits from selling “sharing products” are used to support residential environment improvement and medical treatment for children of low-income families who have environment-related disease.

<Main Activities>

· **Playground Equipment Assistance:** After discovering the desires of children who use welfare facilities, we build customized playground equipment which satisfies the needs of each facility.

· **Encouragement of Ecological Study:** We support basic ecological study by establishing a “kitchen garden” in each playground where children can grow diverse plants.

· **Employee Participation:** Employees can volunteer to help with growing the plants in a kitchen garden to support ecological study for children.

‘House Repair of Hope’

‘The House Repair of Hope’ project, in connection with Ministry of Security and Public Administration, is a program which is not only connected to corporate business, but also to job creation for the low-income family.

<Main Activities>

· **Replace a slate roof:** We replace a slate roof, which consists of asbestos for the socially disadvantaged class(the single elderly, families of physically challenging people, etc.).

· **House repairs:** We provide house repairs, including sink, window frame repair, papering, and floor change.

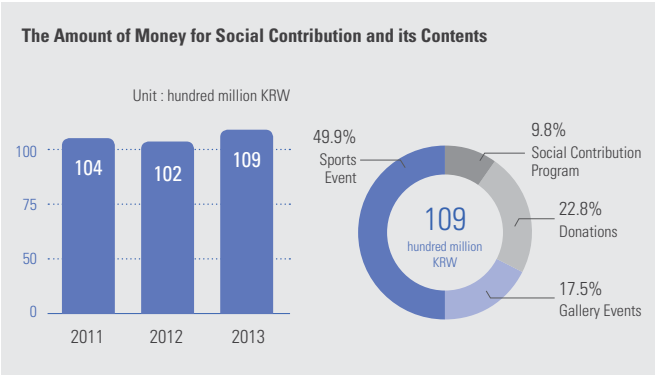
Global Social Responsibility Program

Aid Program for Developing Countries

GS E&C supports aid program for developing countries with not only basic food needs but also increase an income, by encouraging residents to raise or grow assisted chicken, pigs, goats, corn. In addition, we support drinking-water-related goods, such as water filters and diesel pumps to provide drinking water and help in growing crops. We also implement education support program for children to cultivate excellent overseas personnel in developing countries.

Management of Social Contribution Achievement and Evaluation

In 2013, GS E&C spent a total of 10.9 billion KRW in social contributions, and a total of 2,880 employees participated in social responsibility activities. Regarding its efforts for social contribution, we were chosen as the No. 1 company of the construction field by Good Business Index in Korea in 2013. 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 employees and beneficiaries of the program.



APPENDIX

Report of Independent Auditors

Financial Performance

Report of Independent Accountants' Review of Internal Accounting Control System

Report on the Operations of the Internal Accounting Control System (IACS)

Green Management System Certification Scheme

The Third Party Assurance Statement on Greenhouse Gas Inventory

ISO26000

GRI Index

UNGC

Associations/Awards

Report of Independent Auditors



To the Shareholders and Board of Directors of GS Engineering & Construction Corporation

We have audited the accompanying consolidated statements of financial position of GS Engineering & Construction Corporation and its subsidiaries as of December 31, 2013 and 2012, and January 1, 2012, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for the years ended December 31, 2013 and 2012, expressed in Korean won. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We did not audit the financial statements of GS Inima Environment S.A. and others, whose financial statements represent ₩520,070, ₩1,624,532 million and ₩1,111,697 million of the Company's consolidated total assets as of December 31, 2013 and 2012, and January 1, 2012, respectively, and ₩194,181 million and ₩344,405 million of the Company's consolidated total sales for the respective years ended December 31, 2013 and 2012. These financial statements were audited by other auditors whose reports have been furnished us and our opinion, insofar as it relates to the amounts included for these subsidiaries, is based solely on the reports of the other auditors.

We conducted our audits in accordance with auditing standards generally accepted in the Republic of Korea. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits and the reports of other auditors provide a reasonable basis for our opinion.

In our opinion, based on our audits and the reports of other auditors, the consolidated financial statements, referred to above, present fairly, in all material respects, the financial position of GS Engineering & Construction Corporation and its subsidiaries as of December 31, 2013 and 2012, and January 1, 2012, and their financial performance and cash flows for the years ended December 31, 2013 and 2012, in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("Korean IFRS").

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries. Accordingly, this report is for use by those who are informed about Korean auditing standards and their application in practice.

Ahn Kyung-Tae

Chairman and CEO

Samil PricewaterhouseCoopers, 191, hangangno-2ga, Youngsan-gu, Seoul

March 13, 2014

This report is effective as of March 13, 2014, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Financial Performance

Consolidated Statements of Financial Position

End of the 45th : December 31, 2013, End of the 44th : December 31, 2012

Unit: KRW

Items	The end of 45 th	The end of 44 th
Assets		
I. Current assets	8,414,467,007,030	7,879,037,253,336
1. Cash and cash equivalents assets	1,865,508,077,008	1,430,279,194,448
2. Trade and other receivables	4,785,253,805,264	4,479,489,341,545
3. Inventories	499,239,806,623	869,064,953,326
4. Short-term financial instrument assets	323,187,418,196	318,922,860,287
5. Other current assets	941,277,899,939	781,280,903,730
II. Non-Current assets	4,012,845,934,801	3,896,914,949,313
1. Property, plant, and equipment	2,242,895,871,048	2,253,948,594,331
2. Intangible assets	194,899,238,452	221,423,136,039
3. Investment property	167,187,962,694	298,980,491,077
4. Investment in associates	32,445,502,676	24,208,497,447
5. Long-term trade and other receivables	615,441,682,985	503,857,953,640
6. Long-term financial instrument assets	333,278,162,046	365,621,047,945
7. Deferred income tax assets	426,697,514,900	228,875,228,834
Total assets	12,427,312,941,831	11,775,952,202,649
Liabilities		
I. Current liabilities	6,136,911,751,490	5,361,477,064,945
1. Trade and other payables	1,527,395,858,790	1,448,708,566,681
2. Short-term financial instrument liabilities	2,190,045,307,902	1,225,250,609,860
3. Income tax payables	2,443,475,937	14,264,726,660
4. Other current liabilities	2,417,027,108,861	2,673,253,161,744
II. Non-current liabilities	3,131,121,765,313	2,486,006,584,902
1. Long-term financial instrument liabilities	2,356,362,466,826	1,570,839,097,520
2. Net defined benefit liabilities	49,501,255,476	86,170,127,672
3. Non-current provisions	301,750,868,867	322,344,866,887
4. Deferred income tax liabilities	215,544,140,614	200,667,390,328
5. Other non-current liabilities	207,963,033,530	305,985,102,495
Total liabilities	9,268,033,516,803	7,847,483,649,847
Equity		
I. Equity attributable to owners of the Parent	2,863,978,846,358	3,628,201,769,785
1. Capital stock	255,000,000,000	255,000,000,000
2. Capital surplus	159,135,807,645	159,012,656,312
3. Other components of equity	-145,243,279,026	-145,408,649,854
4. Accumulated other comprehensive income	-21,613,303,561	-38,290,499,238
5. Retained earnings	2,616,699,621,300	3,397,888,262,565
II. Non-controlling interest	295,300,578,670	300,266,783,017
Total equity	3,159,279,425,028	3,928,468,552,802
Total liabilities and equity	12,427,312,941,831	11,775,952,202,649

Consolidated Statements of Income

45th : From January 1 2013 to December 31 2013, 44th : From January 1 2012 to December 31 2012

Unit: KRW

Items	The end of 45 th	The end of 44 th
I. Sales	9,565,758,139,923	9,568,632,194,443
1. Construction operations	8,331,543,823,491	8,662,009,978,757
2. Housing construction and sales operations	889,048,679,647	543,585,474,864
3. Other operations	345,165,636,785	363,036,740,822
II. Cost of sales	9,944,941,939,289	8,803,678,600,115
1. Construction operations	8,885,712,110,160	7,974,366,966,678
2. Housing construction and sales operations	728,585,179,257	512,339,157,375
3. Other operations	330,644,649,872	316,972,476,062
III. Gross profit(loss)	-379,183,799,366	764,953,594,328
IV. Selling and administrative expense	556,266,718,979	588,890,324,043
V. Operating profit(loss)	-935,450,518,345	176,063,270,285
VI. Other income	377,111,500,252	379,820,401,210
VII. Other expenses	412,076,085,256	446,497,382,307
VIII. Valuation gain of investments in associates	9,519,221,301	3,627,040,123
1. Equity method income	9,583,744,263	3,716,662,043
2. Equity method loss	64,522,962	89,621,920
IX. Financial income	211,858,736,409	227,751,288,831
X. Financial expenses	244,139,959,187	158,721,128,271
XI. Profit(loss) before income tax(benefit)	-993,177,104,826	182,043,489,871
XII. Income tax expense(benefit)	-165,830,396,647	87,082,539,147
XIII. Profit(loss) for the year	-827,346,708,179	94,960,950,724
1. Equity holders of the parent company	-828,196,424,626	86,324,911,200
2. Non-controlling interest	849,716,447	8,636,039,524
XIV. Earnings(loss) per share attributable to the equity holders of the parent company during the year		
Basic and diluted earning(loss) per share	-16,711	1,744

Consolidated Statements of Comprehensive Income

45th : From January 1 2013 to December 31 2013, 44th : From January 1 2012 to December 31 2012

Unit: KRW

Items	45 th	44 th
I. Profit(loss) for the period	-827,346,708,179	94,960,950,724
II. Other comprehensive income (loss)	67,014,558,076	-19,270,266,822
Items that will not be reclassified to profit or loss		
1. Remeasurements of net defined benefit liability	52,009,633,872	4,508,786,844
Items that may be reclassified subsequently to profit or loss		
1. Gain on valuation of available-for-sale financial assets	291,997,626	-19,404,514,494
2. Loss on valuation of available-for-sale financial assets	598,323,859	1,688,475,887
3. Share in other comprehensive income of associates	-112,203,316	-682,324,343
4. Share in other comprehensive loss of associates	-72,197,222	-73,663,228
5. Gain on overseas operations translation	-6,856,156,692	9,658,343,528
6. Loss on overseas operation translation	4,381,499,923	-26,015,464,368
7. Gain on valuation of derivative instruments	9,227,725,285	2,587,612,913
8. Loss on valuation of derivative instruments	7,545,934,741	8,462,480,439
III. Total comprehensive income (loss) for the year	-760,332,150,103	75,690,683,902
1. Equity holders of the parent Company	-760,319,643,286	69,725,778,280
2. Non-controlling interest	-12,506,817	5,964,905,622

Consolidated Statements of Changes in Equity

45th : From January 1 2013 to December 31 2013, 44th : From January 1 2012 to December 31 2012

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, 2012	255,000,000,000	159,933,622,758	-82,059,874,119	-17,392,285,197	3,362,498,212,727	3,677,979,676,169
II. Comprehensive income						
1. Net Profit	-	-	-	-	86,324,911,200	86,324,911,200
2. Gain on valuation of available-for-sale financial assets	-	-	-	-19,404,514,494	-	-19,404,514,494
3. Loss on valuation of available-for-sale financial assets	-	-	-	1,684,115,928	-	1,684,115,928
4. Share in other comprehensive income of associates	-	-	-	-682,324,343	-	-682,324,343
5. Share in other comprehensive loss of associates	-	-	-	-49,763,665	-	-49,763,665
6. Gain on overseas operations translation	-	-	-	10,995,056,549	-	10,995,056,549
7. Loss on overseas operations translation	-	-	-	-26,015,464,368	-	-26,015,464,368
8. Gain on valuation of derivative instruments	-	-	-	2,587,612,913	-	2,587,612,913
9. Loss on valuation of derivative instruments	-	-	-	9,987,067,439	-	9,987,067,439
10. Remeasurements of net defined benefit liability	-	-	-	-	4,299,081,120	4,299,081,120
Total comprehensive income(loss)	-	-	-	-20,898,214,041	90,623,992,320	69,725,778,279
III. Transaction with equity holders of the Group						
1. Treasury Stock	-	-935,609,264	6,327,127,000	-	-	5,391,517,736
2. Dividends to equity holders of the Group	-	-	-	-	-49,478,849,000	-49,478,849,000
3. Changes in scope of subsidiaries	-	-	-69,675,902,735	-	-	-69,675,902,735
4. Changes in the non-controlling interest	-	14,642,818	-	-	-	14,642,818
5. Others	-	-	-	-	-5,755,093,482	-5,755,093,482
Total transactions with equity holders of the Group	-	-920,966,446	-63,348,775,735	-	-55,233,942,482	-119,503,684,663
IV. Balance at Dec 31, 2012	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
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 (loss)						
1. Net Profit (loss)	-	-	-	-	-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 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	-	-	-	16,677,195,677	-776,996,838,963	-760,319,643,286
III. Transactions 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

Consolidated Statements of Cash Flows

45th : From January 1 2013 to December 31 2013, 44th : From January 1 2012 to December 31 2012

Unit: KRW

Items	45 th	44 th
I. Cash flows from operating activities	-1,154,274,641,707	169,887,202,842
1. Cash generated from operations	-1,071,149,277,883	372,261,737,889
2. Interest received	54,106,269,112	73,867,482,561
3. Interest paid	-101,371,115,875	-69,994,204,975
4. Dividends received	532,694,498	994,445,504
5. Income tax paid	-36,393,211,559	-207,242,258,137
II. Cash flows from investing activities	-65,003,595,050	-295,151,238,940
1. Cash inflows from investing activities	717,538,138,750	809,559,614,111
(1) Decrease in other receivables	177,001,166,005	448,961,178,390
(2) Decrease in short-term financial instrument assets	25,557,457,739	184,312,808,323
(3) Decrease in long-term other receivables	88,751,919,991	106,263,558,736
(4) Decrease in long-term financial instrument assets	15,913,500,764	47,602,112,576
(5) Disposal of property, plant and equipment	154,763,360,053	581,383,619
(6) Disposal of intangible assets	18,016,606	104,648,035
(7) Disposal of investment property	255,044,895,861	21,733,924,432
(8) Decrease in cash and cash equivalents due to changes in subsidiaries subject to consolidation	487,821,731	-
2. Cash outflows from investing activities	-782,541,733,800	-1,104,710,853,051
(1) Increase in other receivables	313,553,418,040	410,768,369,012
(2) Increase in short-term financial instrument assets	57,770,776,537	74,364,854,789
(3) Increase in long-term other receivables	149,684,065,921	269,821,079,566
(4) increase in long-term financial instrument assets	62,255,811,165	74,449,112,372
(5) Decrease in cash and cash equivalents due to changes in subsidiaries subject to consolidation	-	205,354,112,166
(6) Acquisition of property, plant and equipment	176,779,953,934	63,918,270,916
(7) Acquisition of intangible assets	19,432,299,266	6,035,054,230
(8) Acquisition of investment property	2,816,430,149	-
(9) Acquisition of investments in associates	248,978,788	1,644,568,439,791
III. Cash flow from financing activities		57,522,998,560
1. Cash inflows from financial activities	3,525,165,042,263	1,977,503,101,557
(1) Increase in short-term financial instrument liabilities	1,252,708,953,394	1,050,568,820,519
(2) Increase in long-term financial instrument liabilities	2,169,788,786,746	904,718,587,191
(3) Increase in other non-current liabilities	102,021,228,176	12,032,474,000
(4) Disposal of treasury stock	-	5,092,813,987
(5) Increase in the non-controlling interest	646,073,947	5,090,405,860
2. Cash outflows from financial activities	-1,880,596,602,472	-1,919,980,102,997
(1) Decrease in short-term financial instrument liabilities	1,404,004,143,780	1,310,693,810,660
(2) Decrease in other current liabilities	20,480,330,000	16,426,800,000
(3) Decrease in long-term financial instrument liabilities	228,208,529,858	528,061,935,259
(4) Decrease in other non-current liabilities	202,117,663,553	14,718,211,336
(5) Decrease in the non-controlling interest	12,406,481,135	-
(6) Dividends	13,379,454,146	9,938,679,526
IV. Exchange gains on cash and cash equivalents	435,228,882,560	6,186,964,010
V. Net increase(decrease) in cash and cash equivalents (I + II + III + IV)	1,430,279,194,448	-61,554,073,528
VI. Cash and cash equivalents at beginning of year	1,865,508,077,008	1,491,833,267,976
VII. Cash and cash equivalents at the end of year(V + VI)		1,430,279,194,448

Report of Independent Accountants’ Review of Internal Accounting Control System



To the President of
GS Engineering & Construction Corporation

We have reviewed the accompanying management’s report on the operations of the Internal Accounting Control System (“IACS”) of GS Engineering & Construction Corporation (the “Company”) as of December 31, 2013. The Company’s management is responsible for designing and operating IACS and for its assessment of the effectiveness of IACS. Our responsibility is to review the management’s report on the operations of the IACS and issue a report based on our review. The management’s report on the operations of the IACS of the Company states that “based on its assessment of the operations of the IACS as of December 31, 2013, the Company’s IACS has been designed and is operating effectively as of December 31, 2013, in all material respects, in accordance with the IACS standards established by the Internal Accounting Control System Operations Committee (IACSOC) of the Korea Listed Companies Association.”

Our review was conducted in accordance with the IACS review standards established by the Korean Institute of Certified Public Accountants. Those standards require that we plan and perform, in all material respects, the review of management’s report on the operations of the IACS to obtain a lower level of assurance than an audit. A review is to obtain an understanding of a company’s IACS and consists principally of inquiries of management and, when deemed necessary, a limited inspection of underlying documents, which is substantially less in scope than an audit.

A company’s IACS is a system to monitor and operate those policies and procedures designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (“Korean- IFRS”). Because of its inherent limitations, IACS may not prevent or detect a material misstatement of the financial statements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

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

Our review is based on the Company’s IACS as of December 31, 2013, and we did not review management’s assessment of its IACS subsequent to December 31, 2013. This report has been prepared pursuant to the Acts on External Audit for Stock Companies in Korea and may not be appropriate for other purposes or for other users.

Ahn Kyung-Tae *Samil PricewaterhouseCoopers*

Chairman and CEO
Samil PricewaterhouseCoopers

March 13, 2014

Report on the Operations of the Internal Accounting Control System



To the Board of Directors and Audit Committee of
GS Engineering & Construction Corporation

I, as the Internal Accounting Control Officer (“IACO”) of GS Engineering & Construction Corporation (the “Company”), assessed the status of the design and operations of the Company’s internal accounting control system (“IACS”) for the year ended December 31, 2013.

The Company’s management including IACO is responsible for designing and operating IACS. I, as the IACO, assessed whether the IACS has been effectively designed and is operating 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 purposes. I, as the IACO, applied the IACS standards for the assessment of design and operations of the IACS.

Based on the assessment on the operations of the IACS, the Company’s IACS has been effectively designed and is operating as of December 31, 2013, in all material respects, in accordance with the IACS standards.

Byeong-Yong Lim
Chief Executive Officer

Shoeg-ho Sin
Internal Accounting Manager

February 18, 2014

Establishment of Green Management System

As laws and regulations aimed at improving corporations’ management of environmental impact and sustainability and economic development policies that considers environmental protection are being introduced across the globe, Korean government is preparing to announce Green Management System Certification Scheme (hereinafter GMS) in accordance with the Framework Act on Low Carbon, Green Growth.

The GMS has a number of objectives such as saving costs and improving efficiency for green growth, establishing an effective and efficient system for green management, encouraging employees to better understand and participate, managing key performance indicators, and realistically achieving green management performance as a result. It is categorized into Requirements and Performance Indicators. GS E&C was selected to participate in the pilot certification and acquired the GMS certification in November 2011. GS E&C aims to become the leader in green management through continuous improvement.

Contents	Requirements	Related Activities	Page
4.1	General requirements	Establish Environment management systems and corresponding vision, objectives, and strategies	28
4.2	Green management policy	Commit to continuous improvement through CEO's Message and Disclosure on Management Approach(DMA)	13, 26
4.3	Planning		
4.3.1	Green management aspects	Conduct environmental impact assessment, consider environmental values when obtaining project orders and designing, create database of failure cases to prevent risks in advance	29-32
4.3.2	Regulations and other requirements	Build operational systems for environmental management at construction sites (management of environmental documents and facilities in accordance with regulations and our standards)	29
4.3.3	Objectives, detailed objectives and action plan	Establish environment management systems and corresponding objectives, detailed objectives and action plans, disclose the above matters through our integrated report	28
4.4	Implementation		
4.4.1	Resources, roles, responsibility, and authority	Report the performance by environment management organizations to the top executives and define R&R related to environmental work at construction sites	29, 33
4.4.2	Conformity, education and training, perception	Conduct environmental education sessions for employees and suppliers at both Head Offices and sites	29
4.4.3	Communication	Communicate with stakeholders through integrated report, newsletter, and information session for local residents, etc.	31, 52, 53
4.4.4	Documentation	Document environmental data and information through green information management system	34
4.4.5	Document management	Manage documents such as environmental guidelines for each process and environmental information by site, KM environment work manual	29
4.4.6	Operational management	Operate environment management system, Systemize division of works in regard to environmental management at sites	29, 30
4.4.6.1	Planning and developmental activities	Consider and apply environmental performance improvement factors and green environment design factor during planning and development	40, 41
4.4.6.2	Procurement activities	Plan to expand green procurement, consider environmental aspects when evaluating suppliers	32
4.4.7	Preparation for and response to emergency situations	Establish a contingency plan and build a system and to cope with accidents	29, 50
4.5	Inspection		
4.5.1	Monitoring and evaluation	Monitor and evaluate environmental impact through the environmental inspection system by process and period	30
4.5.2	Evaluation of compliance	Evaluate the degree of compliance with environmental regulations and other requirements through the environmental inspection system by process and period	30
4.5.3	Nonconformity, corrective actions, preventive measures	Correct any actual and potential nonconformity and conduct preventive measures through regular communication	31
4.5.4	Record management	Manage records on green management performances by utilizing TPMS and Green Information Management System	28, 34, 43
4.5.5	Internal examination	Regularly examine and evaluate through GS Q-HSE Audit Program System	30
4.6	Management review	Review the achievement status of green management organizations’ performance indicators	28

Contents	Requirements	Related Activities	Page
5.1	Mandatory management performance indicators(MPI)		
5.1.1	Establishment and achievement of green objectives	Establish short-term and mid-/long-term objectives for green management by setting green management KPIs	28
5.1.2	Green Procurement of MRO products	Manage procurement records of green products for MRO products annually	-
5.1.3	Green Procurement of raw materials	Manage records through the Green Procurement System, publish/distribute green procurement guidelines, and offer incentives to suppliers	32, 43
5.1.4	Green product development	Continue to invest in technology development of green construction and materials	40-42
5.1.5	Green products production and sales	Apply them to eco-friendly projects such as low carbon industry, waste-to-energy, etc. or green technology applied sites	40-43
5.1.6	Hours spent on education and training	Provide environmental education sessions to all employees and suppliers	29
5.1.7	Opinions and complains	Communicate with sites through SNS, design buildings with a sound proof floor, and conduct environmental impact assessment	29, 31, 43
5.1.8	Compliance with legal requirements related to managing construction sites	Create database of failure cases to prevent environmental risks at sites	31, 43
5.1.9	Compliance with legal requirements related to supplying products		
5.1.10	Green management performance disclosures	Publish integrated report	26-43
5.1.11	Investment in green process	Not applicable	
5.2	Mandatory operation performance indicators(OPI)		
5.2.1	Energy use	Conduct energy reduction activities by managing energy consumption and establishing the Energy Management Committee	33, 34, 36, 37
5.2.2	Direct GHG emissions	Manage direct GHG emissions and conduct GHG emission reduction activities	36, 37, 43
5.2.3	Indirect GHG emissions	Manage indirect GHG emissions and conduct GHG emission reduction activities	36, 37, 43
5.2.4	Water use	Manage water consumption	36, 37, 43
5.2.5	Resource consumption	Resource consumption management	36, 37
5.2.5	Improvement rate of resource consumption by sale	Improvement rate of resource consumption by sale	43
5.2.6	Waste generated	Manage the amount of waste generated, recycling rate, and reduce waste by using paper casts	36, 37, 40, 43
5.2.7	Waste recycling rate	Manage waste recycling rate	43
5.2.8	Air pollutant emissions	Reduce dust scattering through activities and installment of a temporary bridge	31, 35
5.2.9	Wastewater discharged	Manage waste water emissions and conduct water pollution prevention activities	41, 36, 37
5.2.10	Hazardous chemical substance use	Manage asbestos waste emissions and disposal process of waste asbestos	32, 36, 37

The Third Party Assurance Statement on Greenhouse Gas Inventory

Verification Object

Korean Foundation for Quality carried out verification about ‘2013 green house gas emissions’ of GS E&C.

Verification Scope

This was intended for all the Korean direct and indirect green house emission facilities under operation and control of GS E&C.

Verification Standards

“All the applicable parts were based on ‘the administrative guidelines for the greenhouse gas energy target management system(The announcement No. of the Ministry of Environment 2012-211)’. The guidelines for the construction sites that the applicable guidelines cannot be applied were based on ‘the guidelines for calculation of green-house gas emissions of the construction industry’, the agreement details of the participant constructors, and the methodology for self calculation.

Verification Procedure

Verification was planned and carried out according to the procedure specified in the administrative guidelines for the greenhouse gas energy target management system. The assurance level of the verification was carried out to satisfy the reasonable assurance level. And the effective performance about the whole process of the verification was checked through internal deliberation.

Limits of Verification

For this verification, the sampling method was applied according to verification plans about the statement, the relevant data and information, and the system related to them which were provided by the management company. And the standards and methods which are clearly specified in the prescribed guidelines were applied based on ‘the guide-lines for calculation of greenhouse gas emissions of the construction industry’, the agreement details of the participant constructors, and GS E&C’s procedure to calculate and manage greenhouse gas emissions about SCOPE 3 (Rev.01). Therefore, the verification result about SCOPE 3 connotes the limits about detection errors by applying GS E&C’s self method to collect activity data and the method to estimate standards of estimate of the construction work, not the measurement method.

Opinion about Verification

We present the following conclusion about the greenhouse gas emissions in the statement through the verification.

- 1) GS E&C’s greenhouse gas emission statement in the 2013 direct and indirect emission part were made out according to the administrative guidelines for the greenhouse gas energy target management system and the guidelines for calculation of greenhouse gas emissions of the construction industry and SCOPE 3 was done according to GS E&C’s procedure to calculate and manage greenhouse gas emissions (Rev.01).
- 2) The evaluation result of the importance of GS E&C’s following direct and indirect greenhouse gas emissions in 2013 has found to satisfy less than 5.0% of the total greenhouse gas emissions, the importance of quantitative standard values as the corporation’s CO₂_eq is less than 500,000tons.

Unit: ton CO₂_eq.

Organization	Direct Emission (Scope 1)	Indirect Emission (Scope 2)	Subtotal	Other Indirect Emission (Scope 3)	Total
GS E&C Domestic Corporation	21,091	47,072	68,163	110,251	178,414

* The other indirect emissions(SCOPE 3) are the greenhouse gas emissions according to Korean business trips and use of construction machinery. In case of construction machinery, we present the limited assurance opinion by the emissions which applied the estimation method according to GS E&C’s procedure to calculate and manage greenhouse gas emissions (Rev.01) based on the method to calculate the amount of equipment fuel used of standard of estimate in the construction work.

- 3) Therefore, we present the clean opinion about GS E&C’s direct and indirect greenhouse gas emissions in 2013.

Korean Foundation for Quality
CEO & President Nam, Daehyeoun

Daehyeoun Nam

Apr. 15, 2014

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	14
Human Rights	Due diligence	Operation of the Audit Committee	14
	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	48, 59
	Discrimination and vulnerable groups	Provide equal opportunities in salary, education and training, placement, and dismissal regardless of gender or disability	47, 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	47, 48
	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	47, 48
	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	47, 48, 55, 59
Labor Practices	Employment and employment relationships	Respect for employees; comply with international labor standards	47, 55, 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	47, 4
	Social dialogue	Continuous dialogue through various employee communication channels, operate Labor-Management Council	47, 48
	Health and safety at work	Pursue a number of safety management activities under the safety management guidelines and the goal of ‘zero serious accidents’	49-51
	Human development and training in the workplace	Operate education and training program fitted with talent development system	46
Environment	Prevention of pollution	Activities to prevent dust scattering and soil erosion; appropriate treatment of waste by type following waste management guidelines; improvement of construction capabilities and reduction of waste by using eco-friendly casts	31, 40, 41
	Sustainable resource use	Efficient use of resources and reuse technologies; carry out energy savings campaign	31, 33, 41
	Climate change mitigation and adaption	Carry out greenhouse gas reduction activities; activate video conferencing system; develop smart grid technology and renewable energy technology; run the Energy Management Committee; promote green management, nurturing low carbon Industry	32-34
	Protection of the environment, biodiversity and restoration of natural habits	Carry out biodiversity protection activities around construction sites	29, 31
Fair Operation Practices	Anti-corruption	Establish ethics management system; implement a number of anti-corruption activities such as taking joint liability for unethical behavior	16, 17
	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	34, 68, 77
	Fair competition	Take an oath to engage in fair competition (as part of Code of Ethics)	16, 17
	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	55, 56
	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	35, 52
	Sustainable consumption	Develop many Green Smart technologies that save consumers’ energy and water use	41, 42
	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	52
	Consumer data protection and privacy	Comply with laws and regulations related to consumer protection	53
	Access to essential services	Not applicable	-
	Education and awareness	Publish Gagaxi/ Xi-story, active exchange of information through smart phone applications	53
Community Involvement and Development	Community involvement	Carry out a number of social contribution activities to realize joint value as a corporate citizen	57, 58
	Education and culture	Hopes and Dreams Study Rooms, scholarships, and support of cultural events	57, 58
	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	47, 54
	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	54
	Health	Aid Program for Developing Countries, Green Sharing Project	57, 58
	Social investment	Social contribution activities such as House Repair of Hope Project, construct social infrastructures such as water treatment facilities	57, 58

● Fully reported ️ Partially reported ○ Not reported				
GRI Index	No.	Description	Page	Level of Disclosure
Strategy and Analysis				
	1.1	CEO's message	2, 3	●
	1.2	Description of opportunities and challenges	3, 11	●
Organizational Profile				
	2.1	Name of the organization	4, 5	●
	2.2	Primary brands, products, and/or services	6, 7	●
	2.3	Operational structure of the organization	4, 5, 14, 15	●
	2.4	Location of organization's headquarters	4, 5	●
	2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report	4, 5	●
	2.6	Nature of ownership and legal form	4, 5, 14, 15	●
	2.7	Markets served	4, 5	●
	2.8	Scale of the reporting organization	4, 5	●
	2.9	Significant changes during the reporting period regarding size, structure, or ownership	4, 5, 14, 15	●
	2.10	Awards received in the reporting period	11, 77	●
Reportorial Parameter				
	3.1	Reporting period	About This Report	●
	3.2	Date of most recent previous report	About This Report	●
	3.3	Reporting cycle	About This Report	●
	3.4	Contact point for questions regarding the report or its contents	About This Report	●
Report Profile	3.5	Process for defining report content	12, 13	●
	3.6	Boundary of the report	About This Report	●
	3.7	Any specific limitations on the scope or boundary of the report	About This Report	●
	3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations	About This Report	●
	3.9	Date measurement techniques and the bases of calculations	About This Report	●
	3.10	Explanation of the effect of any re-statements of information provided in earlier reports	About This Report	●
	3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report	About This Report	●
GRI Index	3.12	GRI Content Index	72-75	●
Verification	3.13	Policy and current practice with regard to seeking external assurance for the report		○
Governance, Engagement, Participation				
Governance	4.1	Governance structure of the organization	14, 15	●
	4.2	Indicate whether the Chair of the highest governance body is also an executive officer	14	●
	4.3	Composition of BOD	14	●
	4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body	14, 15	️
	4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives	15	️
	4.6	Process in place for the highest governance body to ensure conflicts of interest are avoided	14, 15, Homepage 🌐	️
	4.7	Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization's strategy on economic, environmental, and social topics	14	●
	4.8	Management principles	10, 11	●
	4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance	14, 15	️
	4.10	Process for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance	14, 15	️
External Participation	4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization	18, 19	️
	4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	11, 59, 77	●
	4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations	76, 77	●
Stakeholders Engagement	4.14	List of stakeholder groups engaged by the organization	12	●
	4.15	Basis for identification and selection of stakeholders with whom to engage	12	●
	4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group	12	●
	4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns	12, 13	●

● Fully reported ◐ Partially reported ○ Not reported					
GRI Index	No.	Description	Items in Our Report	Page	Level of Disclosure
Economic Indicators					
Economic Performances	EC1	Direct economic value generated and distributed	Economic performance, distribution of value by stakeholder	6, 7, 25, 59	●
	EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	Correspondence to climate change	33, 34	●
	EC3	Coverage of the organization's defined benefit plan obligations	Welfare Benefit Policy and retirement pension plans for employees	47	●
	EC4	Significant financial assistance received from government	Not significantly important to our operation or not applicable	-	●
Market Status	EC5	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation	Entry level wage compared to legal minimum wage: : 389%	47	●
	EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation	Choosing suppliers and registration of local companies	54, 55	●
	EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation	Recruitment of various talents and local residents	47, 59	●
Indirect Economic Effects	EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement (by type of investments and services)	SOC business and social responsibility activities	24, 57, 58	●
	EC9	Understanding and describing significant indirect economic impacts(including the extent of impacts)	Creation of social and environmental value	47	●
Environmental Indicators					
Materials	EN1	Materials use by weight or volume	Resource consumption	36, 37, 43	●
	EN2	Percentage of materials use that are recycled input materials	Recycle aggregate consumption	36, 37, 43	●
Energy	EN3	Direct energy consumption by primary source	Direct energy use	36, 37, 43	●
	EN4	Indirect energy consumption by primary source	Indirect energy use	36, 37, 43	●
	EN5	Energy saved due to conservation and efficiency improvements	Energy Management Committee, Gran Seoul design, Energy and Power reduction at the headquarters	33-37	●
	EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reduction in energy requirements as a result of these initiatives	Green construction, Renewable energy, Technology to optimize heat source facilities design	33, 37, 39, 40	●
	EN7	Initiatives to reduce indirect energy consumption and reductions achieved	Fuel savings from transitioning to video conferencing system, Eco-Friendly design	32, 35, 40	●
Water	EN8	Total water withdrawal by sources	Water use at domestic sites	36, 37, 41	●
	EN9	Water sources significantly affected by withdrawal of water	No significantly affected waster source	-	●
	EN10	Percentage and total volume of water recycled and reused	Technology to reduce TOC, Water saving toilets, Recycling of heavy water	31, 35, 41	●
Biodiversity	EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Samcheok-Donghae Expressway section 3 project	31	●
	EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	Concerns on ecosystem destruction due to construction projects, Activities to mitigate environmental impacts	31	●
	EN13	Habitats protected or restored	Samcheok-Donghae Expressway section 3 project	31	●
	EN14	Strategies, current actions, and future plans for managing impacts on biodiversity	Monthly monitoring, measures to minimize impact on the habitat, provide passages and shelter	31	●
	EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	Five legally protected species including otter, Pungitius kaibarae, Charadrius placidus, mandarin duck, kestrel	31	●
Air Emission, Waste Water, Waste	EN16	Total direct and indirect greenhouse gas emissions by weight	Direct and indirect GHG emissions	28, 36, 37	●
	EN17	Other relevant indirect greenhouse gas emissions by weight	Other indirect GHG emissions	28, 36, 37	●
	EN18	Initiatives to reduce gas emissions and reductions achieve	Eco-friendly construction materials and technology, low-carbon projects	33, 34, 39	●
	EN19	Emissions of ozone-depleting substances by weight	Low emissions of ozone-depleting substances such as HFC, CFC, and halon from refrigeration facilities are managed with other indirect GHG emissions	28, 36, 37	◐
	EN20	NOx, SOx and other significant air emissions by type and weight	Efforts to reduce air pollutants such as fugitive dust	36, 37	●
	EN21	Total water discharge by quality and destination	Manage wastewater and water quality, Technology to reduce TOC	36, 37, 41, 43	●
	EN22	Total weight of waste by type and disposal method	Volume of wastewater discharged	36, 37, 43	●
	EN23	Total number and volume of significant spills	No spill occurred	-	●
	EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and IV, and percentage of transported waste shipped internationally	No Hazardous waste exported	-	●
	EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff	Preserve waters around construction sites through water quality management	31, 41	◐
Product and Services	EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	Eco-friendly construction materials and technology, low-carbon projects, development of water resources, and use waste resources	31, 33, 41	●
	EN27	Percentage of products sold and their packaging materials that are reclaimed by category	Not significant to our operations or not applicable	-	●
Compliance with Laws and Regulations	EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	Status of environmental accidents or disputes	31, 43	●
Transportation	EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	Creation of economic and environmental value through installing a temporary bridge (Yongbo Industry Complexes site), Eco Driving	31, 32, 35	●
Overall	EN30	Total environmental protection expenditures and investments by type	Green procurement expenses, environmental R&D investment	32, 39	●

● Fully reported ● Partially reported ○ Not reported					
GRI Index	No.	Description	Items in Our Report	Page	Level of Disclosure
Labor Indicators					
Employment	LA1	Total workforce by employment type, employment contract and region	Status of employment	59	●
	LA2	Total number and rate of employee turnover by age group, gender and region	Number of newly hired employees, and employees retired and resigned	59	●
	LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations	Welfare Benefit Policy, Family-Friendly Corporate culture	47, 48	●
Management-Worker Relations	LA4	Percentage of employees covered by collective bargaining agreements	Running labor union and Percentage of employees registered in Labor Union	48	●
	LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements	Immediate notification when significant operational changes occur	48	●
Occupational Health and Safety	LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees	The matter is discussed through Labor-management Council that represents 100% of the employees quarterly, and also discussed through meetings with the Occupational Safety Health Committee	48, 49	●
	LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region	Accidents status and cases data	50	●
	LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases	Run employee health management programs, prepare handling guidelines to prevent health-related risks for employees when dismissing or removing asbestos, manage risks through operating safety accident prevention activities, safety education, and safety innovation school, and equipment development to prevent safety accidents	49-51	●
	LA9	Health and safety topics covered in formal agreements with trade unions	Discussions on work condition and safety and health enhancement through Labor-Management Council (quarterly)	48, 49	●
Education and Training	LA10	Average hours of training per year per employee by employee category	Talent fostering activities /per employee: 113 hours in 2013	46	●
	LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	Welfare Benefit Policy / retiree support and employee education programs	47	●
	LA12	Percentage of employees receiving regular performance and career development reviews	Performance evaluation and compensation for all employees	46	●
Diversity and Equal Opportunities	LA13	Composition of governance bodies and breakdown of employees per category(according to gender, age group, minority group membership, and other indicators of diversity)	Recruitment of various talents /status of BOD and employees	14, 59	●
	LA14	Ratio of basic salary of men to women by employee category	No gender discrimination in wage	47	●
	LA15	Return to work and retention rates after parental leave, by gender	Return rate after parental leave: 96%/retention rate(working over 12 months) after parental leave: 100%	47	●
Social Indicators					
Community	S01	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting	Risk management when carrying forward projects/risk management considering risks on local communities and environmental disputes, prevention of local disputes and complaints through running the forecasting program	18, 19	●
	S02	Percentage and total number of business units analyzed for risks related to Corruption	Ethics Committee Operation, Reporting, Violations of Ethical Management, Disciplinary Actions against Violations	16, 17	●
Corruption	S03	Percentage of employees trained in organization's anti-corruption policies and procedures	Number of employees who completed on/offline ethics education Sessions	17	●
	S04	Actions taken in response to incidents of corruption	Action taken in response to violation of ethical management, Ethics Management training/Activities to practice Ethics Management	16, 17	●
	S05	Public policy positions and participation in public policy development and lobbying	Green management promotion, GHG/Energy Target Management Program Test Project Participation	34	●
Public Policy	S06	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country	Not applicable	-	●
	S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	In Turnkey for the four-river project	-	●
Anti-Competition Behavior	S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	No such cases during reporting period	17	●
	S09	Operations with significant potential or actual negative impacts on local communities	Environment impact reduction activities, Eco-Friendly design/construction/operating	31, 35	●
	S010	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities	Environment impact reduction activities, Green Procurement/Transportation/Operation/Demolition, Eco-friendly Design/Construction/Operating	31, 32, 35	●
Human Rights Indicators					
Investment and Procurement	HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening	Currently, There is no significant investment agreements that undergo human rights screening	55	●
	HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken	Carried out evaluations related to human rights of major subcontractors.	55	●
	HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	Hold 'Sexual harassment prevention session, Understanding other culture session' for all employees	47	●
Anti-Discrimination	HR4	Total number of incidents of discrimination and actions taken	No such incidents occurred	47, 59	●
Right to Exercise Freedom of Association and Collective Bargaining	HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights	Operate internal communication channels and labor-management cooperative activities	48, 59	●

● Fully reported ● Partially reported ○ Not reported					
GRI Index	No.	Description	Items in Our Report	Page	Level of Disclosure
Human Rights Indicators					
Child Labor	HR6	Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor	Apply and follow the principles of UN Global Compact, ILO, and the Labor Standard Act	59, 76	●
Compulsory Labor	HR7	Operations identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of forced or compulsory labor	Apply and follow the principles of UN Global Compact, ILO, and the Labor Standard Act	59, 76	●
Security Practice	HR8	Percentage of security employee trained in the organization's policies or procedures concerning aspects of human rights that are relevant to Operations	Not significant to our operations or not applicable	-	●
Rights of Indigenous People	HR9	Total number of incidents of violations involving rights of indigenous people and actions taken	No violations occurred	-	●
	HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments	Consider social risks when managing non-financial risks and carrying forward projects	18, 19	●
	HR11	Number of grievances related to human rights filed, addressed, and resolved through formal grievance mechanisms	Communicate with local communities through communication activities, No complaints received	53	●
Product Accountability					
Customer Health and Safety	PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures	Conduct environmental impact reduction activities before, during, and after construction	29-32, 35 Homepage	●
	PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes	No such incidents occurred	-	●
Product and Service Labeling	PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information Requirements	Green Building Certification	32, 35	●
	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	-	●
	PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	Customer Emotion Management, Customer Satisfaction Activities	53	●
Marketing Communications	PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and Sponsorship	Customer Emotion Management, Customer Cultural Activities	53	●
	PR7	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and Sponsorship	No such incidents occurred	-	●
Customer Privacy	PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	Customer privacy protection, No such complaints received	53	●
Compliance with Laws and Regulations	PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	No such incidents occurred	-	●
Supplement Indicators					
	CRE1	Building energy intensity	Building Energy intensity of a head office and buildings owned	43	●
	CRE2	Building water intensity	Building Water intensity of a head office and buildings owned	43	●
	CRE3	Greenhouse gas emissions intensity from buildings	GHG emissions intensity of a head office and buildings owned	37, 43	●
	CRE4	Greenhouse gas emissions intensity from new construction and redevelopment activity	GHG emissions intensity from construction sites	-	○
	CRE5	Land and other assets 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	-	●
	CRE6	Percentage of the organization operating in verified compliance with an internationally recognized health and safety management system	KOSHA18001, OHSAS18001 Certification	49 Homepage	●
	CRE7	Number of persons voluntarily and involuntarily displaced and/or resettled by development, broken down by project	Internal management system development in process	-	○
	CRE8	Type and number of sustainability certification, rating and labeling schemes for new construction, management, occupation and redevelopment	Green Building Certification	32, 35	●

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	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.	HR1, HR2, HR3, HR4, HR5, HR6, HR7, HR8, HR9	47, 55, 59
		2. Make sure that they are not complicit in human rights abuses.	HR1, HR2, HR8	47, 55
Labor	Operate the Labor Union and Labor-Management Council	3. Business should uphold the freedom of association and the effective recognition of the right to collective bargaining.	HR5, LA4, LA5	48, 59
	Comply with ILO and the ten principles of UNGC	4. The elimination of all forms of forced and compulsory labor.	HR7	55, 59
		5. The effective abolition of child labor.	HR6	55, 59
		6. The elimination of discrimination in respect of employment and occupation.	HR4, LA2, LA10, LA13, LA14	47, 55, 59
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	7. Businesses should support a precautionary approach to environmental challenges.	EC2, SO5, EN18, EN26, EN30	31, 33, 34
	Set an objective to reduce 30% GHG emissions against BAU by 2020, Eco-friendly construction/design/operation, Conduct environmental impact evaluation	8. Undertake initiatives to promote greater environmental responsibility.	EN5, EN6, EN7, EN10, EN14, EN18, EN26, EN27	28-32, 36-37
	Expand renewable energy business, Develop eco-friendly technologies, Applies 'Green Concrete', Eco-friendly construction material	9. Encourage the development and diffusion of Eco-friendly technologies.	EN2, EN5, EN6, EN7, EN10, EN18, EN26, EN27	39-42
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.	SO2, SO3, SO4	16, 17, 55, 59

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 Ground-water Environment, YU Environmental Research Institute, Automated Waste Collection Technology Association, The Korean Institute of Power Electronics, Korea Electric Association, Korea Institute of Project Management Technology, Korea and Energy Industry Association, Korea Atomic Industrial Forum, Korean Nuclear Society, Korea Institute of Nuclear Safety
Civil Engineering	Korean Society of Transportation, Korean Society of Civil Engineers, Korean Society for Rock Mechanics, Korean Geotechnical Society, Korean Railway Construction Engineering Association, The Korean Society for Railway, The Korea Railway Association, Korea Port & Harbour Association, Korean Society of Coastal and Ocean Engineers, Korean Society of Hazard Mitigation, Korean Tunneling and Under-ground Space Association, Intelligent Transport Society of Korea, Korean National Committee on Large Dams, Korea Water Resources Association, Korean National Committee on Irrigation and Drainage, Chuncheon Global Water Forum, The Korean Society of Agricultural Engineers, Korea Road & Transportation Association, Korean Society of Road Engineers, Korea Disaster Prevention Association, Korean Society for Advanced Composite Structures, Korean Wetlands Society, Computational Structural Engineering Institute of Korea, Korea New Transit Association, Korean Society of Steel Construction
Housing	Korea Housing Association, The Korea Home Network Industry Association, Korea Ubiquitous Association, American Society of Landscape Architects, Korea Remodeling Association, Korea Marketing Association, Korean Society of Consumer Studies, The Organization of Consumer Affairs Professionals in Business
Construction	The Korean Institute of Electrical Engineers, Architectural Institute of Korea, The Korean Institute of Electrical and Electronic Material Engineers, Korea Information and Communications Society, The Korean Institute of Illuminating and Electrical Installation Engineers, Korea Railway Electrification Technical Association, Association of Korea Railway Signal Engineering, Korea Institute of Construction Engineering and Management, The Korea Institute of Building Construction, K-Housing Association, The Society of Air-Conditioning and Refrigerating Engineers of Korea, Korea Green Building Council, Korean Association of Air Conditioning Refrigerating and Sanitary Engineers, Korea Society of Geothermal Energy Engineers, Korea 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), Korea Construction Value Engineering Research Institute, Korea Green Roof & Infrastructure Association, Korea Institute of Rural Architecture, The Society of Living Environment System, Korea, The Korean Society of Disaster Information, Korea Institute for Structural Maintenance Inspection
Technology	Korea Engineering & Consulting Association, Korea Industrial Technology Association, The Korea Construction New-Technology Association, BuildingSMART Korea, Korea Green Business Association, Korean Geo-environmental Society, Korean Society of Hazard Mitigation, Architectural Institute of Korea, The Korean Society for Noise and Vibration Engineering, Korea Concrete Institute, Korean Society of Road Engineers, Earthquake Engineering Society of Korea, DEMS
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

Years	Area	Description	Award date.
2013	Economic	Ranked No.1 in Apartment sector at First Brand Award in 2013	01.22
		Awarded Grand Prize in Pioneer of overseas construction	03.25
		Awarded Gold Prize at the Civil Structure of the Year ceremony on 16th Civil Engineers Day	03.29
		Awarded Best Picture in Korean Society of Steel construction Association ceremony	06.14
		Awarded the grand prize for well-being apartment of 2013	07.18
		Awarded prize by the Minister of Land, Infrastructure and Transport for excellent-housing in Korea	08.27
		Awarded the grand prize in customer service of construction industry by the E-daily in 2013	11.20
		Awarded the grand prize in civil engineering at the 9th civil engineering and construction awards	11.25
		Awarded the grand prize for customer satisfaction in housing culture by the Korea Economic Daily in the second half of the year	12.09
		Awarded the grand prize for customer satisfaction of green housing culture by The Herald Business	12.11
	Environment	Awarded the top prize in energy efficiency of residence service of Korea	05.28
		Awarded the grand prize in apartment of Eco-environmental construction industry	07.17
		Awarded the prize for beautiful landscaping at the Green Housing Awards	11.07
		Awarded the excellence award in technology at 8th ecological environmental construction of Korea	11.21
	Social	Awarded the grand prize in comprehensive at 4th green construction of Korea	12.18
		Appointed as a company of social responsibility for accompanied growth of CSR management	04.12
		Awarded the grand prize for social contribution for housing culture by the Korean Economic Daily in the first half of the year	07.04
		Awarded the grand prize in win-win cooperation at 5th general Asia construction	08.29
		Awarded a gold prize in 2013 ASAC(Annual Safety Award Convention)	09.04
		Awarded the grand prize for social contribution of Construction industry at the 5th AJU Business daily in 2013	10.23
		Appointed as the Most favorable Company by Korean Government	10.29
		Listed on the DJSI World Index for 4 consecutive years	10.30
		Awarded the grand prize for social contribution at 6th green construction by Asia Today	10.30
		Awarded the grand prize for balanced development of representative apartments in Korea	11.27