

Better Energy Better World



About This Report

Features of the Report

KOGAS strives to serve as an energy company that grows alongside stakeholders, and publishes this report every year to transparently disclose and communicate economic, environmental, and social performance generated through sustainability. This report is KOGAS' 10th Sustainability Report.

Reporting Scope and Period

This report was written based on sustainability performance data from January to December 2015. Some quantitative performance of the past three years since 2013 has been disclosed to identify the trends, and the performance of significant activities in the first half of 2016 was also included. The scope of this report encompasses KOGAS' headquarters, regional business locations, and R&D centers. Performance and information for overseas business were also included, if necessary. There was no critical change in the corporate scale, corporate governance, or the ownership structure during the reporting period but the currencies and various measurement units used in the report were additionally indicated in the report.

Changes from the Previous Year

If there were any changes in disclosed data in the previous report, the reasons for the change were indicated on the relevant page. Even some performance and information where there has been no change after the previous reporting were explained again for readers to better understand the content.

Writing and Assurance Standards for the Report

This report was written in accordance with the Core option of the international standard of GRI (Global Reporting Initiative) G4. To secure credibility and quality, independent third-party assurance was conducted and the result is contained in the Appendix.

Additional Information of the Report

More detailed information is available on KOGAS' website, and the contact information below is available for inquiries regarding KOGAS' sustainability activities and feedback on this report.

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KOGAS <Sustainability Report 2016>

Having published nine sustainability reports so far, KOGAS has indicated a year for the reporting period in its title so far. However, from the report published this year, the year of publication will be indicated in the title to emphasize that it is the latest report.

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CEO Message



Dear stakeholders,

Since its foundation in 1983, KOGAS has continuously made strides to supply clean and safe natural gases over the course of 32 years. As a result, we constructed 69 units of LNG storage tanks for a total of 10.66 million kℓ which are 4,520 km long, supplying the city gas to about 80% of households in Korea. KOGAS' firm presence as a global energy company is mostly attributable to the unwavering interest and encouragement of the public and customers for the past three decades. I would like to take this opportunity to express my sincere gratitude to you on behalf of KOGAS.

KOGAS has achieved growth with stakeholders by proposing the roles and directions of natural gases in the conservation and improvement of the environment, and the utilization of renewable energy, and by realizing energy welfare through the stable distribution of natural gases driven by the government's policy support and encouragement of the public. However, the volatility and uncertainties manifested by the trends of the demand for natural gases at home and abroad are threatening the growth of the natural gas market by increasing inconsistencies. Against this backdrop, KOGAS is making multifaceted efforts to change the challenging management environment into strategic opportunities instead of crises.

Based on our technologies with 30 years of history in adopting, supplying, and managing LNG, we will establish partnerships to enable shared growth with outstanding local and global companies by continuously developing new business models requiring our know-how throughout the world. This will help us bring about continued growth and creation of national wealth. We have revamped the fee system to strengthen the competitiveness of gases for industrial use as well as power generation. We will also do our utmost to lower the unit prices by adjusting the terms and conditions for sales and purchase agreements including the adjustment of contracted volumes and price cuts as the volume for long-term sales and purchases exceeds the estimated volume for demand.

In order to fulfill our social responsibilities and duties, we will spare no effort to extend institutional support to the socially underprivileged, while also reaching out to those who are disadvantaged in terms of access to energy. We will establish a corporate culture that respects both human beings and nature by implementing principle-based management through the internalization of an ethical culture with integrity and transparency and managing sites in an eco-friendly and secure manner. We will further strengthen a platform for win-win cooperation to be in close harmony with community, while supporting the economic vitalization of Daegu where our headquarters has been relocated.

Distinguished stakeholders,

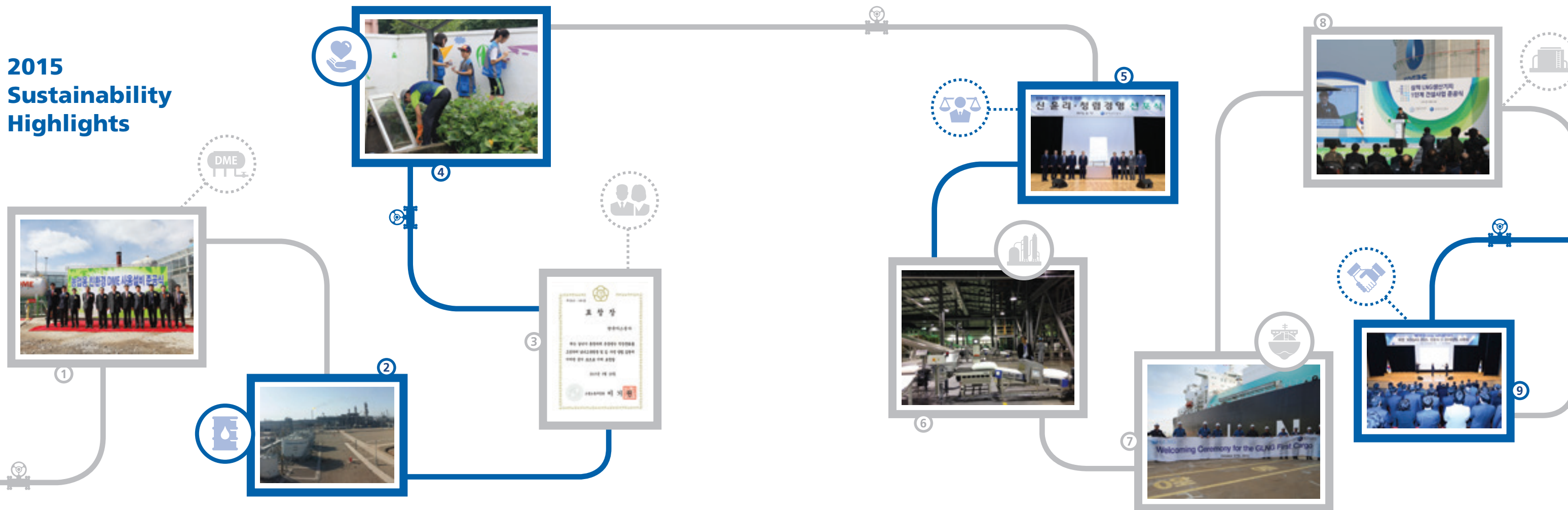
Refusing to settle for the present, KOGAS has established a mid- to long-term management plan called KOGAS 2025 with an aim to be renewed as a company that the public trusts and for which it has great expectations. As such, we have embarked on a journey under a new banner of 'NEXT Energy, with KOGAS'. KOGAS will become a company that earns customers' high regard by keeping the promise of creating a better world through better energy. As we fulfill the Ten Principles of the UN Global Compact, which we became a member of in 2007, KOGAS will contribute to harmonious growth with shareholders, the public, society, and suppliers as well as to the development of the national energy industry, thereby making greater strides as a widely respected company. We ask for your great interest in and generous encouragement of our commitment and efforts to become a sustainable company.

Thank you.

July, 2016

CEO and President Seung-Hoon Lee

2015 Sustainability Highlights



1 Completing the First Test Facility for 'DME,' a Next-Generation Clean Fuel _ March 2015

KOGAS completed the construction of a test facility to analyze the economic feasibility of dimethyl ether (DME) as a next-generation clean fuel in Gwangju. Two hot blast heaters using DME for fuel in the next two years will be in operation to supply the heat necessary for raising seedlings for vegetable and crops. With a 35kW combined heat and power generation plant, we will conduct small-scale power separation to use the necessary electricity we produce.

2 Crude Oil from the Badra Oilfield in Iraq Acquired and Sold for the First Time _ April 2015

KOGAS sold the crude oil of one million barrels (370,000 barrels of Kirkuk oil owned by KOGAS) first acquired by the Iraqi government in exchange for the development of the Badra Oilfield in Iraq in April 2015 to the international crude oil market. The oilfield project is expected to produce a total of 800 million barrels of crude oil for the next 20 years. KOGAS participated in the international bidding by forming a consortium with Gazprom Neft of Russia, Petronas Caigali of Malaysia, and TPAO of Turkey. KOGAS owns 22.5% of controlling interests in the project.

3 Selected as a Company of Excellence in Gender Equality in Employment _ June 2015

KOGAS was selected as a company of excellence in the 'category of proactive measures for improving employment' for contributing to the implementation of gender equality in employment and work-life balance at the 'Ceremony for 15th Gender Equality in Employment Period'. KOGAS, thus, received a

commendation from the Ministry of Employment and Labor. KOGAS' employee-friendly programs were selected as best practices among public corporations – flexible working hours, childcare leave, shorter working hours during pregnancy and childcare, maternity leave before or after childbirth, paternity leave and childcare leave. KOGAS plans to make further efforts to establish a more pragmatic culture and system for gender equality in employment.

4 KOGAS Employees Spreading 'Onnuri' Love for Four Days and Three Nights _ August 2015

KOGAS employees were engaged in the 'Onnuri Heat Efficiency Improvement Project' in Dong-gu in Daegu for four days and three nights from August 19 to 22 in 2015. The activity is KOGAS' representative social contribution project, contributing to a higher quality of life for the underprivileged and job creation in the society. Specific programs include improving the heating system, working on the insulation work, replacing windows, and wallpaper/flooring work. In 2015, college volunteer groups selected from 100 universities as well as KOGAS employees and their families took part in one community center for the elderly and three houses for the elderly living alone.

5 Jumping Higher as Clean KOGAS by Declaring Commitment for Anti-Corruption and Integrity in Action _ September 2015

KOGAS organized the 'Declaration Ceremony for KOGAS' New Ethical and Integrity Management' on September 17, 2015. The declaration ceremony was attended by all employees in the LNG Terminal and Regional Divisions nationwide as well as the headquarters. It was held to declare KOGAS' action and

commitment transcending the existing customary and routine ethical management policies. Employees reaffirmed their will to thoroughly boycott unfair practices and continuously remove corruption and irregularities as internal watchdogs while doing work based on rationality, fairness, and transparency.

6 Conducting Uzbekistan's Largest Energy Project _ September 2015

The Surgil Project in Uzbekistan for constructing and managing a gas-chemical plant was completed at the end of September in 2015, and commercial production began in October. The Surgil Project is to produce and sell chemical products by delivering gas produced from the development of the gas field in Surgil located in the northwestern part of Uzbekistan to a gas-chemical plant in Ustyurt which is 110 km away. KOGAS is expected gain profits of KRW 84 billion a year by producing and selling 460,000 tons of polymer and 3 million tons of natural gases.

7 Port Entry of the First LNG Carrier in the GLNG Project in Australia _ October 2015

The first LNG carrier produced in the GLNG Project in Australia made entry into the Pyeongtaek Terminal Division. The GLNG Project is to develop a coalbed gas field located inland in Australia and export LNG through a liquefaction station in Gladston located 400km. The project started in 2011, successfully performed commissioning in September 2015 and commenced LNG production immediately afterwards. With the ownership of 15% of equity stakes in the GLNG Project, KOGAS plans to import 3.5 million tons of LNG a year.

8 Completed the Phase 1 Construction Project for the Samcheok LNG Terminal Division _ December 2015

KOGAS organized the completion ceremony for the Phase 1 Construction Project for the Samcheok LNG Terminal Division on December 15, 2015. The terminal was planned to be constructed to dynamically respond to the demand for natural gases. Constructed in the Phase 1 Construction Project for Samcheok LNG Terminal Division were the following: landfill of approximately 300,000 pyong (990,000 square meters), total extension of 1.8 km for breakwaters, berthing facilities, routes, and turning basins for 127,000-ton LNG carriers, four 200,000 kℓ-storage tanks and LNG sendout capacity of a maximum 7.8million tons per hour. In September 2015, the world's first and largest outer construction of a 270,000 kℓ storage tank was completed, which will enter phase 2 construction by 2016 and phase 3 construction by 2017. As such, we will do our utmost to jump higher as the 21st century energy hub in Northeast Asia.

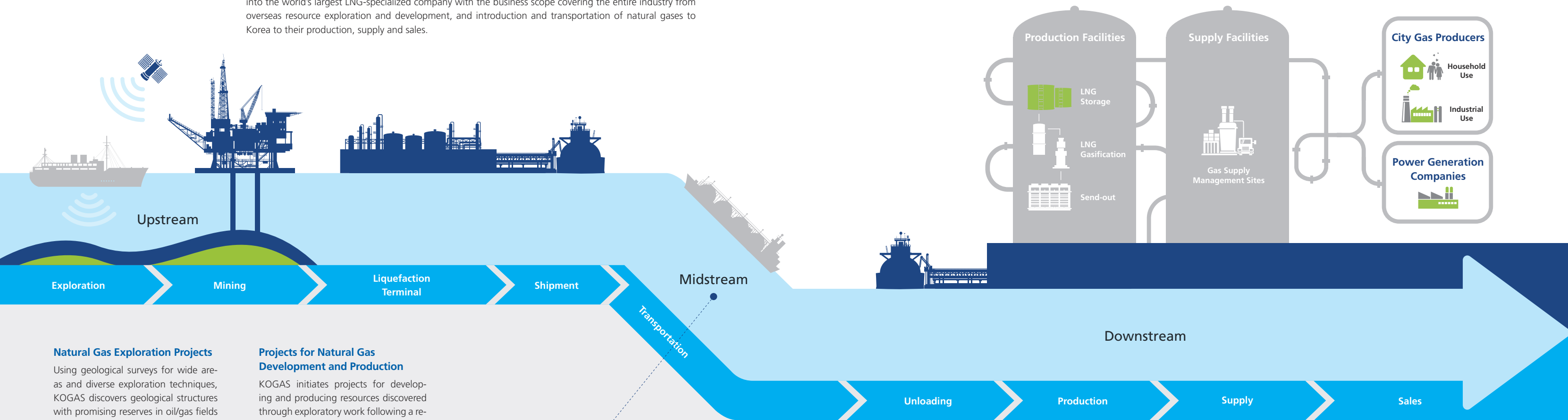
9 Declaration of KOGAS 2025 as KOGAS' Vision _ January 2016

KOGAS declared its new vision, 'KOGAS 2025', to pursue new growth in the gas industry based on transformation and innovation on January 4, 2016. KOGAS now has a slogan for the vision: 'NEXT Energy, with KOGAS'. Its message is to show KOGAS' commitment for shared growth with all stakeholders as a reliable company in new areas ('NEO') with excellent competencies ('Excellent') and a genuine attribute ('Trust'), meaning KOGAS will be alongside the true energy world for the future. KOGAS will jump higher as a company trusted by the public and achieving continued growth.

KOGAS at a Glance

Supply and Demand Management for Natural Gases

Natural gases mined from producing countries are carried by sea in LNG in a liquid state, and then gasified and supplied as gas. The LNG segments are three-fold: upstream prior to liquefaction, midstream for the liquefaction and transportation stage, and downstream for the post-transportation stage. KOGAS is growing into the world's largest LNG-specialized company with the business scope covering the entire industry from overseas resource exploration and development, and introduction and transportation of natural gases to Korea to their production, supply and sales.



Natural Gas Exploration Projects

Using geological surveys for wide areas and diverse exploration techniques, KOGAS discovers geological structures with promising reserves in oil/gas fields and identifies the presence of reserves through drilling work.

Undertaking Exploratory Work

4 projects
(As of the end of 2015)

Projects for Natural Gas Development and Production

KOGAS initiates projects for developing and producing resources discovered through exploratory work following a review on their business feasibility. KOGAS secures the production volume by going through development stages necessary for production including equipping with production facilities on the ground and drilling with production wells under the ground.

Undertaking Development and Production Work

10 projects
(As of the end of 2015)

Projects for LNG Import and Transportation

In order to secure stability in supply by acquiring the volume on time in line with increases in the domestic demand, KOGAS is seeking to diversify exporters in Brunei, Qatar, and Oman besides Southeast Asia. KOGAS initiated a policy for Korean flag-registered LNG carriers to develop the domestic shipbuilding and shipping industries, having used the national flag carriers for LNG transportation from 1994.

Import Volume for 2015

31.41
million tons

Korean Flag-registered LNG Carrier

21 in operation,
6 carriers under construction

Production and Supply Projects

LNG imports to Korea are stored in large storage tanks in KOGAS' production terminal divisions. The LNG is safely sent out to power plants and city gas producers through the nationwide pipeline network following the gasification process.

LNG Storage Capacity
10.66
million kℓ
(As of June 2016)

Total Extension of Pipeline Network
4,520 km
(As of June 2016)

Sales Business

Natural gases taking up about 15% of total domestic energy consumptions are sold to various applications including household, industrial, and power generation applications.

Sales Volume of City Gas Producers in 2015
16.929
million tons

Sales Volume for Power Generation Companies in 2015
14.527
million tons

KOGAS SUSTAINABILITY OVERVIEW



About KOGAS

Vision and Strategies

Corporate Governance

Ethical and Integrity Management

Risk Management

Stakeholder Engagement

Materiality Test



About KOGAS

Credit Ratings



Key Operational Status

Facility status
69 storage facilities
10.66 million kℓ
The main pipe length **4,520** km
(As of June 2016)

LNG import volume
31.41 million tons

Major countries for LNG imports
Qatar, Indonesia, Oman, Malaysia, etc.

Amount of LNG sales
31.456 million tons

Current status of overseas projects
26 projects in **12** countries

Key Milestones

1980's Base Building

- Aug. 1983 Establishment of KOGAS
- Oct. 1986 First import of LNG
- Nov. 1986 Commencement of natural gas distribution to power plant operations (Pyeongtaek)
- Feb. 1987 Commencement of city gas supply to the Seoul metropolitan area
- Apr. 1987 Completion of terminal and distribution facilities at Pyeongtaek

Company Profile

KOGAS was established in 1983 and is a representative public corporation specializing in energy. KOGAS is enhancing benefits for people's livelihood and realizing welfare in energy by supplying natural gases securely and stably to the public in pursuit of 'Better Energy, Better Tomorrow'.

		As of December 2015	
Company Name	Korea Gas Corporation (KOGAS)	Type of Corporate Body	Corporation
CEO	Seung-Hoon Lee	Sales	KRW 26.0527 trillion
Establishment Date	August 18, 1983	Net Income	KRW 319.2 billion
Foundation for Establishment	Korea Gas Corporation Act (No. 3639, enacted in December 1983)	Earnings per Share	KRW 3,594 (for common stock) KRW 3,458 (diluted earnings per share)
Location	120, Cheomdan-ro, Dong-gu, Daegu, Korea	Number of Employees	3,497

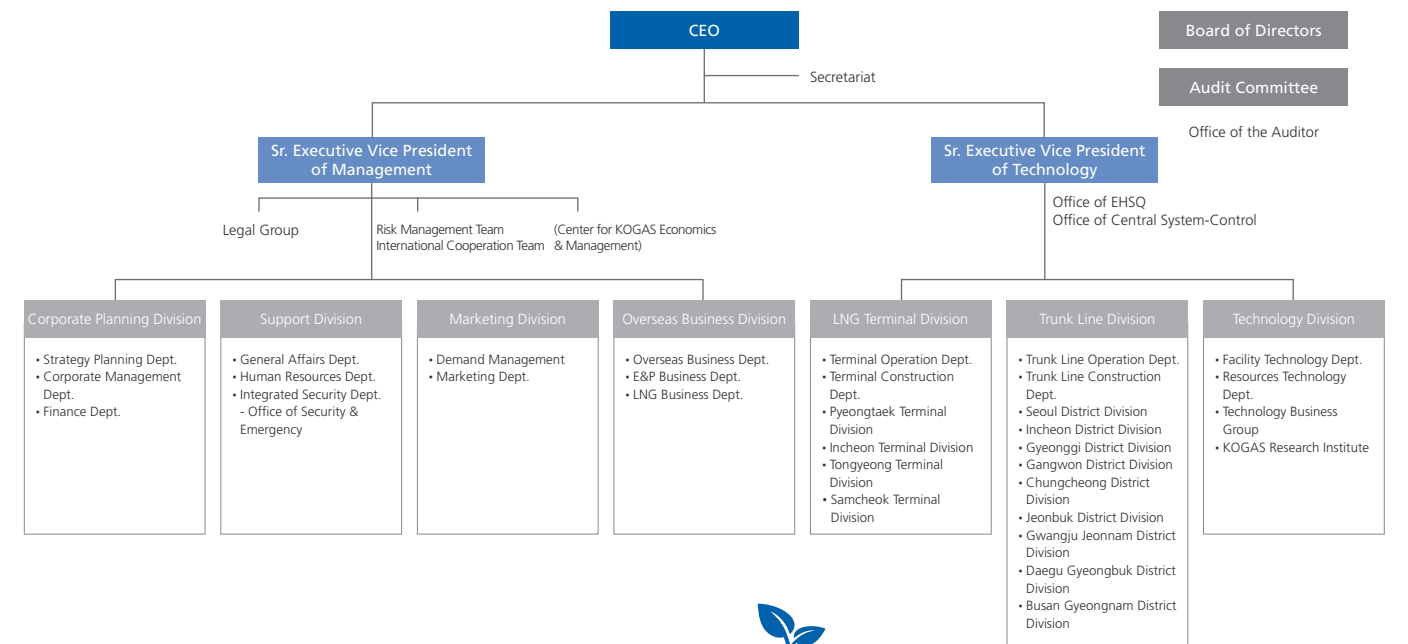
※ Financial items are based on the Consolidated Financial Statements under K-IFRS.

Key Business Areas

Production/supply of city gas and refinement/sale of byproducts	Construction/operation of bases and supply networks for natural gas
Development, transport, and ex/import of natural gas	Development and ex/import of Liquefied Petroleum Gas
Projects on new/renewable energies, clean synthesis fuel, and climate-friendliness using natural gas or its byproducts	Projects commissioned by the national or local governments
Research/Technology development on city gas-related projects and auxiliary projects	Exploration/development projects for oil resources and related projects
Overseas projects related to the above projects	

Organizational Composition

KOGAS has seven divisions: for management functions, Corporate Planning Division, Support Division, Marketing Division and Overseas Business Division; and for technical functions, LNG Terminal Division, Trunk Line Division and Technology Division. Under the divisions are 24 units (headquarters, departments, and teams), 13 divisions (terminal divisions and district divisions) and 192 teams.



1990's Expanding Growth

- May 1990 Establishment of the R&D Center
- Jul. 1993 Commencement of city gas supply to the mid region (Daejeon, Cheonan, Cheongju)
- Jun. 1994 Commission of the first LNG national flag carrier
- Nov. 1995 Commencement of natural gas supply to the Yeongnam and Honam area
- Dec. 1996 Commencement of natural gas supply to the Busan area
- Jan. 1997 Establishment of KOLNG
- Oct. 1997 Commencement of operations of the Incheon terminal
- Oct. 1999 Commencement of natural gas supply to the Seohae area
- Dec. 1999 Listed on the Korea Stock Exchange
- Dec. 1999 Commencement of natural gas supply to the Southern area

2000's Becoming a World Class

- Mar. 2000 Signing an MOU for the development project of a gas field in the East Sea
- Nov. 2000 Korea, China, and Russia reached an agreement for the co-development of the Irkutsk gas field development
- Oct. 2002 Commencement of operations at the Tongyeong terminal
- Nov. 2002 Commencement of natural gas supply to the Kangwon area
- Mar. 2003 Completed sales contract with Australia Liquefied Natural Gas for mid-term LNG
- Jan. 2004 Reaching 10 million for the number of households using natural gases
- Aug. 2005 Investing in equity for the A-3 Minefield in Myanmar
- Jul. 2006 The number of natural gas-powered buses exceeding 10,000
- Dec. 2007 Declares 2017 Vision
- Feb. 2008 Signing an agreement to establish a joint investment company for the Surgil Project in Uzbekistan
- Sep. 2008 Signing an MOU for natural gas supply between KOGAS-Gasprom
- Dec. 2008 Inception of the LNG pipeline expansion project
- Jan. 2009 Signed a business partnership MOU with AMEC
- Oct. 2009 Gained interest in the offshore and onshore pipeline for Myanmar gas field

2010's Better Energy, Better World

- Jan. 2010 Incheon LNG Terminal surpassed the 100 million ton mark in accumulated production of natural gas
- Jan. 2010 Landed the development and production rights for the oil and gas fields in Zubair and Badra, Iraq
- Oct. 2010 Gained access to the Akkas and Mansuriya Gas Fields in Iraq
- Mar. 2011 Named as the World's 4th Most Admired Energy Company by Fortune
- Jan. 2013 Agreement signed for the E&P project on three blocks in Cyprus
- Sep. 2013 Additional Discovery of a Gas Well in Area 4 of Mozambique, Secured 87 Tcf in Total
- Sep. 2013 Being incorporated into the DJSI Asia Pacific Level and ranking first in the gas sector
- Dec. 2013 Completion of a nationwide extensive natural gas distribution project, a total of 4,065 km of a pipeline network
- Feb. 2014 Being selected as the institution of excellence for seven consecutive times in the Customer Satisfaction Evaluation for Public Organizations (Ministry of Strategy and Finance)
- Mar. 2014 Hosted the Gastech 2014 at Kintex
- Oct. 2014 Won the bid to host the 2021 World Gas Conference in Daegu
- Oct. 2014 Relocation of Headquarters to Daegu from Seong Nam
- Oct. 2015 Commencement of operations in GLNG, Australia
- Jan. 2016 Declares 2025 Vision ('NEXT Energy, with KOGAS')

Vision and Strategies

Meaning of the Slogan for the Vision

NEXT Energy, with KOGAS
New, Outstanding, and Reliable Future Energy World! KOGAS is willing to create it with you.

N

Neo

Securing new growth engines to be newly pursued

EX

Excellent

Strengthening technological competencies and establishing a lively corporate culture that generates performance

T

Trust

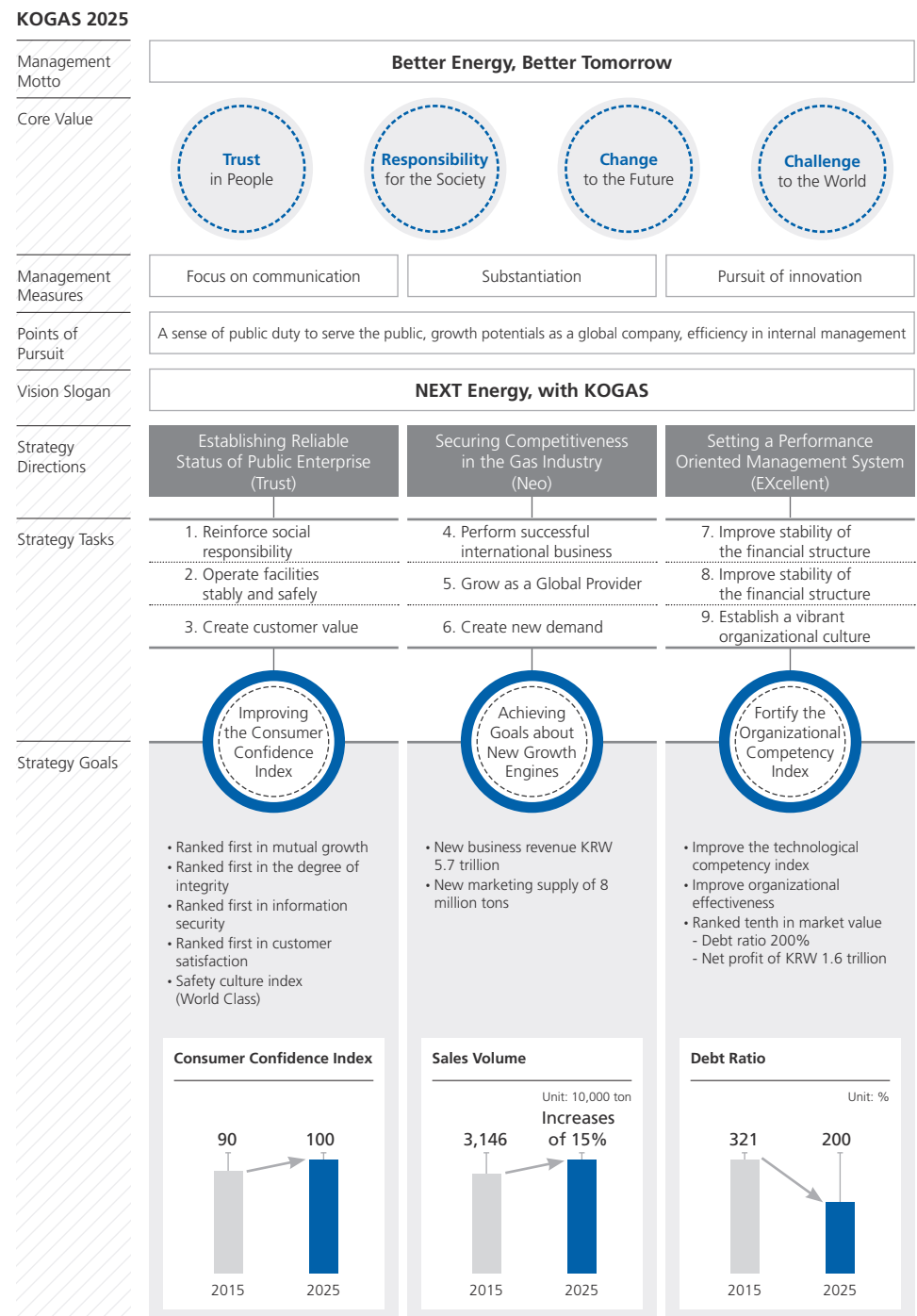
Providing benefits to the public and growing into a reliable company with integrity

with KOGAS

Ensuring shared growth along with stakeholders through creation of social value

Management Strategies of KOGAS

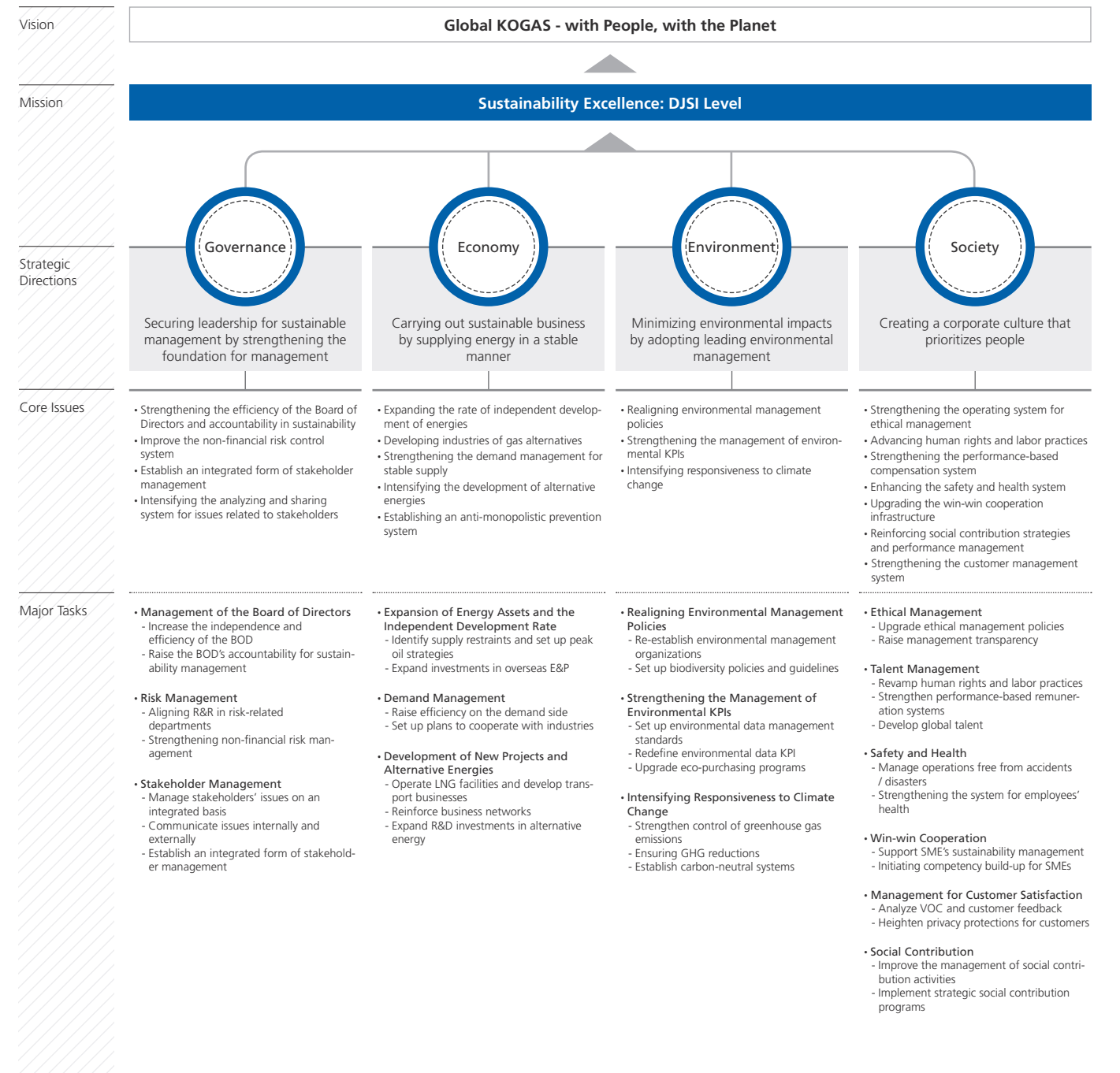
The internal and external management environments are changing including a prolonged period of low global oil prices, current status of the buyer-oriented LNG market, and demand for accountability and transparency of public corporations. KOGAS established and declared 'KOGAS 2025', a new mid- to long-term management plan, to leap higher once again as a public corporation trusted by the public, while dynamically responding to the paradigm changes. Under a new slogan, 'NEXT Energy, with KOGAS' for the vision of 'KOGAS 2025', KOGAS set three strategy directions and nine strategy tasks, implementing balanced points to strike public initiatives, growth, and efficiency. KOGAS will take a closer step to become a global LNG provider by successfully achieving the new vision.



System for Sustainability Strategies

KOGAS believes that fulfilling environmental and social responsibilities as a corporate citizen while pursuing management activities catering to its purpose of establishment is the direction for sustainability to be pursued. The Business Strategy Team is in charge of sustainability, and strategy setting and performance are regularly reported to the Management Committee, which then reviews and decides on the major agenda. KOGAS will seek social well-being by completing environmental responsibilities and ensuring a stable energy supply and national energy security, and embrace stakeholder demands from all over the world.

System for Sustainability Strategies



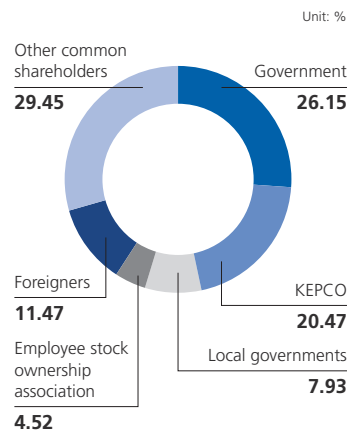
Corporate Governance

Composition of Shareholders

KOGAS was listed on the Korea Exchange on December 15, 1999. Shareholders of KOGAS are comprised of public shareholders and ordinary shareholders. Public shareholders, namely the government, KEPCO, and local governments, hold approximately 54.55% of total shares. The majority shareholder is the Korean government which holds 26.15% of total shares. There has been no change regarding the majority shareholder for the past three years.

Ownership Structure

As of December 31, 2015



Composition and Management of the Board of Directors

Composition of the Board of Directors (BOD)

As the top decision-making body at KOGAS, the BOD is in charge of overseeing decisions made regarding major strategies and policies and the management agenda, and supporting management. It is operated pursuant to the Act on the Management of Public Institutions and the Articles of Incorporation. The BOD consists of 11 members including the CEO: four executive directors and seven non-executive directors. A non-executive director is appointed as the chairman of the BOD to ensure independence. The BOD is striving to enhance stakeholders' rights by making decisions transparently and rationally.

Management of the BOD

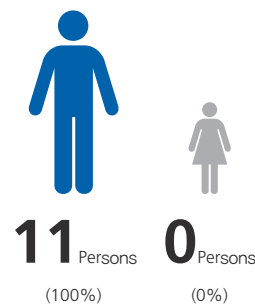
In order to fairly manage the BOD, the agenda is decided with the approval of a majority of registered directors. It is provided that directors with a special interest with regards to decision-making at the BOD are restricted from exercising the decision-making right on the agenda so that decisions can be made transparently. The results of BOD meetings are disclosed on the KOGAS website and the management information disclosure system for public institutions (www.alio.go.kr, Alio), except for special matters including confidentiality in management. The BOD is organized once a month in principle, and in 2015, the BOD meetings were held 15 times to decide on 50 agenda with reporting made for 28 agenda.

Independence of the BOD

Executive directors at KOGAS are appointed as those who fulfill qualifications pursuant to the Act on the Management of Public Institutions and the Articles of Incorporation. Inspection standards are devised by the Executive Recommendation Committee consisting of three non-executive directors and two outside members upon appointing executive directors. There is an identification procedure on their relationships with the company as candidates to make sure the procedure is systematic and fair.

Non-executive directors are required to have expertise and experiences in different fields including energy facilities and construction, and investment and investment resource financing so that decisions could be made rationally and professionalism can be ensured.

Gender Ratio of the BOD

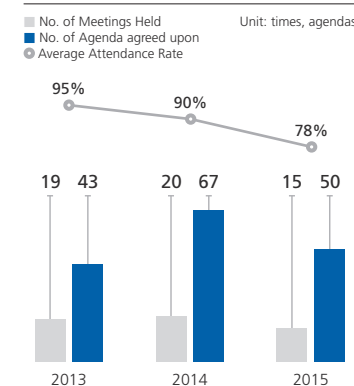


Members of the BOD

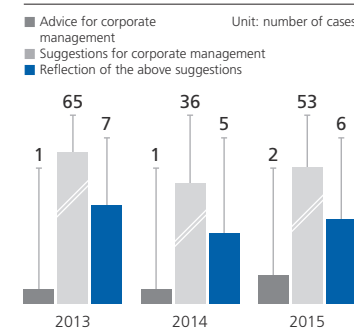
As of July 2016

Type	Name	Position
Executive Director	Seung Hoon Lee	CEO
	Heung Ki Kim	Chief Auditor Executive
	Wan Gi Ahn	Vice president of Management
	Jong Ho Lee	Vice president of Technology
Non-executive Director	Kwang Sik Choi	Lead Non-executive Director (Chairman of the BOD) / Chairman of SL Innovations Co., Ltd.
	Man Kyo Chang	Director / (Former) Auditor at the Korean Construction Guarantee Cooperative, and National
	Won Tak Lee	Auditor / President of Daewon University
	Jong Rae Kim	Director / Visiting Professor of Business Administration and Management, Chungnam National University
	Sun Woo Lee	Director / Professor of Public Administration, Korea National Open University
	Jun Hyung Lee	Director / Chairman of GoodNET Corp.
	Yang Hoon Son	Executive Director / Professor in the Department of Business Administration at the University of Incheon

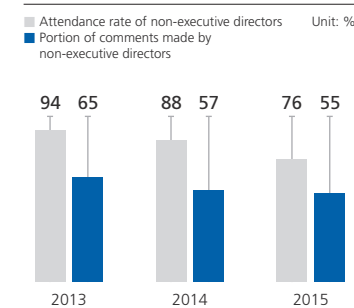
BOD Activities



Non-executive Directors' Participation in Management



Performance of Non-executive Directors



Greater Engagement of Non-Executive Directors

KOGAS has strengthened roles of non-executive directors with expertise in diverse fields including management, economics, and administration, utilizing them in decision-making through their advice and suggestions on corporate management. In order to raise the understanding of management for non-executive directors, they are briefed on the current status of KOGAS and its major tasks, and encouraged to visit sites. As such, we ensure their greater engagement in management by providing them with management information in diverse channels.

Operation of Subcommittees

Three subcommittees were launched and are in operation under the BOD to intensively deliberate on the agenda and strengthen constraining and supervisory functions for corporate management, leveraging the expertise of non-executive directors. In 2015, the Planning and Strategy Committee was renamed the Sustainability Management Committee and more roles were imposed. The committee reviews or advises on investment and budgetary matters. Its roles have been enhanced as it reviews and deliberates on environmental and social issues including safety and environmental projects, ethical management against corruption, and social contribution activities.

Type	Composition	Key Roles
Audit Committee	One executive director, two non-executive directors	<ul style="list-style-type: none"> Reporting to the BOD on directors' act of violating laws and the Articles of Incorporation Matters entrusted by the BOD, and those determined to fall under the responsibilities of the Audit Committee according to laws and the Articles of Incorporation, etc.
Sustainability Management Committee	Two or more directors	<ul style="list-style-type: none"> Mid- to long-term management plans, major investment projects Budgetary and operational plans, management evaluation, promotional projects, etc. Safety and environmental projects and operational plans Ethical management and social contribution activities, etc.
Overseas Project Committee	Two or more directors	<ul style="list-style-type: none"> Overseas resource exploration and development/production Review or counseling on overseas plant projects and other overseas projects

Evaluation and Remuneration

KOGAS seeks the development of the BOD through objective evaluation following the BOD management evaluation and individual director evaluation. The remuneration for executives is composed of basic salary, incentives, and severance pay. The yearly basic salary is decided in the BOD meetings within the scope of salary limits, which is approved in a shareholders' meeting. The president receives incentives depending on the result of assessment of management performances after signing a management contract to achieve the corporate philosophy and vision with the chief of the relevant institution, and executive directors receive incentives after making a contract for performance with the president.

Amount of Remuneration Paid

Unit: KRW 1,000, As of the end of 2015

	Number of People	Total amount of Remuneration	Amount of Average Remuneration per Individual	Note
Registered executive directors	2	229,622	114,811	Amount of remuneration excluding retirement benefits
Outside executive directors	7	-	-	KRW 2.5 million per month for monthly salary
Auditors	1	102,054	102,054	Amount of remuneration excluding retirement benefits

Ethical and Integrity Management

System for Ethical and Integrity Management

System for Ethical and Integrity Management Strategies

KOGAS formulated and practiced 'Clean KOGAS' for the code of ethics based on 'Our Promise 30' stipulating specific action standards for employees to abide by as well as four basic principles for principle-based management. All employees are aware that if even a single unethical act occurs, the entire company would lose trust, which is very difficult to recover once lost. Thus, in 2005, all employees reaffirmed their commitment by declaring anti-corruption and integrity management for KOGAS to act out 'Clean Energy, Clean Company'. KOGAS' strategies for ethics and integrity management are under the vision of 'realizing clean and transparent global principle-based management'. Four strategy directions were realigned under the vision: 'reflecting on ethical management and strengthening the proprietary organization and rules'; 'establishing a corporate culture on ethics and integrity'; 'improving the ethical awareness with customized training'; and 'propagating best practices and conducting monitoring'. Tasks for action are suggested accordingly, and support is provided for the culture on ethics and integrity to be spread to the organization and take root. KOGAS will serve as a corporate citizen fulfilling responsibilities for shareholders, customers, the country and community, while ensuring such commitments for ethics and integrity to be internalized by all employees, and reflecting them throughout corporate management.

System for Ethical and Integrity Management Strategies



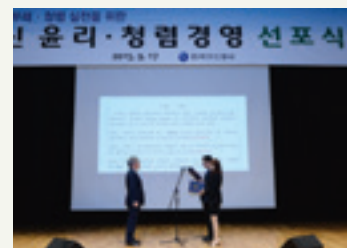
Organization in Charge

KOGAS launched the Corporate Culture Team to be exclusively in charge of ethical management, allocating three proprietary personnel who can solely focus on ethical management as their job function. The team prescribes and revises the code of ethics, and supervises the setup and management of action programs. The team also develops training courses to propagate ethical management, supports their execution, and periodically conducts evaluation and monitoring.

Best Practice >>

| A Higher Jump into Clean KOGAS by Declaring Anti-Corruption and Integrity Management |

On September 17, 2005, KOGAS held the 'KOGAS' New Ethical and Integrity Management Declaration Ceremony' at the headquarters building of Daegu. The ceremony was attended by all employees of KOGAS from the headquarters and LNG Terminal and Regional Divisions. The ceremony was held to express commitment for action and willingness to go beyond customary and routine ethical management policies. At the declaration ceremony, employees of KOGAS reaffirmed that they will fulfill duties based on rationality, fairness and transparency, thoroughly eradicate unfair practices as internal watchdogs, and continuously remove corruption and irregularities.



Creating a Corporate Culture for Ethics and Integrity

Voluntary Practice of Ethical Management

KOGAS implements preventive ethical management by emphasizing the implementation of voluntary ethical management actions. KOGAS set and attached a guideline on staff dinners on walls to contribute to establishing a sound culture for dining out among employees. Voluntary reporting on employees' outside lecturing is induced to prevent potential irregularities. KOGAS runs a gift return center on traditional holidays in Korea to donate the gifts to social welfare facilities.

Sophisticating Ethical and Integrity Infrastructure

KOGAS facilitates corporation-wide ethical management by running the system for integrity incentives. Annual ethical and integrity activities are evaluated by department and reflected in performance-based pay. Records of completing integrity training are aligned with personnel appointment by considering them as a factor for promotion. Tasks of excellence are selected at the Contest for Anti-Corruption Policy Tasks, and best cases are selected at the Integrity Idea Contest and shared throughout the corporation. Meanwhile, a stringent punishment system is firmly in place against corruption. Violators are discovered and punished by managing a special watch dog on areas of weakness. Employees involved in irregularities and corruptions are restricted from being promoted and the period of work suspension is prolonged, demonstrating KOGAS' more stringent punishment levels. For areas prone to corruption including contracting, sales, and personnel, an instrument to secure transparency in job functions is put into place by transparently disclosing contractual information and managing a reporting center on unfair acts for appointing personnel. This enables us to block potential corruption in advance.

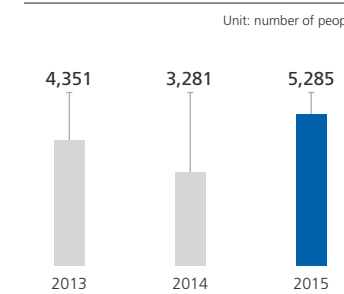
Strengthening Training Programs

KOGAS runs internal and external customized training programs on ethics and integrity for enhancing ethical awareness among employees. Top management-led on-site training takes place including training on ethics and integrity with the CEO and outreach integrity training as KOGAS strives to internalize the ethical and integrity culture. Meanwhile, we run the win-win ethical camp with suppliers while training on integrity and anti-corruption to spread our commitment for ethical and integrity culture to not only our employees but also those of suppliers.

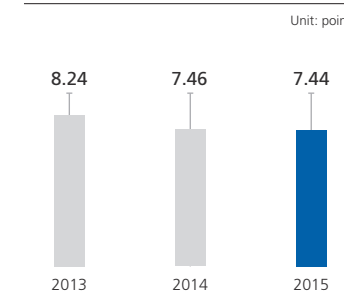
Ethical Training Programs



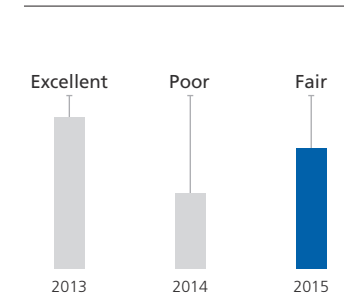
Completion of Online Training on the Code of Conduct



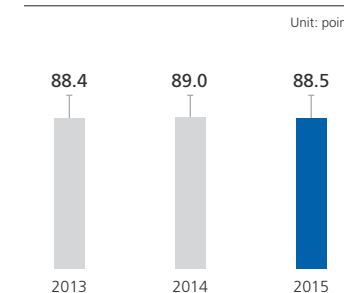
Comprehensive Level of the Anti-corruption & Civil Rights Commission



Evaluation of Policies for Anti-corruption



Self-diagnosis of Ethical Levels



Internal and External Evaluation and Monitoring

KOGAS has initiated activities to make improvements in vulnerable areas pointed out at the annually conducted integrity evaluation at the Anti-corruption & Civil Rights Commission, and selects tasks for improvement through routine monitoring of ethical management units and the Office of the Auditor. Performance of ethical management is analyzed and areas of weakness are identified by comprehensively analyzing external evaluation including integrity levels and anti-corruption policy evaluation, and self-evaluation results including the integrity level of high-ranking officials and self-diagnosis of ethical levels. Selected tasks for improvement and areas of weakness are reflected in the next year's ethical management activity plans and executed as KOGAS continues to strive for higher performance.

Risk Management

Risk Management System

Risk Management Strategy

KOGAS defines risks as uncertainties and opportunity losses which hamper the achievement of strategies and business goals, encompassing both risks and crises. KOGAS takes the following actions in order to respond to such risks: comprehensively identifying potential risks which block its efforts to achieve its goals, deciding on the level of risk tolerance, searching for rational responsive measures, and establishing and managing a system for risks to be managed by specific parties in charge.

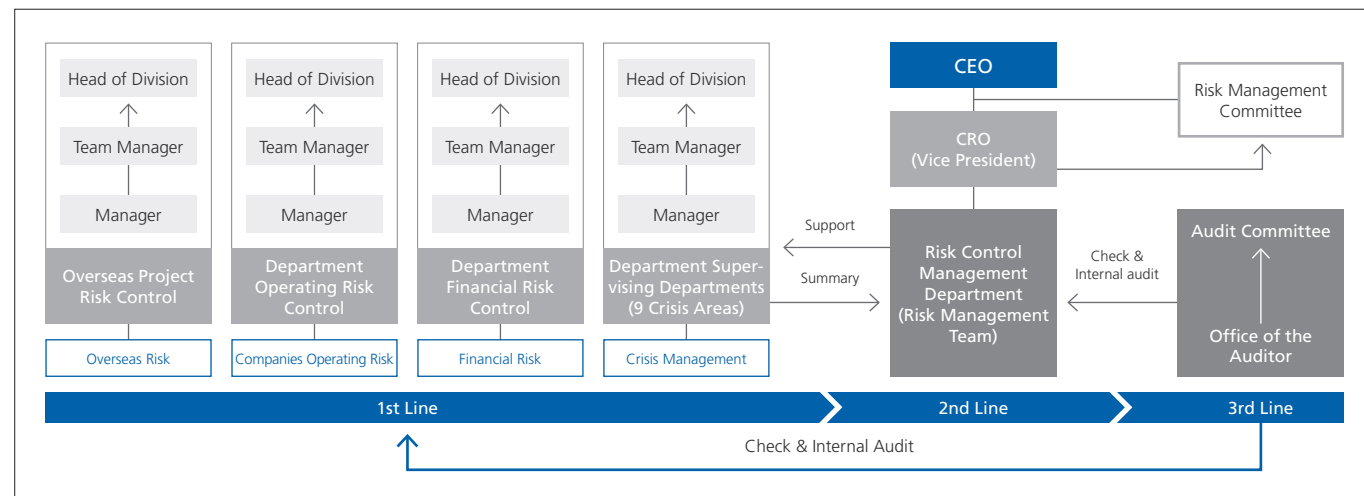
Risk Management Strategy



Risk Management Organization

KOGAS' risk management is based on the '3-lines of defense' model: the first-line supervising departments that are primarily responsible for risks as they conduct daily risk management operations; the second-line Risk Control Management Department that manages the risk management system and supports risk management operations in the working level; and the third-line Office of the Auditors that audits the procedural adequacy of risk management activities. Each organization is organically configured in correlations. Critical deliberation and decision-making on corporation-wide risk management are carried out through the Risk Management Committee and the Chief Risk Officer (CRO) oversees corporate-wide risk management operations. The Risk Management Committee meetings are, in principle, organized more than once a year, during which the Committee reviews the current status of corporation-wide risk management and decides on the agenda.

Risk Management Organization



Risk Management Activities

Launch of the Risk Management Team

KOGAS launched the Risk Management Team for two reasons. First, the targets for risk management have been expanded as KOGAS is engaged in projects in the entire value chain (upstream to mid & downstream) in diverse regions. Second, we recognized our lack of awareness about risks in terms of our overseas projects, e.g. price drops for oil and gas and the deteriorating Iraqi situation. As a consequence, our risk management activities under the existing business division were escalated to fall under a corporation-wide risk management system through collaboration between the Risk Management Team and supporting departments.

Corporation-wide Integrated Risk Management



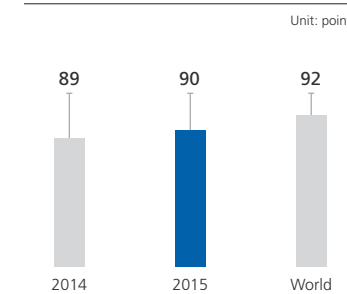
Improvement of the Risk Management System in Overseas Projects

KOGAS minimizes potential risks by improving the risk management system for overseas projects. Risk indicators were structuralized and categorized to come up with 7 risk categories, 26 types of risks and 87 risk events. Events were then specified by cause (300 in total). As a consequence, we could devise response plans and enhance our execution capabilities. We also improved the risk assessment criteria, so if assessment results were above a certain score, they were categorized as core risks. We will develop a checklist for managing core risks upon carrying out new overseas projects, and establish suitable risk management measures when oil & gas prices drop. This will enhance our execution competencies for overseas projects through appropriate risk management measures.

Financial Risk Management

KOGAS is significantly exposed to diverse external variables due to the nature of its business – a high dependence on raw material costs, expansion of overseas projects, long-term return of advance investment, exchange rates, interest rates, oil & gas prices and risks in investment projects. We periodically monitor core risks through the Financial Risk Management Committee, and make preemptive responses based on the outcome.

Evaluation Scores in the Risk Category of DJSI



Risk Management Targets	KRI (Key Risk Indicator)	Monitoring	Responsive Plans	Responses								
Exchange rate	VaR (Value at Risk)	Monthly VaR measurement and limit management	Foreign exchange risk hedging for liabilities in foreign currencies	<table border="1"> <tr> <td>Attention</td> <td>70% of the limit</td> </tr> <tr> <td>Watch</td> <td>80% of the limit</td> </tr> <tr> <td>Warning</td> <td>90% of the limit</td> </tr> <tr> <td>Urgency</td> <td>100% of the limit</td> </tr> </table>	Attention	70% of the limit	Watch	80% of the limit	Warning	90% of the limit	Urgency	100% of the limit
Attention	70% of the limit											
Watch	80% of the limit											
Warning	90% of the limit											
Urgency	100% of the limit											
Interest rate	EaR (Earnings at Risk)	Monthly EaR measurement and limit management	Timely procurement based on financial market analysis									
Liquidity	Liquidity gap	Measurement of the monthly liquidity gap and limit management	Periodic review of funds planning and optimization of short-term and long-term borrowings considering feedback cash flow									
Drop in credit ratings	Credit ratings	Working-level meetings for counteractions	Proactive IR targeting credit rating agencies	Monitoring of credit rating agencies								
Investment projects	Oil & gas price, production volume, investment cost, disasters	Risk management report for each quarter and business	Creation/Implementation of responsive plans for each business	Implementation of KOGAS' own response plans and monitoring of effectiveness of responsive plans								

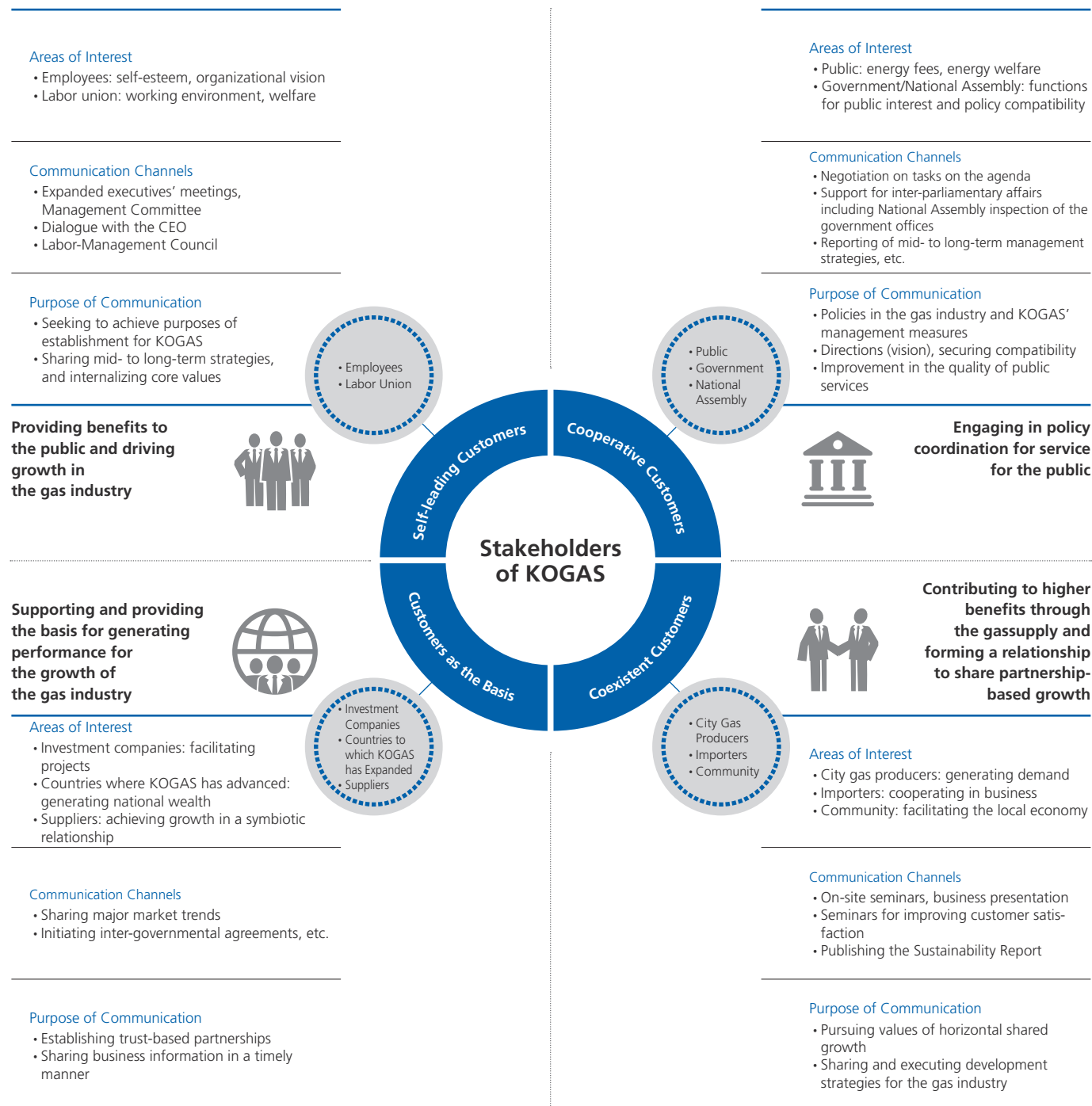
Intensified Risk Monitoring and Reporting

KOGAS conducts quarterly monitoring of the risk management status, and reports the outcome to the CRO and the Risk Management Committee. KOGAS provides feedback to departments in charge so that they can make timely and effective responses by monitoring the response performance upon the issuance of risk alerts. We also report on the current status of managing each overseas project and countermeasures for major risk signals to the CRO and the Risk Management Committee.

Stakeholder Engagement

Stakeholders of KOGAS

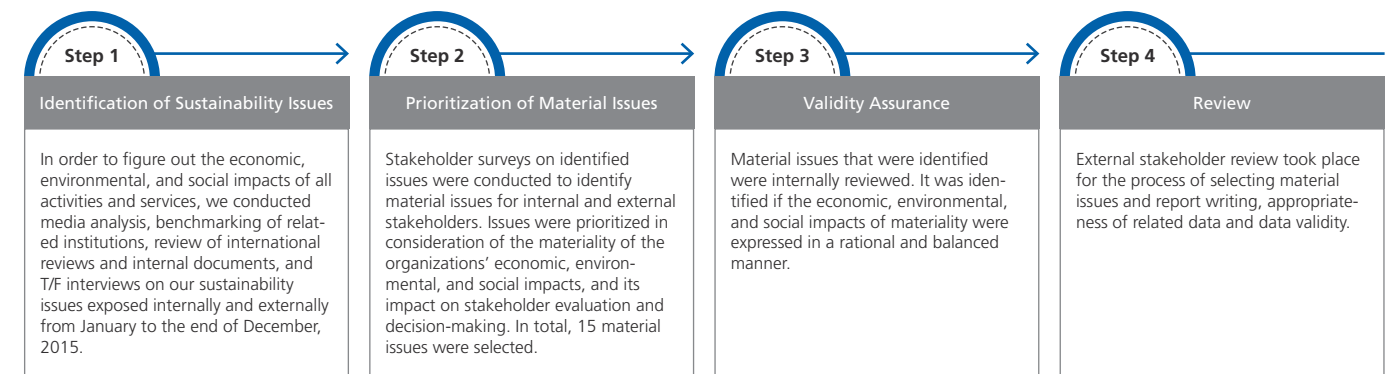
There is a paradigm shift in the gas industry, moving from the buyer-oriented one which would naturally grow itself toward the gas industry for benefits of the public. Against this backdrop, KOGAS reclassified stakeholders from the categorization centered on proprietary and wholesale enterprises to a competition and collaboration-oriented classification to offer more benefits to the public. We put in place communication channels for each stakeholder group. We thoroughly review a wide range of feedback and reflect it in our management activities. We will intensify our basis for sustainability by attentively listening to stakeholder demands and collaborating with them.



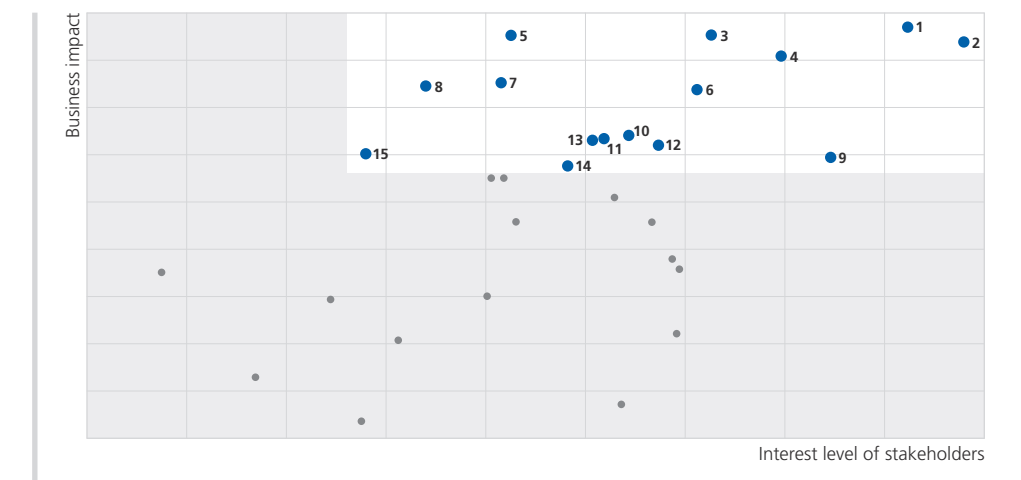
Materiality Test

Selection and Reporting Process for Material Issues

KOGAS periodically listens to stakeholders' feedback on sustainability activities and identifies issues to be responded to by prioritizing them. For issues of materiality to be dealt with by KOGAS, goals and strategies are set and executed along with performance monitoring. Such issues are transparently disclosed in the Sustainability Report on an annual basis.



Material Issue Selection Outcome



	Material Issues	GRI G4 Aspects	Aspect Boundaries		Page
			Internal	External	
1	Prevention of Safety Accidents	Industrial safety and health	KOGAS and employees	Government	46-49
2	Stable production and supply of natural gases	Indirect economic effects		Government, Suppliers, Shareholders/Investors, Global stakeholders, Citizens	28-31
3	Employee recruitment and welfare benefits	Employment		-	58-60
4	Strengthening anti-corruption and ethical management activities	Anti-corruption		Government	18-19
5	Propagation of the culture of shared growth with suppliers and related efforts	Evaluation of the impact of suppliers on the society		Suppliers, Global stakeholders	38-41
6	Securing financial soundness and profitability	Economic performance		Government, shareholders, and investors	28-31
7	Initiating social contribution activities reflecting the nature of the business	Local communities		Local communities, NGOs	52-53
8	Investing in the community and facilitating the local economy	Local communities		Local communities	54-55
9	Establishing a system for safe operations	Industrial safety and health		Government	46-49
10	Efficiently initiating overseas projects	-		Government, Suppliers, Shareholders/Investors, Global stakeholders	31
11	Efforts to boost customer satisfaction	Product and service labeling		Customers	36-37
12	Establishing a sound labor-management culture	Labor-management relationships		-	61
13	Securing competitiveness in R&D and technologies	-		Government, Shareholders/Investors	32-33
14	Strengthening GHG emissions management	Emissions		Government, NGO	44-45
15	Managing environmental loads	Emissions, wastewater and waste – general		Government, NGO	46-49

KOGAS SUSTAINABILITY ISSUES



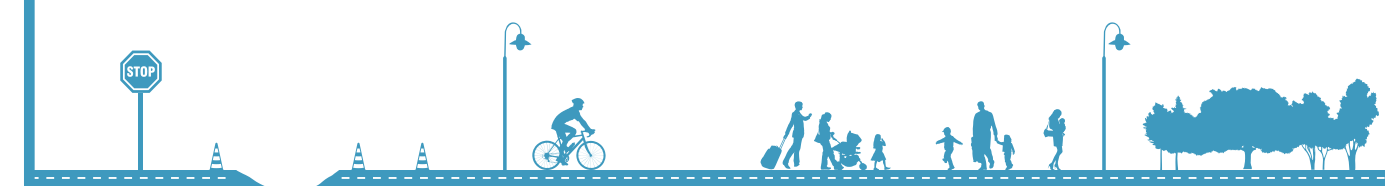
A Better World with KOGAS

Customers Being Happy with KOGAS

A Sound Environment with KOGAS

A Warm-Hearted Community with KOGAS

Creating a Vibrant Workplace with KOGAS



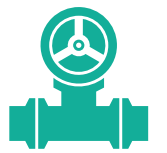
A Better World with KOGAS



Reasons Why Such Issues are Important to KOGAS

Countries around the world are fiercely competing against one another to secure energy sources, and natural gases are grabbing attention as energies that can minimize the environmental burden in their use. KOGAS is a public corporation playing key roles in the national energy industry by managing projects in the entire process, ranging from the introduction, production, supply, and sales of natural gases in Korea. A stable supply of and better access to natural gases are recognized as critical issues directly impacting the national economy and benefits for the public. Strengthening responses to stability in supply and demand through accurate prediction of demand, production management and innovation in management, and discovering new growth engines are critical issues directly linked to the sustainability of KOGAS, the gas industry, and the national energy industry.

Performance of KOGAS



Suspension of the natural gas supply (19 consecutive years)

0 cases

Stable Gas Supply



87%

Natural Gas Distribution Rate to Local Governments



KRW **42.9** billion

Investment in R&D

Approaches of KOGAS

KOGAS strives to supply natural gases in a stable manner. To this end, KOGAS seeks to create stability in supply and demand by accurately predicting the demand and improving the supply environment based on the continued increase in demand for natural gases, and secures supply capacities by expanding facilities in a timely manner and constructing infrastructure efficiently. We contribute to the national energy security and price stabilization of domestic natural gases by developing overseas resources in consideration of investment efficiency and profitability. We utilize our world-class construction and management capacities for downstream projects to encourage private enterprises to participate in them and generate new income. We also strive to secure business and technological competencies to grow into a leading global energy enterprise. In order to generate excellent knowledge aligned with visions and management strategies, we conduct activities for knowledge management (knowledge for individuals, Community of Practice (CoP)) and innovation in management (Best and First (BnF)). We discover and propagate best practices regarding improvement in job functions, and enhance productivity in work and technological competitiveness.

Promises of KOGAS

- KOGAS will be proactively engaged in revising the Enforcement Decree of the Urban Gas Business Act related to the natural gas stock.
- KOGAS will develop new demand including demand for gases for transportation, fuel cells and LNG bunkering.
- KOGAS will systematically establish a manual on open maintenance for storage tanks for long-term management and a manual for renewal maintenance techniques.
- KOGAS will place an advanced pipeline management system in a timely manner for the stable management of pipelines.
- KOGAS will initiate projects in a timely manner through pipeline construction causing no accidents or disasters by managing construction risks.
- KOGAS will internalize existing overseas projects, strengthen investment efficiency and business competencies, and enhance profitability.
- KOGAS will apply for patent registration for knowledge of excellence, while turning the knowledge into assets and working on standardization.

Stable Supply of Natural Gases

Supply and Demand Management of Natural Gases

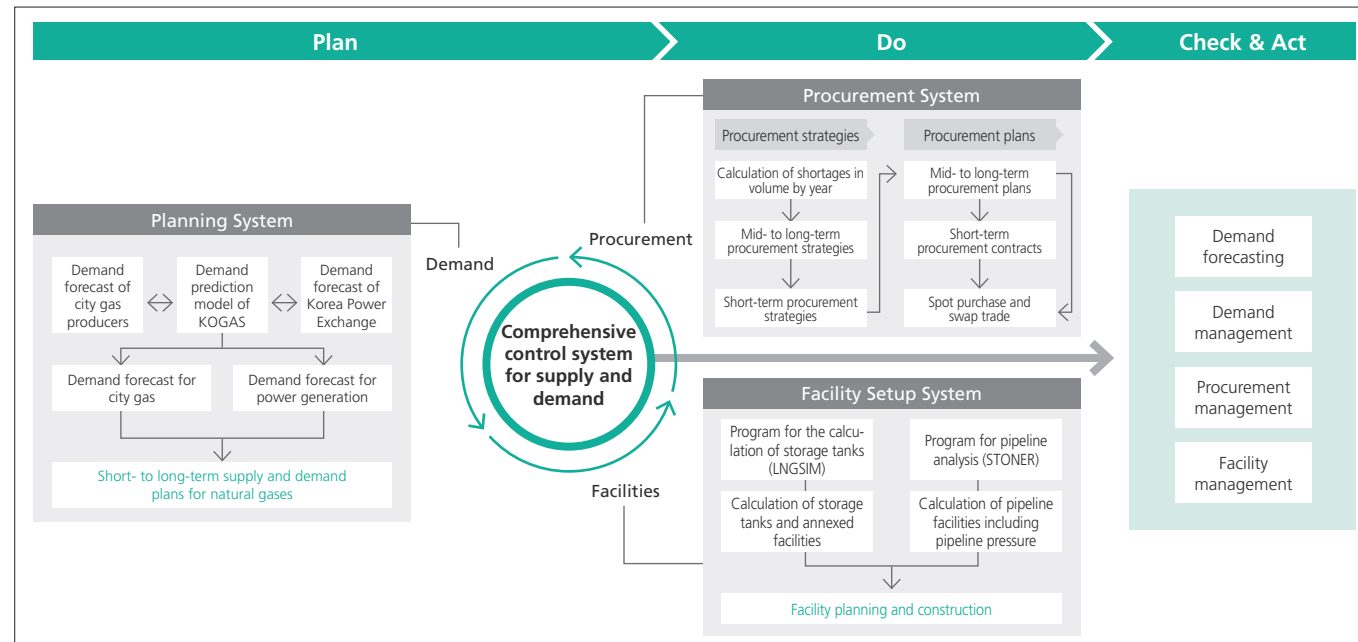
Significance in Supply and Demand Management

The development and production of natural gases require a period of 5 to 10 years and generate investment costs of over USD 10 billion. Since natural gases are large-scale resources, they are covered by a long-term contract of over 20 years under the pre-sales and post-production scheme. They cannot be stored for long and their transportation vessels and storage facilities are limited, so making elastic responses to demand is challenging. KOGAS is striving to stably respond to uncertainties in demand by recognizing the importance of supply and demand management, and establishing a corresponding management system, thus intensifying the responsive capabilities.

Supply and Demand Management System for Natural Gases

The Ministry of Trade, Industry and Energy established the Gas Supply and Demand Plan for over 10 years according to Article 18.2 of the Urban Gas Business Act and publicizes it every two years. Driven by management experiences and competencies, KOGAS suggests development strategies in the natural gas industry by dynamically spearheading the long-term natural gas supply and demand plan, that is, a long-term national energy policy. We analyze the supply and demand records on a daily basis, predict demands for each scenario on a monthly basis, and forecast the supply and demand accordingly. The purpose is to manage the integrated supply and demand management system for timely identification of the rapidly changing supply and demand for the stable management of both sides. Monitoring results on factors for changes in the demand including temperature, GDP, and electricity usage are reflected in the demand forecast. We have also adopted a big data statistical system for scientific demand prediction.

Outline of the Supply and Demand Management for Natural Gases



Raising Accuracy in Demand Forecasting

In order to prevent any supply suspension resulting from failure in demand forecasts, high-price spots must be procured over the short-term, or storage facilities must be constructed over the long-term. Therefore, accuracy in forecasts would be directly linked to stability and economic feasibility in the supply and demand management. The biggest variables in forecasting the demand for natural gases are weather forecasts and electricity demand. Yet, considering the domestic situation of electricity demand where peak load fluctuations are to be covered by gases, forecasting the demand for natural gases is challenging. As such, KOGAS developed a customized demand forecasting model by leveraging private weather forecast data. The model has been significantly improved in the error rate for short-term supply and demand plans compared to the previous year's by reflecting the actual features of the demand. For instance, rational demand patterns derived from the research and analysis of the demand side (combined heat and power generation plants) were applied to the model while the forecast error rate discovered through the actual data analysis was corrected.

Laying the Foundation for Supply and Demand Management

Amid greater uncertainties in demand for power generation in Korea, fluctuations in domestic demand have increased. Supply and demand emergencies have also emerged due to dynamic importation directly from abroad. KOGAS launched a proprietary unit for trading by introducing preemptive supply and demand management instruments using LNG trading techniques, and established corresponding infrastructure to make proactive responses. The LNG Trading Business Team under the Overseas Business Division will come up with an appropriate business model, and contribute to the supply and demand management and higher competitiveness for domestic procurement prices. We also strive to foster specialized personnel to build up experiences as a seller and nurture related knowledge on risk management for the derivatives market, etc. We have dispatched staff to Total of France and EDF to acquire know-how to respond to market situations and build up expertise.

Creating a New Demand for Natural Gases

Creating a New Market for Transport

Due to the government's payment of fuel tax subsidies, the competitiveness of natural gases for transport has dropped. Thus, further distribution of natural gases for transport confronts limitations. KOGAS has discovered a new project to convert the fuel for yard tractors in ports from diesel to LNG. In the case that the fuel for yard tractors is changed into LNG, GHG emissions compared to diesel will drop by 42%, contributing to the greater eco-friendliness of ports. Once infrastructure is established including gas storage facilities within ports, KOGAS will be able to advance into cross-port container tractor and small LNG vessel markets. In 2015, KOGAS supplied 37 units of yard tractors, and will ensure that 50% of yard tractors will have fuel conversion into LNG by 2020.

LNG Yard Tractors



Advancing into the LNG Bunkering Market in Northeast Asia

As emissions regulations on maritime exhaust gas driven by advanced countries are expected to be expanded and applied to Northeast Asia, LNG-powered vessels are expected to be in higher demand. As such, KOGAS is preparing for an alternative demand for diesel for vessels. We are realigning the institutional foundation by revising some laws with unclear grounds hampering the distribution and facilitation of LNG bunkering. We have secured LNG supply facilities for ships within the Tongyeong Terminal Division, and negotiated with shipbuilding and shipping companies for building LNG bunkering shuttles. As such, we are leading the efforts to form an early-stage market by securing supply-based facilities.

Easing the Demand Gap between Winter and Summer

We are creating a new demand for natural gases in summer to improve the consumption pattern of high demand in winter and low demand in summer. In particular, we are easing the electricity peak and high seasonality in demand by replacing the electricity demand for cooling in summer with the demand for gas. KOGAS has increased price competitiveness compared to cooling by electricity by increasing the amount of discounts for cooling fees in summer, and is working on developing devices for cogeneration or combined heat and power (cooling, heating and electricity). In 2015, the sales volume for cooling increased by 2,732 tons (1.3%) compared to 216,000 tons in the previous year, successfully easing the demand difference in winter and summer through sales of gas for cooling.

Raising Competitiveness in Procurement Prices

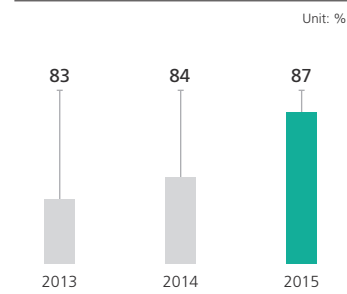
The global economic downturn is decreasing the demand for LNG, and a higher supply of LNG due to the kickoff of new projects is also lowering the LNG price. Against this backdrop, KOGAS is making short- to long-term efforts to improve the unit price and contractual terms and conditions to enhance its competitiveness in procurement. Most of the mid- to long-term contracts being subjected to the destination clause hamper the transfer of cargo volumes to other countries or optimization of transportation routes. KOGAS is making appropriate actions in close cooperation with the government to reduce the amount of long-term deals on LNG and sign on contracts on flexible LNG volumes amid shrinkage in domestic demand for LNG and its price drop. We are also reducing transport cost by discovering opportunities for cooperation by jointly using vessels with overseas sellers.

Reduction of Transport Cost Through the Joint Use of Vessels

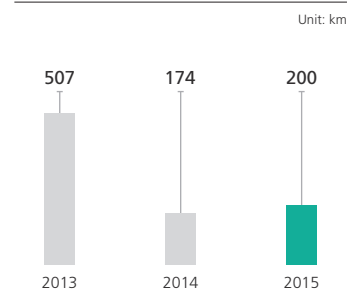


Production and Supply of Natural Gases

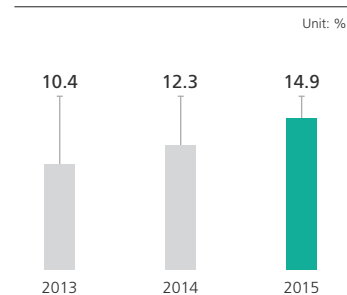
Natural Gas Distribution Rate to Local Governments



Completion Records of Supply Pipelines



Storage Ratio



Timely Expansion of the Production Facility Infrastructure

Facilities need to be expanded in a timely manner for a stable supply of natural gases. KOGAS is making preemptive responses by planning for mid- to long-term facility construction. Under a plan to increase the storage ratio by 20% by 2029, KOGAS completed the phase 1 construction project for the Samcheok LNG Terminal Division. It has breakwaters with the total extension of 1.8 km, berthing facilities, routes and turning basins, four 200,000-kℓ storage tanks and LNG sendout capacity of a maximum 780 tons per hour. We are now equipped with production systems in four terminal divisions with the initiation of transmission of LNG to the Samcheok Terminal Division, following the ones in Pyeongtaek, Incheon and Tongyeong. Once the phase 3 construction is completed by 2017, the Samcheok Terminal Division will be complete with 12 tanks, the natural gas storage capacity of 2.61 million kℓ, and LNG sendout capacity of 1,320 tons/H. As a consequence, the supply of natural gases to the untapped area will be expanded, which is expected to increase the rate of natural gas distribution to local governments up to 90% by 2016.

Storage facilities are secured based the demand forecast in line with long-term supply and management plans. However, due to the continuous excess of the demand forecast, a small LNG terminal division will be constructed in Aewol Port in Jeju to secure more storage facilities. We are currently exploring and reviewing site options for the fifth terminal division to cover new production volumes.

Strengthening the Stable Gas Supply

KOGAS strives to ensure that no supply disruptions or power system failures occur by securely and stably operating facilities. In 2015, we developed source technologies including analytical algorithms by using operational big data secured through system operation for 30 years. We also developed the system operation analysis programs 2013, 2014, and 2015 which enable real-time pipeline flow interpretation, a feature which could not be found in foreign products, establishing KOGAS-type pipeline network analytical system, thus enhancing emergency countering capabilities. We have strengthened safety and stability for low-pressure management using pressure regulator facilities in the summer for gas pipelines in downtown Seoul. In the Gyeongnam region in which the tip end of the pipeline network lies, we stably managed compressor in winter, thus preventing a reduction in pressure being supplied. As a result of such endeavors of KOGAS, there has been no single case of supply disruption of natural gases for 10 years since 1996.

Stability in Supply

	2013	2014	2015
Gas Supply Disruption*	0	0	0
System Trouble**	1	0	0

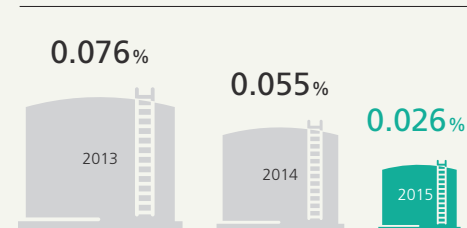
* Gas supply disruption: cases when there is a failure of gas supply to parties specified on the supply protocol and contracts
 ** System Trouble: cases when there is a gas supply of over one hour while not satisfying the needs on the demand side including the volume and pressure as a result of facility breakdown and accidents

Best Practice >>

| World-Class Natural Gas Quality Management |

The natural gas loss ratio, that is, the ratio of the actual supply volume to the total amount of procurement is directly linked to KOGAS' revenues. Thus, KOGAS strives to ease the burden of natural gas fees for the public by minimizing the loss ratio and strengthening the revenue base. We pursued the management level of loss ratio at 0.1%, being lower than the statutory precision of 1.0%, self-calibrating the existing 2,887 metering facilities and adopting and installing Korea's first 19 ultrasound metering facilities. In 2015, the natural gas loss ratio increased 0.029% to 0.026% year-on-year, which is the world's best in class.

Natural Gas Loss Ratio



Status of Overseas Projects

Exploration Project

- Block 2, 3 & 9 Exploration Projects, Cyprus
- Area 4 Exploration Project, Mozambique
- Krueng Mane Exploration Project, Indonesia
- East Timor Offshore Exploration Project

Development and Production Projects

- Umiak SDL, Canada
- Cordova Gas Resources, Canada
- Horn River & West Cutbank Development Project, Canada
- Surgil Project, Uzbekistan
- Akkas Gas Field Development Project, Iraq
- Mansuriya Gas Field Development Project, Iraq
- Zubair Oil Field Development Project, Iraq
- Badra Oil Field Development Project, Iraq
- A-1 & A-3 Gas Fields Development Project, Myanmar
- Senoro Toili Project, Indonesia

Projects aligned with LNG Procurement

- LNG-Canada Project, Canada
- RasGas Project, Qatar
- YLNG Project, Yemen
- OLANG Project, Oman
- DSLNG Project, Indonesia
- Prelude FLNG Project, Australia
- GLNG Project, Australia

Overseas LNG Technology Service Projects

- Kuwait Al-Zour Re-gasification Terminal Project
- Emirates LNG Re-gasification Terminal Project - Technical Advisory
- PTT LNG Re-gasification Terminal Project, Thailand
- Singapore LNG Terminal Project - Technical Advisory
- Guangxi LNG Terminal Project, China - Technical Advisory
- Zhejiang LNG Terminal Project, China - Technical Advisory
- Jiangsu LNG Terminal Project, China - Technical Advisory
- Qingdao LNG Terminal Project, China - Technical Advisory
- Tangshan LNG Terminal Project, China - Technical Advisory

Downstream Projects

- Cylinder Project, Uzbekistan
- CNG Project, Uzbekistan
- Manzanillo LNG Re-gasification Terminal Project, Mexico
- Maputo Natural Gas Distribution Project, Mozambique

Initiation of Overseas Projects

Managing Overseas Exploration and Production (E&P) Project Efficiently

KOGAS continues to initiate overseas E&P projects to seek stability in the supply and demand of natural gases in Korea and strengthen energy security. We established mid- to long-term strategies for overseas projects based on global energy market trends, energy policies of the government, and management environmental analysis. We set three strategic directions – 'raising investment efficiency', 'ensuring selection and concentration', and 'strengthening business competencies – under the goal for the vision of becoming a 'global top 50 energy company'. Accordingly, we plan to secure oil & gas resources of 400 million tons, which are worth 10 years of the consumption amount for natural gases in Korea by 2020, and produce 7 million tons, taking up 20% of the annual domestic consumption volume abroad.

KOGAS produces oil and gas in 10 projects including A-1/A-3 in Myanmar, the Jubair project in Iraq, and the Rasgas project in Qatar. In 2015, commercial production started in GLNG in Australia, and Senoro Gas Field in Indonesia. Together with large Korean enterprises and SMEs, KOGAS has jointly advanced into some projects including the gas field and gas chemical plant construction and management in Surgil in Uzbekistan and contributed to job creation. In 2015, 667 thousand tons among the natural gases produced abroad were procured in Korea. The volume of natural gases to be developed and procured by 2017 is expected to increase up to 2.423 million tons through six projects – GLNG in Australia, OLANG in Oman, RasGas in Qatar, YLNG in Yemen, Prelude FLNG in Australia, DSLNG in Indonesia.

KOGAS plans to concentrate management resources mostly on core projects in managing overseas projects in the future, and steadily build up technological prowess for E&P – an area where KOGAS lags behind major global energy companies. We will dramatically enhance efficiency in investment by considering the nature of E&P projects, that is, high cost and high risks.

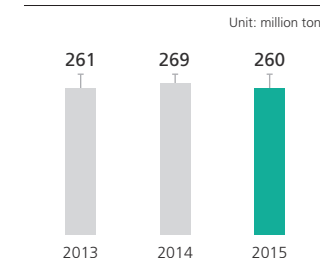
Strengthening Technological Competencies for E&P

KOGAS selected competencies for 17 core technologies associated with E&P for self-driven minefield management and is striving to intensify its competencies based on a roadmap to secure technologies over the mid- to long-term. The technological competency of KOGAS' E&P (Exploration & Production) stands at 68% compared to the level of independent management of minefields. KOGAS is enhancing technological competencies in cooperation with related institutions at home and abroad, aiming to secure proprietary managed technologies by 85% in 2017 and 100% in 2020.

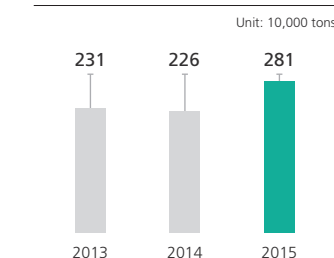
Carrying Overseas Mid & Downstream Projects

KOGAS is engaged in diverse mid & downstream projects based on its experiences of constructing and managing domestic LNG terminals. In particular, KOGAS' overseas projects for terminal divisions and pipelines were selected as tasks for 'strategies for natural gas industry development' of the Ministry of Trade, Industry and Energy. The projects are ones that generate high added values with few risks. KOGAS focuses on discovering new projects by facilitating technology export and establishing a roadmap for the management system. KOGAS also strives to increase revenues and incomes by developing auxiliary projects of the existing ones. In 2015, we carried out investment and management of terminals in Mexico, LNG terminal technology projects in China, Singapore, and the UAE, and gas supply in Mozambique. Some financial achievements are: KRW 7 billion for business dividends and operating income from the LNG terminal in Mexico and KRW 9.2 billion for revenues from the mid and downstream plant project. KOGAS also supplied 110,000 tons of gas to end users through the gas transmission pipeline in Mozambique.

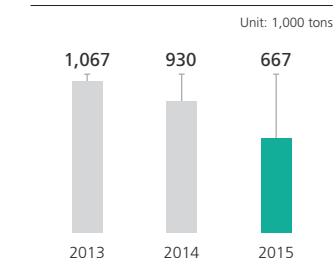
Amount of Resources Secured



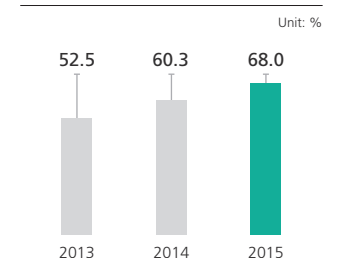
Annual Production Volume



LNG Development and Procurement Volume



Technological Self-sufficiency



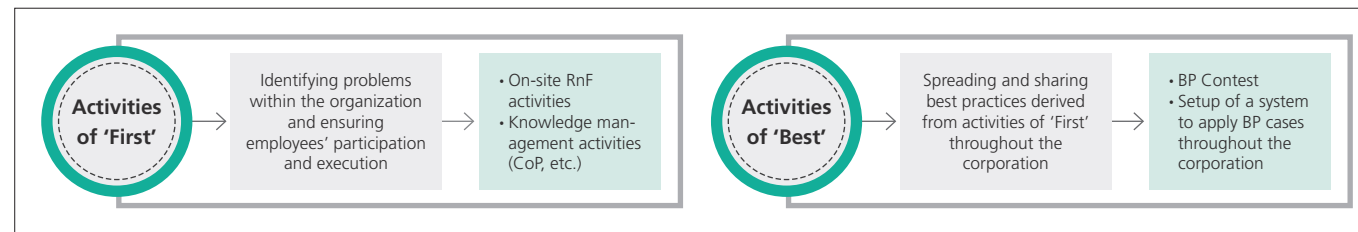
Innovation Activities

Management Innovation

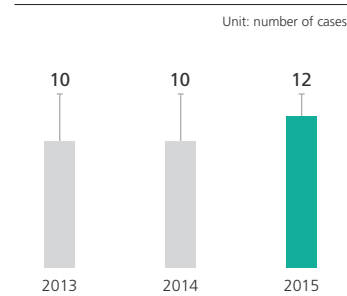
Innovation Brand – Best & First

KOGAS is implementing continuous innovation in management to respond to the rapidly changing management environment and pave the way for a new leap. BnF (Best & First) meaning achieving innovation earlier than others to be top-notch is KOGAS' exclusive innovation brand. Activities of 'First' mean that employees discover and resolve problems within their organization, and those of 'Best' imply that best practices derived from 'First' activities are spread and shared throughout the corporation. KOGAS strives to continuously foster corporate competencies through field-oriented innovation activities.

BnF Methodologies



Best Practices Discovered in BnF



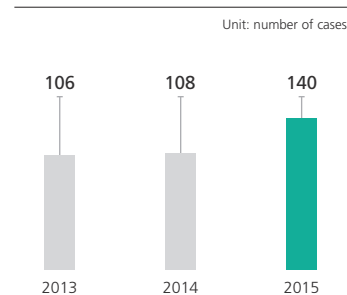
On-site BnF Rainbow Activities

KOGAS initiates 'On-site BnF Rainbow Activities' to determine eight core areas based on its annual management policies, and conducts autonomous tasks befitting each base and regional division. Yearly performances are evaluated qualitatively and quantitatively and improvement measures are selected, which are then reflected in the next year's plan to making improvements in job functions unceasingly. A total of 12 best practices were discovered through BnF activities in 2015.

Community of Practice – CoP

KOGAS creates excellent collective knowledge through activities of CoP (Community of Practice), a voluntary learning community and shares the performance through a knowledge management system, thus seeking higher efficiency in work, stronger productivity, and higher technological competitiveness. In 2015, a total of 485 CoPs were formed and autonomously managed, among which 140 CoPs were selected as excellent ones through knowledge expert evaluation.

Excellent CoP



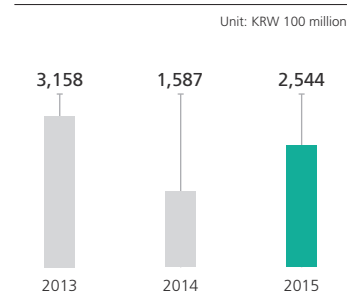
BP Contest

KOGAS shares performance in excellent knowledge management activities (CoP and BnF) aligned with its vision and strategies at the end of each year, and organizes a contest to discover best practices. By doing so, we are spreading motivation among members on management performance with encouragement and rewards for strong performance. We review if award-winning best practices are applicable to similar sites (four LNG terminal divisions in Incheon, Samcheok, Tongyeong, and Pyeongtaek and nine regional divisions) after the contest so that it does not remain a one-time event, and apply them throughout the corporation.

Performance of Management Innovation Activities

Financial effects generated through BnF activities on knowledge management and management innovation in 2015 stood at KRW 254.4 billion. Such a performance generates not only tangible effects including cost reduction but also intangible ones including institutional improvement and sophistication and system setup. KOGAS plans to initiate patent applications for excellent knowledge acquired in 2015 while striving to turn its knowledge into an asset and planning to work on standardization. Excellent knowledge performances that are discovered are summarized and compiled in the 'Knowledge Management Casebook', which is distributed to employees. Meanwhile, a total of 1,405 cases of knowledge were registered in the knowledge management website, among which 299 cases were selected as excellent knowledge. We will further strive to achieve our vision by continuously developing knowledge management activities.

Financial Effects of Innovation Activities



Technological Innovation

KOGAS Research Institute

The KOGAS Research Institute continues to conduct research to develop clean energies and future energy resources to create basic, yet core technologies and new growth engines in the entire process in the gas industry – exploration and development of natural gases, LNG transport and storage, and supply of natural gases. We will further strive to undertake R&D to foster the domestic gas industry and develop future energy industries.

Korean-style LNG Cargo Containment System KC-1

The Korean-style LNG Cargo Containment System KC-1 started as a national research project to ease the dependency on overseas technologies and loyalty burden in 2004. We proprietarily developed the LNG Cargo Containment System KC-1 with domestic technologies after a decade of joint research with Korea's three shipbuilding companies (Daewoo Shipbuilding & Marine Engineering, Samsung Heavy Industries, and Hyundai Heavy Industries). KOGAS played a key role in the development project. A membrane is a thin plate with wrinkles, and securely stores LNG by directly contacting it which is in a super low temperature. KC-1 is a technology applied to the LNG Cargo Containment System by improving KOGAS' ground membrane tank design technology. Unlike the existing technology, contiguous dual barrier structure is applied so that leaked LNG can be treated without imposing thermal shock on the secondary barrier even under an emergency where LNG is leaked in the primary barrier. As a result, it is distinctively safe and competitive. Constructability was improved by simplifying the cooling system structure, which is expected to shorten the containment system construction period and lower the cost. Once this technology is applied to 30 LNG carriers, it would have the loyalty substitution effect of approximately KRW 300 billion and cost reduction effect of approximately KRW 180 billion. KC-1 was confirmed to be installed in international LNG vessels to procure Sabine Pass LNG in the U.S. in 2014, which will be in operation in 2017.

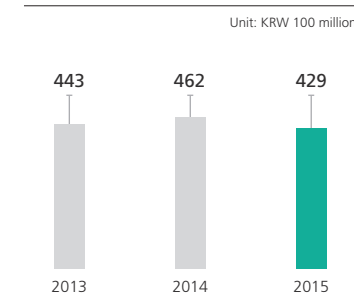
LNG Storage Tank with the World's Largest Capacity

Amid increases in the natural gas import volume and demand, volume scale-up LNG storage tanks to store natural gases have been emphasized as a core technology in the LNG industry. KOGAS developed a next-generation ultra-large LNG storage tank by fully leveraging LNG storage tank localization technologies and construction know-how gained through the existing R&D efforts. The storage tank touts a ultra-large capacity of 270,000 kℓ. Comprehensive review took place on the tank: the thickness of the steel sheet that can be constructed, the occurrence rate of evaporation gas in the storage tank, and seismic load-driven design possibilities. In particular, the seismic scale in the design was upgraded from 6.5 to 7.0 to enable an optimized design that is safe and economical. The safety of the ultra-large LNG storage tank was verified by an international certifier (DNV, Norway). The technology developed was successfully applied to the Samcheok Terminal Division (LNG (Incheon, Samcheok, Tongyeong, and Pyeongtaek) Terminal Divisions). KOGAS was also engaged in the SLNG extension project in Singapore, successfully concluding a turnkey contract with the 270,000 kℓ storage tank technology.

Smart Pipeline Management – Intelligent Pigs

KOGAS manages a 4,520 km-long natural gas supply pipeline. The pipeline facility can be used semi-permanently, but continuous management is needed to prevent gas leakage including pipeline cracking. Intelligent Pigs are the cutting-edge pipeline management technology which accurately diagnoses the status of pipelines by penetrating inside the pipeline where gas flows. The pigs are applied with latest technologies including the data storage system, monitoring system, wireless reception/transmission system, and inertial measurement unit. It does not merely remove impurities within the pipeline, but detects abnormalities by identifying the pipeline thickness based on the measurement of magnetic flux changes. Accurate positioning is identified by being equipped with the inertial measurement unit, and the pipeline can be numerically mapped. KOGAS is carrying out robotic development projects for 8-inch and 16-inch pipeline inspection to be applied to pipelines where pigging cannot be used.

Investment in R&D



Current status of IPR and Technology Transfer

	2013	2014	2015	
Patent	Registration pending	32	40	61
	Registered	53	33	18
Program	7	10	6	
Technology transfer	4	2	2	

Key Research Areas

Exploration and Development of Natural Gases

- Oil/Gas field E&P
- CBM
- Shale/Tight gas
- GH/Arctic resources



Liquefaction and Transport of Natural Gases

- Storage tank design
- LNG Cargo Containment System (KC-1)
- Liquefaction plants and liquefaction process



Natural Gas Supply

- Intelligent Pigs
- Gas quality and metering
- Risk and safety diagnosis
- Methodology and pipeline soundness

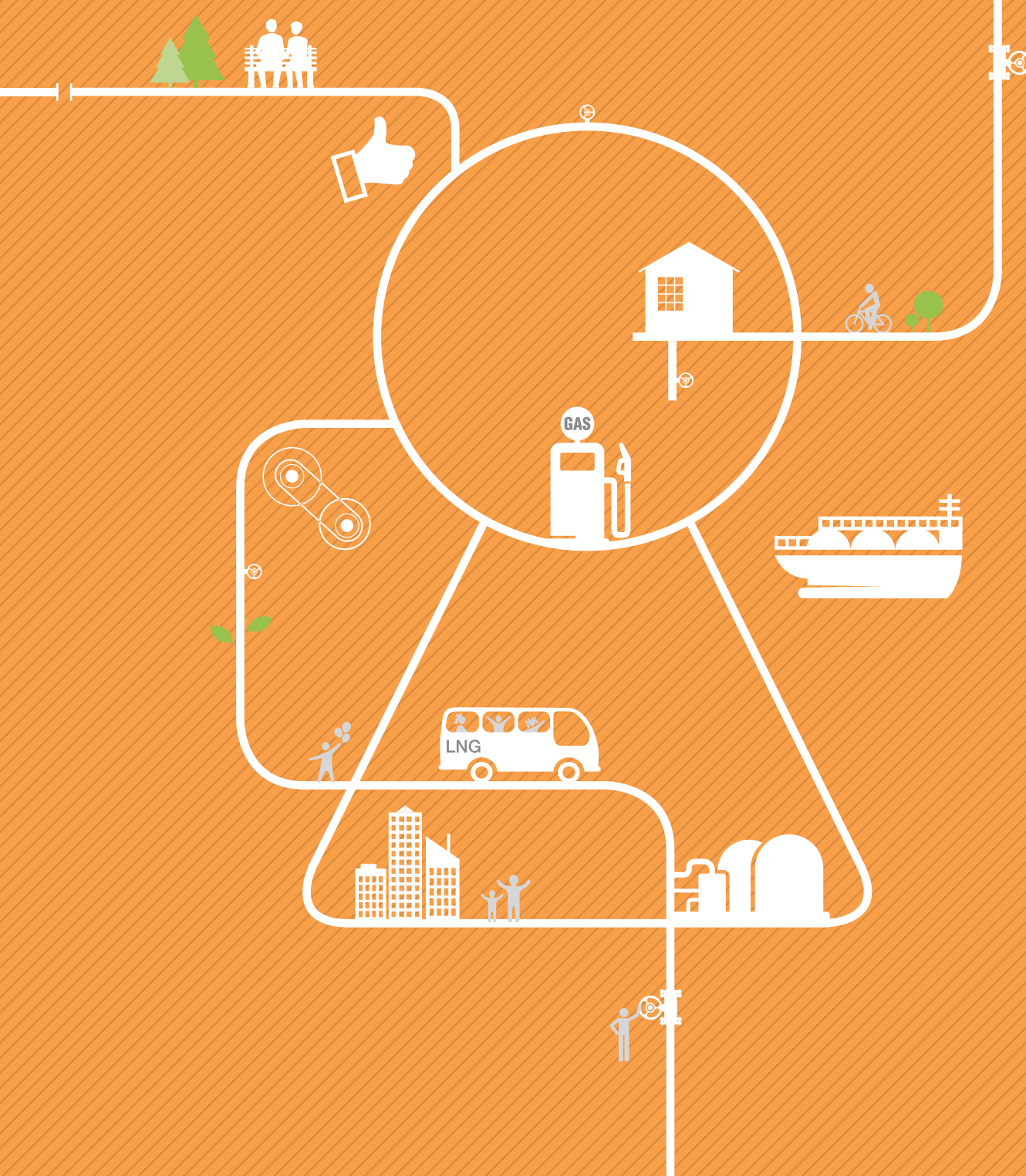


Clean Energies

- Hydrogen fuel cell
- Natural gas-powered vehicles
- LNG bunkering
- Synthetic natural gas
- DME
- GTL



Customers Being Happy with KOGAS



Reasons Why Such Issues are Important to KOGAS

KOGAS is a public corporation established to enhance benefits in people's living and their welfare status by supplying natural gases as clean energies. KOGAS generates new values in energy resources through activities to achieve its mission and purpose of establishment, realizing such activities are ultimately helpful to the public and significantly impacting projects being performed in Korea. KOGAS believes that creating a sound corporate ecological environment in the natural gas industry along with small-and medium-sized suppliers is its role and responsibility as a public corporation for the nation and the people, and considers related issues with a great significance.

Performance of KOGAS



Grade **A**

Public-service Customer Satisfaction Index (PCSI)

Approach of KOGAS

KOGAS defines customers as targets of direct and indirect services in the distribution process of natural gases. Customers are categorized into three groups: first, the general public as end-users of natural gases indirectly provided by KOGAS; second, city gas producers delivering natural gases from KOGAS to consumers; and third, large-volume consumers directly provided with services by KOGAS. We run a network for customer satisfaction management to provide products and services that satisfy customers, identify customer needs through close communication, and reflect them in management activities. We spare no effort to provide pragmatic services and support for the public by supporting government policies and reducing gas fees. We pursue mutual cooperation and shared growth by supporting the growth of small-and medium-sized partners and forming fair cooperative relationships. We are spreading the culture of shared growth by supporting sales channels at home and abroad and expanding joint entry into overseas markets and purchase of products from small-and medium-sized partners. We share our technological prowess and know-how to enhance our productivity and technologies, and secure the growth engines of SMEs and Korea while extending liquidity support.



KRW **73.5** billion

Reduction of Gas Tariffs for the Underprivileged

(the socially under-privileged + social welfare facilities)

Promises of KOGAS

- We will improve the system so that when petitioners eligible as a multi-child (three or more) family apply for birth registration, they could apply for integrated discounts for the city gas bill payment reductions. This will be aligned with the government's 3.0 Happy Childbirth One Stop Service.
- We will continuously discover eligible recipients of city gas fee reduction benefits who are not receiving the benefits in cooperation with the Ministry of Health and Welfare.
- We will continuously explore business channels by expanding joint business project opportunities with SMEs.
- We will review KOGAS' schemes on shared growth and fair transactions and make improvements where needed. We will also acquire a rating of higher excellence in the evaluation results of the Shared Growth Index ('good' in 2015) through regular monitoring.



Good

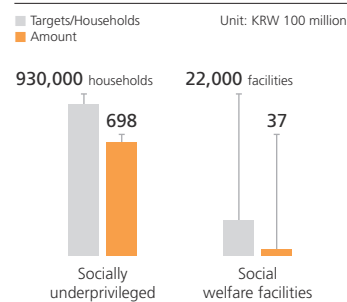
Shared Growth Index

Customer Satisfaction Management

Public Satisfaction Management

The ultimate goal in KOGAS' service for the public is to 'pursue the value of a happy life along with customers'. To this end, KOGAS makes steady efforts to enhance energy welfare by further distributing natural gases to unsupplied areas and reducing the gas tariff for the underprivileged. We provide services to reduce the city gas tariff for socially underprivileged households and social welfare facilities as a means of stabilizing the livelihood of the socially vulnerable. In 2015, we expanded the eligible targets for the tariff reduction by reflecting the revised criteria for calculating the basic livelihood income and the lower income group pursuant to the revision of the National Basic Livelihood Security Act. Accordingly, targets for tariff reduction are expected to increase by 760,000. The number of socially underprivileged households that have received benefits from the city gas tariff reduction project of KOGAS stands at 930,000 to whom a total of KRW 69.8 billion in city gas tariffs was extended. We also reduced KRW 3.7 billion for 22,000 social welfare facilities.

Gas Tariff Reduction Records in 2015



Project for City Gas Tariff Reduction

	Existing Target Recipients	Target Recipient Expansion	Amount of Fees Covered Per Month
Target recipients for tariff reduction	The disabled (Grades 1 ~ 3), persons of national merits, persons of merits to independence, and recipients of livelihood/medical allowances	-	24,000
	Lower income groups	Recipients of housing allowances	12,000
	Multi-child households (with three or more children)	Recipients of educational allowances, and a lower income group subjected to preferential care	6,000

KOGAS is striving to enhance healthcare services for the public through a plan to support eco-friendly public transport. We analyzed causes for reduction in the number of CNG buses, and conducted on-site inspection in intra-city bus companies. Related institutions including the government and the City Gas Association sought after measures to scale up competitiveness by negotiating on the topics. Accordingly, we devised a (draft) plan for payment of CNG bus subsidies and had a specific discussion on reducing taxes and the public utilities' charge including import levies. CNG bus supporting measures to compete with diesel-powered buses will start from 2016. We will initiate the reduction of import levies on natural gases for transport through the revision of related laws.

Communication with Customers

KOGAS runs the corporation-wide 'Customer Satisfaction Management Network' to identify customer needs. Nine district divisions and two terminal divisions have on-site service teams. It handles operations for customer satisfaction management driven by proprietary departments for each customer group. CS leaders are selected by customer type and contact point, enhancing the capability to execute customer satisfaction tasks. The CS Initiation Committee directly engaged by customer members regularly holds meetings on-site to listen to voices of customers and enhance the quality of service. Moreover, we run the 'KOGAS CS SCHOOL', a program for win-win benefits with wholesale/retail enterprises and competency build-up. We also conduct demand forecasting training for personnel in charge of volume partially committed for the city gas so that KOGAS and customers could exchange demand forecasting data, paving the way for higher accuracy in demand forecasting. KOGAS conducts on-site seminars to address inevitable problems that occur at sites in advance, thus listening to the voices of customers and finding solutions with customers. KOGAS is equipped with face-to-face communication channels for key customers including city gas producers, power generators, and direct suppliers. Programs we run include a joint workshop with customers, the Wednesday Development Council, a seminar on tariff schemes, a seminar for customers, tech information exchange meetings, Wednesday Development Workshops, and On-site Business Day. Customer VOC is monitored in real time through online customer support systems including the customer support system, the customer center on the website, and BIZ portal. Such efforts served as the basis to collect actual customer feedback. We strive to fully reflect the rational demands derived from the process in improvement tasks.

Public-service Customer Satisfaction Index (PCSI)



Grade **A**

Best Practice >>

| Opening the Gas tariff Reduction Management System for the Socially Underprivileged |

KOGAS started the service for the Gas Tariff Reduction Management System (GRMS) for the underprivileged in August 2015. The system allows the members of the public who are eligible for gas tariff reduction, including the disabled, recipients of basic livelihood income, and persons of national merits to apply for the benefits conveniently, and personnel in charge of city gas production to manage it with convenience. The method of applying for city gas tariff reductions and the qualification renewal is improved and simplified in alignment with the government's administrative network for the underprivileged. As such, it was designed to raise service satisfaction levels among the public, and increase accuracy and efficiency in management tasks by using the IT system for managing qualification for tariff reduction recipients. Prior to the system development, target recipients who wanted to apply for city gas tariff reduction had to go through a series of inconveniences. They had to apply to a city gas producer and submit qualification certificates and related documents to governing institutions (the Ministry of Health and Welfare, the Ministry of Security and Public Administration, and the Ministry of Patriots & Veterans Affairs). Moreover, they had to prepare supporting documents and reapply for their qualification every two years for their qualification to remain valid. However, with the adoption of GRMS, eligible targets can fill in an application form without supporting documents, and apply to a city gas producer and its website, or a community service center. This is because qualification validation can be checked out through three ministries via the system. KOGAS conducts inspections on qualification changes on a monthly basis, which eliminated the renewal procedure to reapply every two years. The identification period for changes in qualification among eligible targets for city gas tariff reduction which used to take a minimum of 30 days was significantly reduced to one day from the date of application. Approximately 900,000 people are receiving the reduction benefits. Since the recipients have their data accurately managed via the system, ineligible recipients whose reduction qualification has been lost or who used to receive dual benefits can be identified. This has become a solution to the drawback of unfair tariff reductions. Moreover, prompt responses to petitions associated with city gas producers were made possible, which will enhance work efficiency. KOGAS promises that it will continuously discover eligible non-recipients and further strive to develop and establish systems that satisfy the public and related companies.

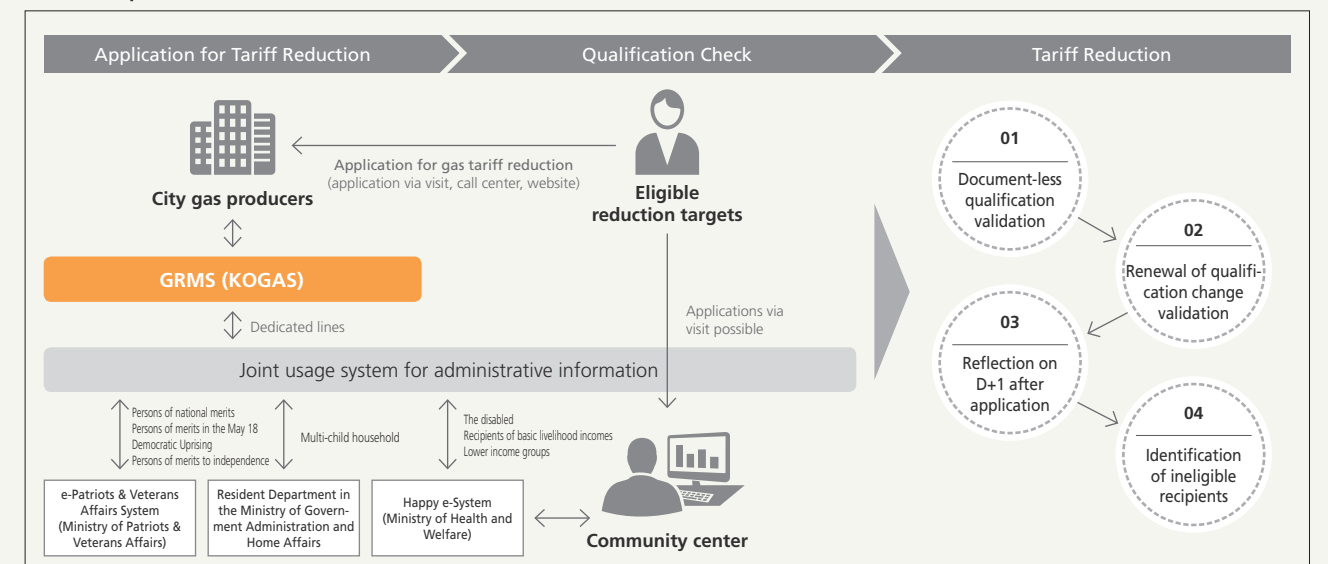
Scope of Eligible Targets for Tariff Reduction



GRMS Website

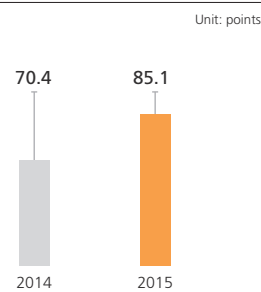


GRMS Setup

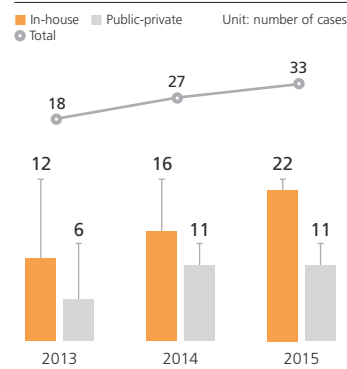


Shared Growth and Win-Win Benefits

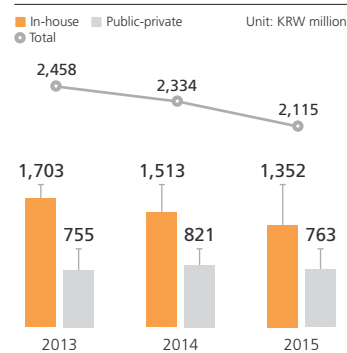
Satisfaction Level in Shared Growth Projects



Performance of Technological Development Projects (number of projects)



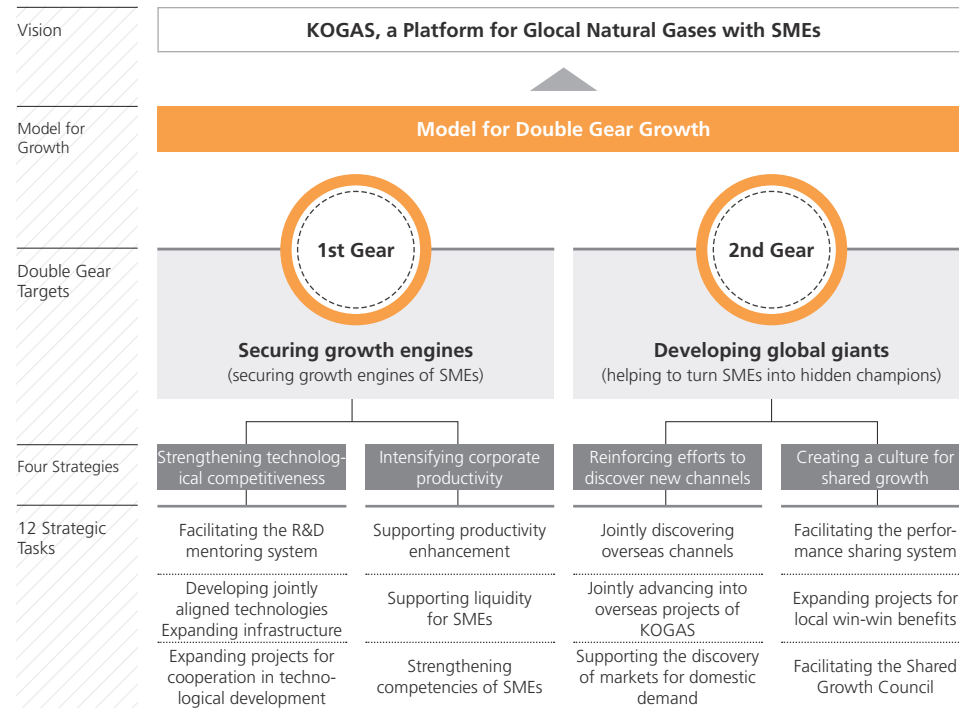
Performance of Technological Development Projects (investment cost)



System for Initiating Shared Growth

KOGAS aims to create a virtuous chain of shared growth where suppliers' growth leads to KOGAS' growth, which, in turn, leads to that of suppliers. As such, we are creating a system for shared growth strategies and a culture of win-win benefits with suppliers based on trust. We launched the Shared Growth Team to oversee shared growth-related job operations and play both executing and controlling roles. In 2015, we significantly increased the number of personnel, specified the roles of personnel in charge, and strengthened the organization.

System for Initiating Shared Growth

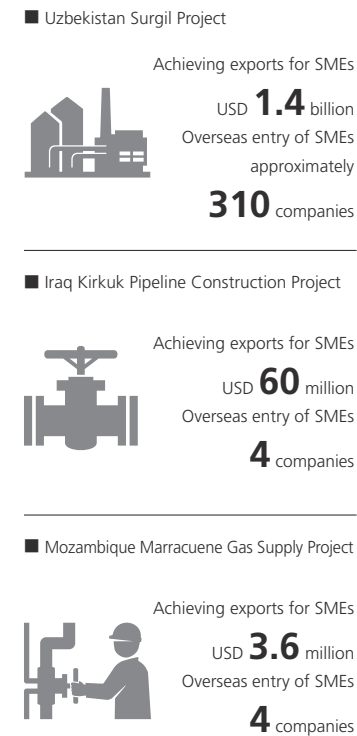


Performance of Initiating Shared Growth

Strengthening Technological Competitiveness

KOGAS is developing new products in cooperation with SMEs and localizing major components of gas facilities. KOGAS supports small-and medium-sized companies with technical development cost and site operation experiences, which, in turn, develop major components for gas facilities with their own technologies. Thanks to this cooperation, KOGAS was able to reduce the procurement cost for foreign products and improve the facility performance, laying the foundation for a stable supply of natural gases. Small-and medium-sized companies can now secure technological competitiveness and explore new business channels, thus improving the management income. In 2015, a total of 22 projects based on cooperation for proprietary technological development were carried out including six new cases and six small-volume ones. A total of 11 public-private joint investment-based technological development projects were implemented including two new projects. Success in the project of 'Localized Development of OTMS (Optical fiber Temperature Measurement System) for km Measurement' led to the winning of the grand prize at the 2015 Korea Good Company Award organized by Moneytoday and the grand prize at the 2015 CSR Korea Award presented by Sisa Today. Moreover, one-on-one mentoring is in place between the KOGAS R&D Center and small-and medium-sized companies involved in technological development cooperation projects in order to help the companies overcome hardships. KOGAS provides an experiment service using its own equipment along with recent academic trends and technical information. SMEs acquire costly high-performance equipment to be capable of conducting performance testing, and learn practical techniques through one-point lessons. We selected four short-term bottleneck techniques and helped SMEs address them through technical guidance.

Performance in Joint Overseas Projects

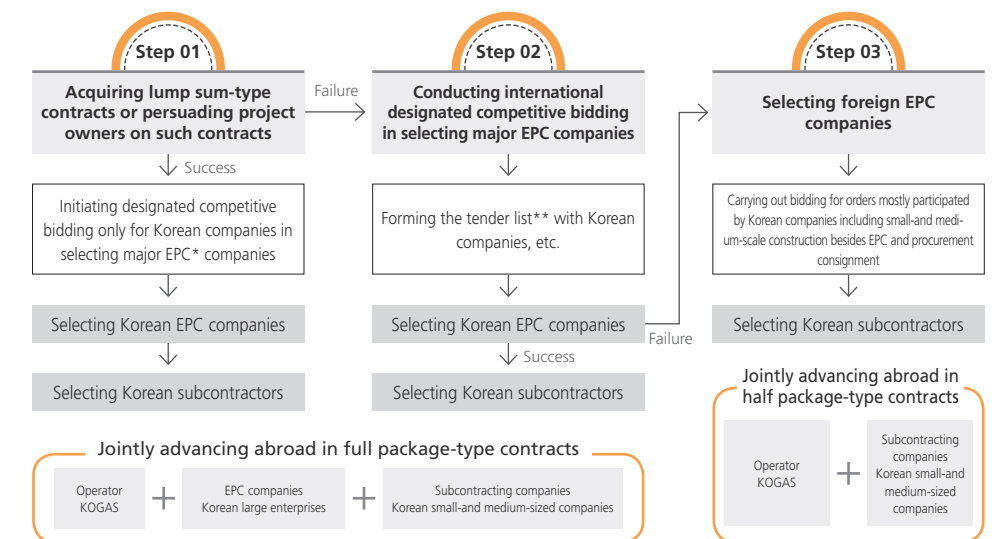


Intensifying the Discovery of Sales Channels

Joint Advancement into Overseas Projects

KOGAS is supporting SMEs to enhance global competitiveness by helping them to make inroads into overseas markets with high entry barriers due to their low recognition base and a small number of project experiences. We developed and applied the 'Kangaroo Export Project', a strategy for package-type joint advancement to overseas markets. This is a three-step strategy for package-type joint overseas advancement to remove the existing constraints hampering Korean SMEs to acquire subcontracting contracts even if they acquire projects abroad. We successfully advanced abroad with them in projects including the Surgil Project in Uzbekistan, the Kirkuk Pipeline Construction Project in Iraq and the Marracuene Gas Supply Project in Mozambique. Such efforts opened up opportunities for exploring overseas sales channels and secured self-sufficient driving engines for overseas projects.

Kangaroo Export Projects



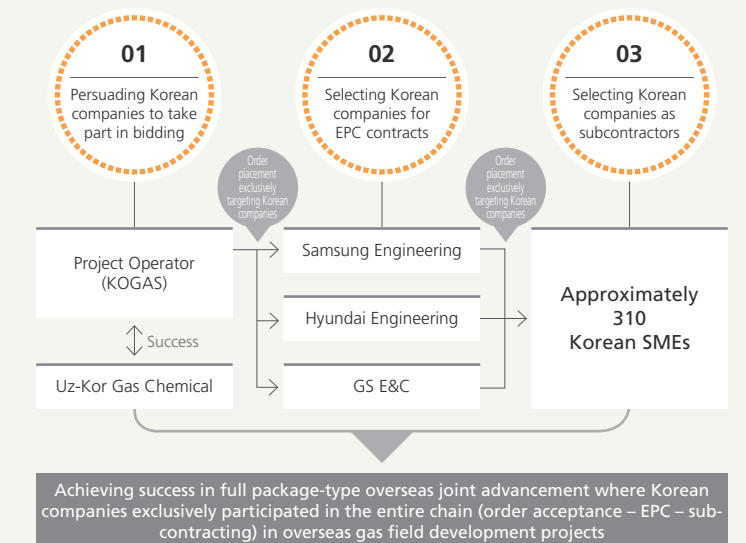
*EPC: engineering, procurement, construction ** Tender list: A list of tender participating companies

Best Practice >>

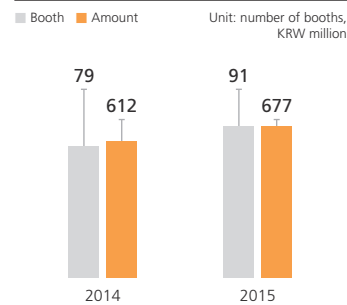
| Surgil Project in Uzbekistan |

KOGAS acquired the business right to develop the Surgil Gas Field (reserves of 130 million tons) in Uzbekistan and construct and manage the chemical plant, proceeded with its development, and completed the construction in September 2015. The project is a prime example where Korean companies exclusively managed the entire gas field development project, enabling 310 Korean SMEs to successfully advance abroad and creating jobs for 1,350 people. The participating SMEs of Korea took part in the KRW 1.4 billion-project and generated the effect of raising exports, which take up 70% of the entire project. Furthermore, local Uzbek companies built up trust for the participating SMEs, securing records for participating in overseas bidding and paving the way for self-sufficiency in overseas advancement.

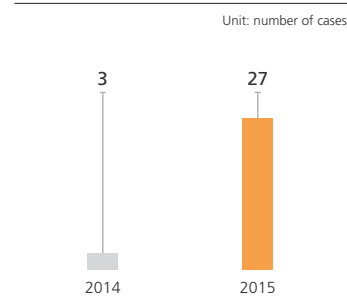
Strategies for Joint Advancement Abroad



Performance of Marketing Support (records of supporting exhibitions)



Performance of Marketing Support (number of orders received)



Marketing Support

Korean SMEs confront a harsh reality where advancing into a new market is challenging due to low brand recognition in the overseas gas market. KOGAS is maximizing product sales of suppliers through overseas promotional activities using its brand power. We installed a promotional pavilion for SMEs with KOGAS' brand in large-scale international gas industry conferences and exhibitions, and gain the trust of buyers by introducing small-and medium-sized suppliers as KOGAS' trading partners in technical areas. We produce brochures to introduce their products and company, inducing the interest of buyers who visit KOGAS' pavilion, while striving to realize matchmaking between sellers and buyers in order to crystalize the efforts into tangible results. KOGAS' Shared Growth Pavilion was formed participated by a total of 10 partners/suppliers of KOGAS at Gastech 2015, the largest international conference on natural gases. The pavilion provided services to sign or negotiate on export contracts. We also extended help for potential buyers to form a network by enabling seven companies to participate in the 26th World Gas Conference, eight in the 2015 Environment & Energy Tech (Entech 2015) and 17 in the 2015 Asia Pacific Gas Conference.

Strengthening Corporate Productivity

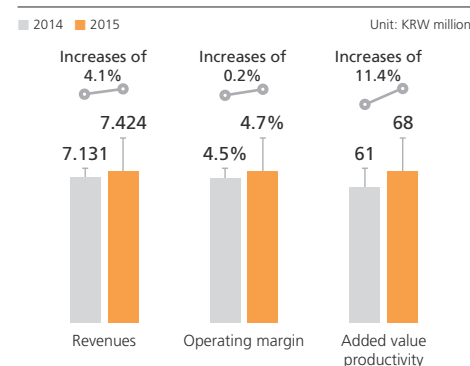
Productivity Enhancement Supporting Program

KOGAS provides consulting in all sectors including a technical process at the sites of SMEs through the project of supporting partners for productivity innovation and the project on the Industry Innovation Movement (IIM). The purpose is to support SMEs' productivity enhancement in the natural gas sector. Productivity innovation partnership for small-and medium-sized suppliers is a project to increase the productivity of primary suppliers. To this end, we diagnose and improve management systems and manufacturing sites, innovate the management process, and consult on production management technologies. KOGAS implements a quality competitiveness buildup program encompassing all levels of suppliers – primary, secondary, and tertiary ones – so that the effects of productivity innovation are not confined to primary suppliers but also to secondary and tertiary ones. A total of five companies participating in the program in 2015 were involved in 13 projects, enjoying their average operating margin up 4.4%, average revenues up 0.2%p and the value added productivity up 11.4% from the previous year. A total of approximately KRW 660 million was gained as financial performance. The project for the Industry Innovation Movement (IIM) is to support SMEs' productivity innovation activities by providing customized consulting services depending on the outcome of SMEs' on-site diagnosis. Such services include improving the site environment, innovating management and process and resolving drawbacks in production technologies.

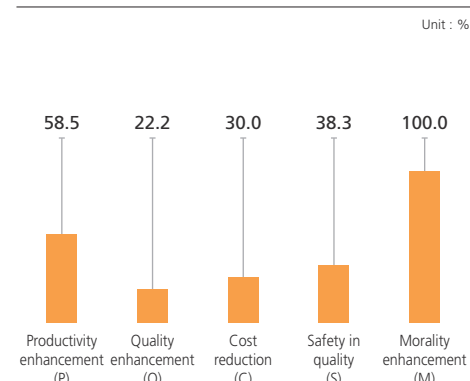
Productivity Innovation Partnership Supporting Programs

Area	Services Covered
Three-dimensional site diagnosis	Precise diagnosis for three areas – management systems, manufacturing sites, and production technologies
Management process innovation	Support for on-site corporate management process innovation
Improvement of manufacturing sites	Initiation of improvement activities using manufacturing innovation methodologies
Support for production technologies	Acquisition of production technologies to ease drawbacks in manufacturing and processes
Training on productivity innovation	Implementing training on the productivity innovation learning program

Performance of the Productivity Innovation Partnership Supporting Project



Improvement Rate by Type of Project in the Industry Innovation Movement (IIM)



Training of Employees at Small-and Medium-sized Suppliers

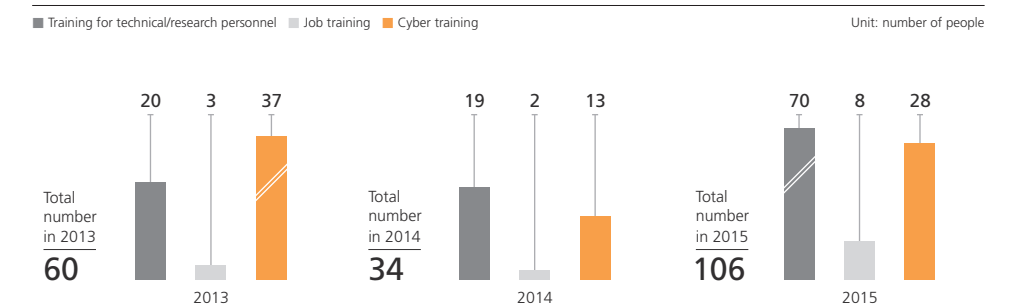
Competency Build-up Training for Employees of SMEs

KOGAS is aware of a lack of opportunities to participate in training due to a weak management environment and shortage of institutions in small-and medium-sized suppliers. We offer various training and consulting programs to increase their job competency and practical skills on production sites. We opened training programs and facilities targeted at our employees to those in the SMEs so that they could take advantage of them. We also help them better understand natural gases and enhance their practical skills through site tours of production and supply facilities in the natural gas industry.

Training Programs for Employees in Small-and Medium-sized Companies

Title of Courses	Outline	Training Course	Methodology
Training of Technical/ Research Personnel	Transferring the site-oriented understanding of facilities and facility maintenance know-how to technical/ research personnel in small-and medium-sized suppliers	Site tours of terminal divisions and basic training on OJT, production and supply facilities for small-and medium-sized suppliers with facility operators of KOGAS	Full-time on-site OJT and three-day and two-night training sessions, etc.
Job Training	Expanding research facilities and educational content of KOGAS to employees of SMEs	Opening 13 IT courses including CAD and Excel, presentations and content creation	Three-day and two-night or four-day and three-day training sessions (training at the R&D Center)
Online Training	Opening the online educational system for KOGAS employees to those of SMEs	35 training courses including IT, leadership, and job skills	1~2 month-long courses (online courses)

Performance of Training for Employees at Small-and Medium-sized Suppliers



Shared Growth Council

Creation of a Culture for Shared Growth

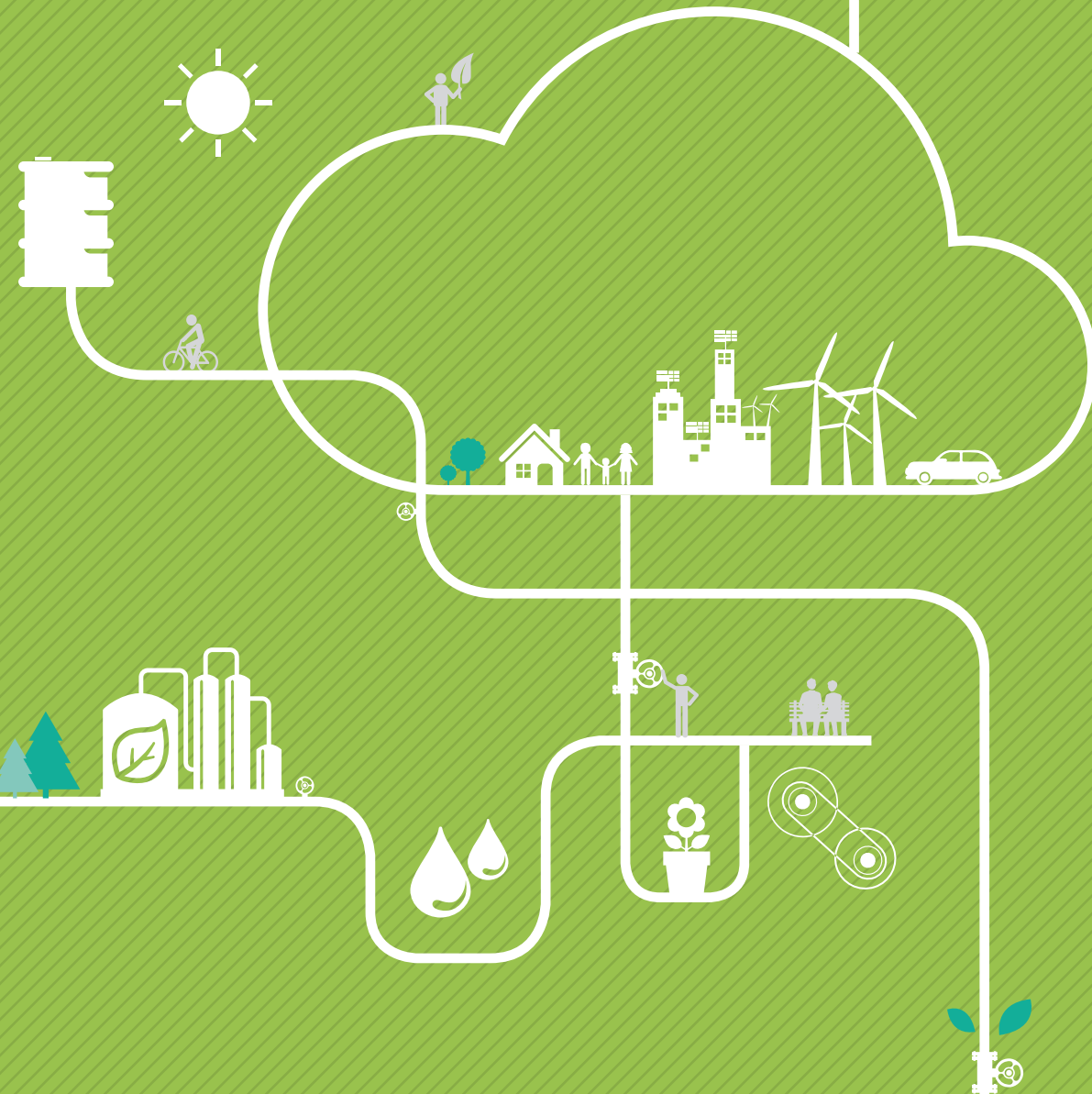
Strengthening Communication with Small-and Medium-Sized Suppliers

KOGAS operates multiple communication channels for shared growth to identify diverse needs of suppliers and fulfill the needs of suppliers. The Shared Growth Council meetings are held twice a year to negotiate on shared growth policies with small-and medium-sized suppliers and gather their feedback. Meetings with their executives are organized once a month to improve supporting policies by gathering their feedback. The Win-Win Management Council meetings are held for each construction site nationwide to forge win-win cooperation between project owners and prime contractor/subcontractor. Executives and department heads of KOGAS visit sites of small-and medium-sized suppliers to listen to challenges and suggestions of SMEs, and put them into action or reflect them to long-term shared growth policies depending on the level of urgency. We also run the bulletin board for problems or suggestions in the online SME Shared Growth Center to collect their opinions in real time, align them to related departments, and find solutions.

Addressing and Supporting for Problems of Small-and Medium-Sized Suppliers

KOGAS strives to ease the burden of SMEs by gathering feedback of suppliers. In 2015, issues that topped the agenda at the Shared Growth Council meetings are as follows: categorizing suppliers and managing them by functionality to enhance efficiency in managing the council; and covering the cost generated abroad in covering cost for new product/technology certification. KOGAS categorized the council into six groups by proactively gathering feedback, and started activities for each group. We expanded our financial coverage for overseas certification cost for a new product/technology. We also accepted a request for technical staff of SMEs to have a tour in KOGAS' facilities to supply gas equipment, and conducted a tour for equipment in LNG terminal divisions and an onboard tour of LNG carriers.

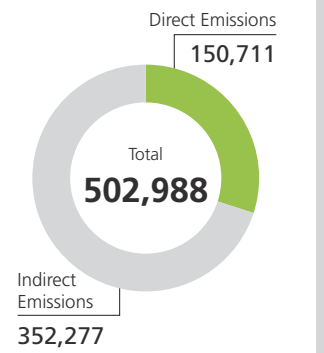
A Sound Environment with KOGAS



Reasons Why Such Issues are Important to KOGAS

Interest in climate change and demand for a clean environment are on the rise globally. Interest in natural gases as a critical means to respond to climate change is gaining greater attention because sulfur, nitrogen, and dust are removed in the process of liquefaction, generating almost no pollutants. They are clean fuels with little GHG emissions. Issues of climate change and the environment are critical ones directly impacting the demand for natural gases and KOGAS' projects. They are safer than other fuel sources, but safety is the most important issue since when an accident occurs involving any of them, it would lead to a massive-scale one.

Performance of KOGAS



GHG Emissions
(Unit: tCO₂e)

Approach of KOGAS

In order to identify opportunities for climate change response and environmental risks and practice eco-friendly management, KOGAS establishes a system to continuously adopt facilities that use new and renewable energies and to preemptively respond to climate change. We also induce energy reduction by carrying out activities to improve energy efficiency at the corporate level, and discover emission reduction projects by proactively responding to the carbon emission trading scheme. As such, we fulfill our responsibilities for our future generation. We have also established a management system to manage safety, health, and environmental issues in an integrated manner. The EHSQ management system has been designed and operated to comply with domestic and global standards as we have acquired the following certifications - ISO 9001, ISO 14001, OHSAS 18001, and ISO 29001. Such efforts have served as the basis to minimize on-site risks and enhance productivity. We strive to achieve our goals by sharing action plans corporation-wide in order to sophisticate the EHSQ management system and enhance the level of the safety culture.



KRW **30,403** million

Cost for Environmental Activities

Promises of KOGAS

- We will practice safety management in accordance with the roadmap for improving the safety level over the mid- to long-term.
- We will select GHG reduction projects and related activities to dynamically respond to the emissions trading scheme and continuously lower the level of GHGs.
- We will carry out six core tasks based on the five-year plan for climate change response in order to reduce the GHG reduction target by 26.7% compared to the BAU of 2020 at the national level.



6.99

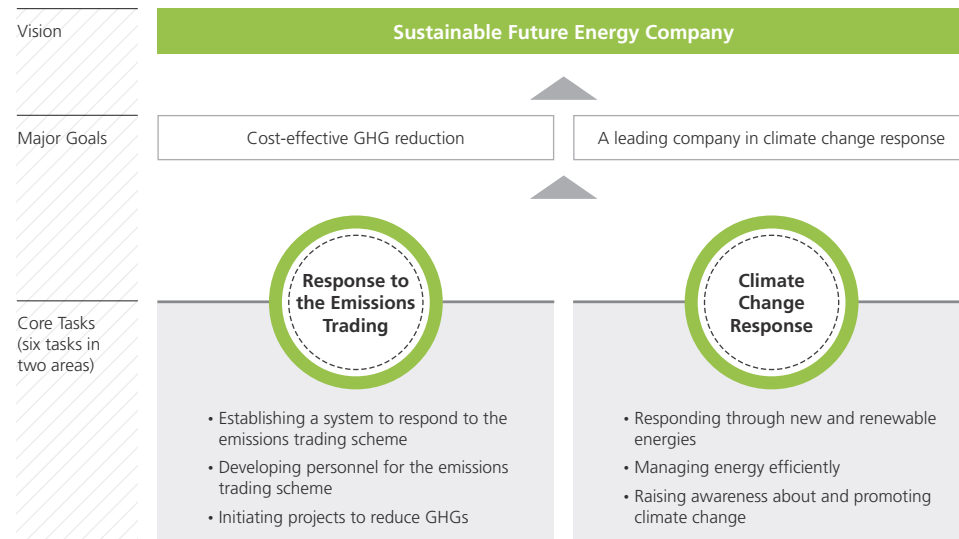
ISRS-C Index

Low Carbon Management

Low Carbon Management Strategies

KOGAS set a vision of becoming 'a sustainable future energy company', striving to establish its goals, that is, cost-effective GHG reduction and to become a leading company in responding to climate change. To this end, we have selected and initiated six tasks and 15 action items in two areas, namely, 'response to the emissions trading' and 'climate change response'. KOGAS' low carbon management strategies are decided and executed through the two-step deliberation process. The Climate Change/Energy Working-Level Committee consisting of heads of working-level departments in charge deliberate on pending issues on low carbon management. Then, the Climate Change/Energy Committee as the decision-making body comprised of executives devises final strategies and decide on critical matters on climate change response.

Low Carbon Management Strategies



Response to the Emissions Trading Scheme

In the emissions trading scheme, the government enables emissions activities of establishments emitting GHGs within an allowed scope by allocating emissions rights on a yearly basis, and evaluates their actual GHG emissions so that the emission right for an unused quota or a shortage is allowed to be traded between establishments. In 2015, KOGAS was designated as an eligible target company to fall under the emissions trading scheme. KOGAS was allocated with the emission right from the government for the primary planning period from 2015 to 2017. We do the best to reduce the GHG emissions to effectively respond to the scheme by exploring reduction projects, organizing best practice sharing seminars, and improving facilities. We fulfill our duties including submission of an emissions statement and the emission right on a yearly basis.



Heat Exchanger for Water Heating

Response to Climate Change

New and Renewable Energy Projects

We foster low-carbon energy projects to respond to the government's low carbon growth policies and secure new growth engines. We reduce GHGs and energy use by utilizing five types of new and renewable energy facilities, that is, PV, solar, geothermal and wind energies, and fuel cells. In particular, we pay attention to the adoption and commercialization of fuel cell facilities producing electricity and heat without a combustion process of emitting GHGs using natural gases. We adopted diverse new and renewable energy facilities to the headquarters building, 13 sites and gas supply facilities, and self-produce a part of the electricity internally used. The energy produced through new and renewable energies in 2015 stands at 1,288TOE, from which energy cost of approximately KRW 14.7 billion could be saved along with the GHG reduction effect of 66,366tCO₂e.

Current Status of Installing New and Renewable Energies

	Capacity	Sites (number of sites)
PV power generation	1,563kW	31
Solar energy-powered water heating system	615m ²	7
Geothermal energy (cooling)	405RT	2
Geothermal energy (heating)	414RT	3
Wind energy generation	16kW	5
Fuel cells	301kW	2



ISO 50001 Certificate



Fuel Cells in the Samcheok Terminal Division



DME Gas Station

Activities to Enhance Energy Efficiency

KOGAS adopted the Energy Management System (EnMS) in Incheon Terminal Division for the first time as a public corporation in 2011 to reduce GHG and systematically manage energy. The EnMS is an energy management system which can be implemented throughout an enterprise continuously under an integrated and systematic management strategy for energy efficiency enhancing activities for the organization to cut cost. We acquired the EnMS international certification from Korea Energy Agency (formerly known as the Korea Energy Management Corporation) for Seoul, Gyeonggi, Incheon, Gangwon, Chungcheong, Jeonbuk, Gwangju Jeonnam, Daegu, Gyeongbuk, and Busan Gyeongnam Regional Divisions. In 2015, we acquired the international certification for EnMS for Incheon, Pyeongtaek, Tongyeong, and Samcheok Terminal Divisions from Lloyd's Register Quality Assurance.

We established and manage an integrated management system of all the GHGs and energies (ECO2 View) which are emitted and used for the production and supply of natural gases on all sites. We have adopted a system to monitor the amount of energy used on a pilot scale in real time in order to induce energy reduction, which is used for various analyses.

New Energy Technologies

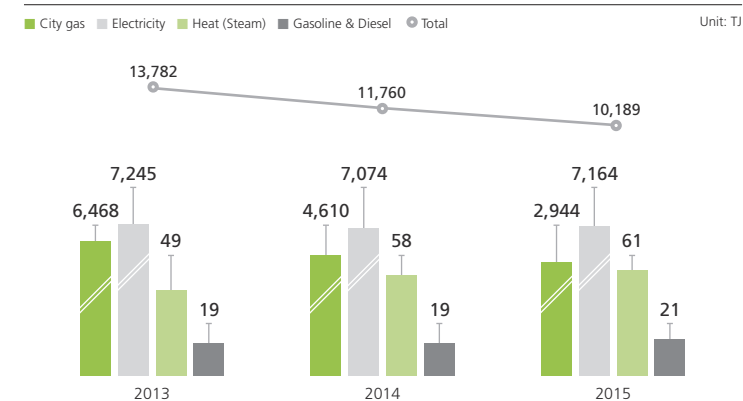
Hydrogen Fuel Cell Project

A fuel cell is a new and renewable energy equipment, being eco-friendly and highly efficient. It produces electricity and heat at the same time by converting a natural gas into hydrogen and having it respond to oxygen in the air. We are developing residential fuel cells and dozens of kw-level fuel cell-targeted fuel treatment devices to establish the basis for distributing fuel cells for buildings. We are establishing the basis for commercialization through higher performance and durability and price reduction. Moreover, we are researching on the large-scale hydrogen production technology including hydrogen stations supplying hydrogen to fuel cell-powered vehicles. We are now working on a project to distribute 100,000 resident fuel cells as a part of the 2020 One Million Green Home Project.

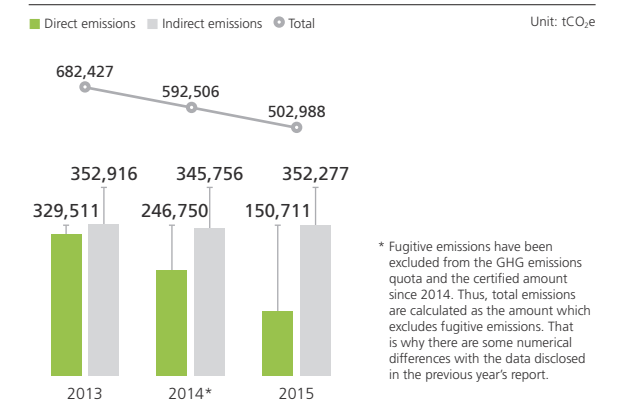
Pilot Distribution Project for DME-LPG Mixed Fuel

Dimethyl ether (DME) has a similar physical property with LPG, so the clean fuel can be mixed with LPG for usage. Its cetane number is similar with that of diesel, so if it replaces diesel, it would emit little nitrogen oxide, dust, and CO₂ in to the exhaust gas. That is why it is being spotlighted as a next-generation green energy. KOGAS has source technologies for all the processes of producing DME from natural gases, and has secured a basic design for constructing a commercial plant. For distribution of DME in Korea, applicability research is being conducted through the government's 'pilot distribution project of DME-LPG mixed fuel'. In 2015, a test facility to analyze the economic feasibility of DME was completed in Gwangju. It can now supply heat being necessary for various vegetable and crop seedlings using two large heat blowers which use DME as fuel for the next two years. We can now conduct small-scale distributed power testing where one 35kW-level combined heat and power generator is used to directly produce necessary electricity.

Amount of Energy Usage



GHG Emissions

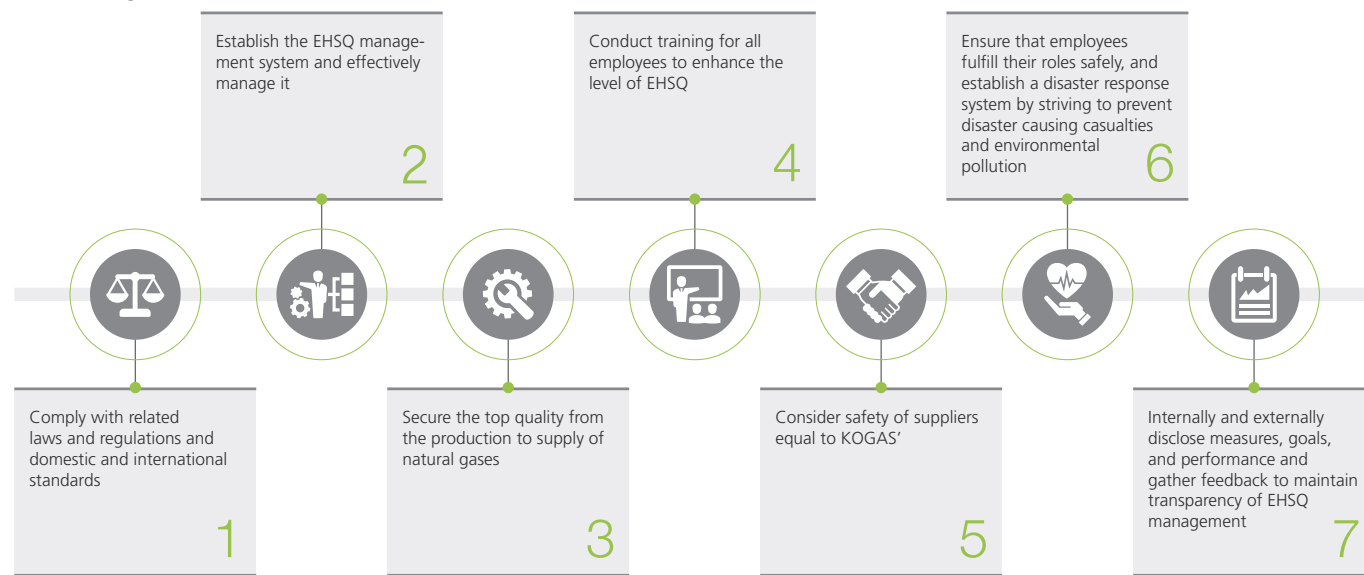


Environmental and Safety Management

EHSQ Management System

We efficiently and comprehensively manage safety, health, environmental and quality issues to minimize on-site risks and enhance productivity. Such activities take place based on the EHSQMS (Environment, Health Safety & Quality Management System), which is adopted as a core instrument for management activities. By doing so, we create a safe and pleasant environment by continuously improving and preventing related misdeeds. KOGAS considers its EHSQ management goal to pursue higher health and quality of all employees and the public, and provide excellent quality and services catering to customer needs and expectations.

EHSQ Management Measures

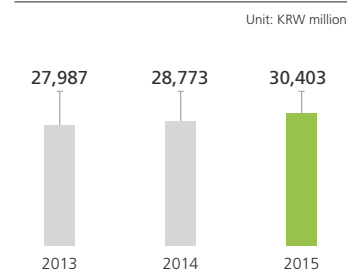


Certification for the Environmental Management System

Environmental Management

KOGAS sets more stringent levels than the statutory ones for emitting pollutant substances into the air and water, etc. on production sites, and dynamically manages them. Environmental load data generated on sites is managed on a monthly basis, which is registered in the Environmental Information Disclosure System run by the Ministry of Environment and disclosed to the public. Moreover, we voluntarily evaluate environmental feasibility by avoiding passive actions to simply comply with statutory responsibilities and regulations, and take actions for improvement plans to be taken. Two sites – the Incheon Terminal Division and Pyeongtaek Terminal Division – were designated as green enterprises and are managed accordingly. As such, we strive to establish an autonomous environmental management system on sites. Meanwhile, we have developed our own criteria for calculating environmental activity cost and calculate environmental cost in each scope of four activities: pollution prevention activities, pollution treatment activities, stakeholder activities, and legally responsive activities.

Environmental Activity Cost per Year



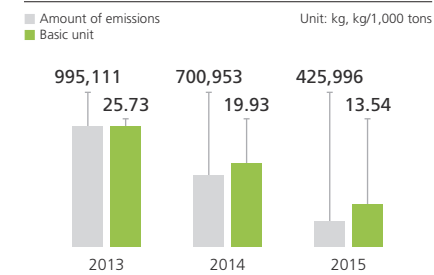
Environmental Activity Cost

Category	Definition	2013	2014	2015
Pollution prevention activities	Cost of consigned treatment of environmental pollutants including water quality and waste treatment	2,233	1,935	1,397
Pollution treatment activities	Facility investment, environmental activities, environmental training, and R&D cost, etc. to fundamentally remove the environmental impact	24,894	24,047	28,819
Stakeholder activities	Local eco-friendly projects, support for environmental organizations' events, advertisements on the environment, etc.	749	2,669	88
Legally responsive activities	Environmental improvement charges, environmental charges, fines for violation, etc.	111	122	99
Total		27,987	28,773	30,403

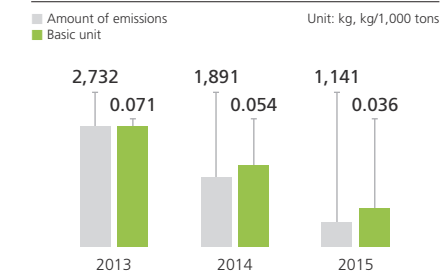
Air Pollution Management

Major facilities emitting air pollutants among our production and supply facilities include the Submerged Combustion Vaporizer (SMV), gas heaters, boilers, and HVAC. The facilities are in operation to minimize the emission of these polluting substances as they mostly emit pollutants such as NOx and Sox. Combined heat and power facilities are operated within 75ppm, which is half the statutory domestic air environment level of 150 ppm. Concentration level and flux of NOx is monitored and controlled in real time through the TMS (Tele-Monitoring System) installed in chimneys.

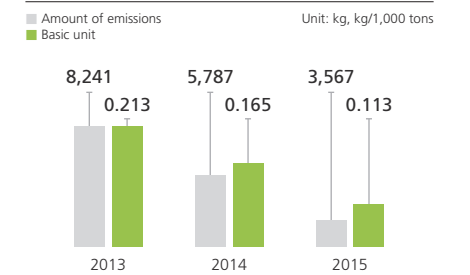
NOx Emissions



SOx Emissions



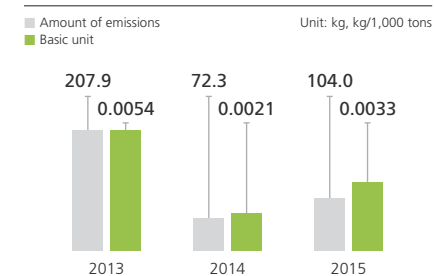
Dust Emissions



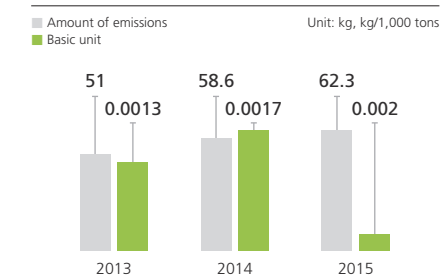
Water Pollution Management

The Pyeongtaek, Incheon and Samcheok Terminal Divisions located on the coastal line discharge the domestic sewage into a river or sea after purifying it at sewage treatment facilities. The household sewage of the Tongyeong Terminal Division and production management offices of regional divisions is channeled into terminal treatment plants for treatment. The concentration level of pollutants in the discharged water is managed within the scope of the statutory level (20 ppm). As for the wastewater generated from the natural gas production process, the amount of water used is minimal due to the nature of the process, thus having such a little impact on the water environment. The Incheon Terminal Division, in particular, is equipped with a water treatment facility and an oil treatment facility. Other sites generate no water pollutants because the water injected into all the processes is circulated within the facilities. Moreover, the seawater entering into an open rack vaporizer (ORV) in the LNG gasification process is discharged into the coast without any environmental impact after being used for heat exchange.

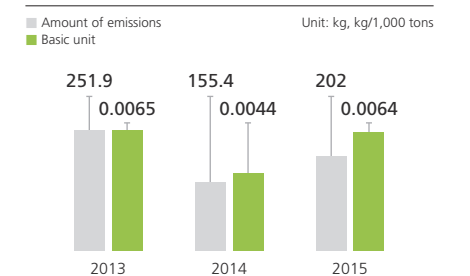
BOD Emissions



COD Emissions



SS Emissions



Amount of Waste Emissions

Item	Unit	2013	2014	2015
Amount of emissions	tons	391,502	397,662	297,145
Basic unit	tons/1,000 tons	10.10	11.31	9.45

Amount of Hazardous Chemicals Used

Item	Unit	2013	2014	2015
Amount of use	kg	355,060	168,614	261,049
Basic unit	kg/1,000 tons	9.18	4.79	8.30

Waste Management

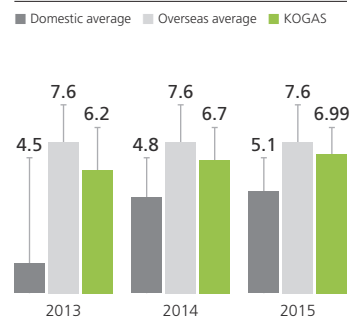
We stringently apply the treatment standards above the statutory levels prescribed in related laws on the waste generated from sites. We ensure that waste treatment companies are periodically guided and inspected so that waste generated from sites could be appropriately treated.

Management of Hazardous Chemicals

Major hazardous chemicals used on sites include sodium hydroxide (NaOH) and hydrogen chloride (HCl). They are used to adjust the level of pH within water tanks of the Submerged Combustion Vaporizer (SMV) which serve as LNG gasification facilities. We conducted a research on measures to reduce SMV neutralizers to reduce the amount of chemicals used. Hazardous chemicals used are managed according to legitimate procedures without leakage.

Safety Management

ISRS-C* Index



*ISRS-C (International Safety Rating System-Culture): A safety culture surveying technique developed by DNV and applied worldwide

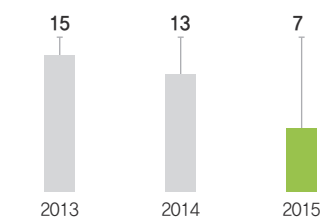
Gas Accidents



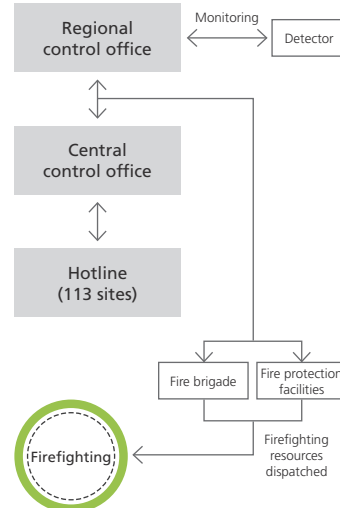
Zero case for three consecutive years (2013~2015)

Disaster Occurrence on Sites

Unit: number of cases



Emergency Response System



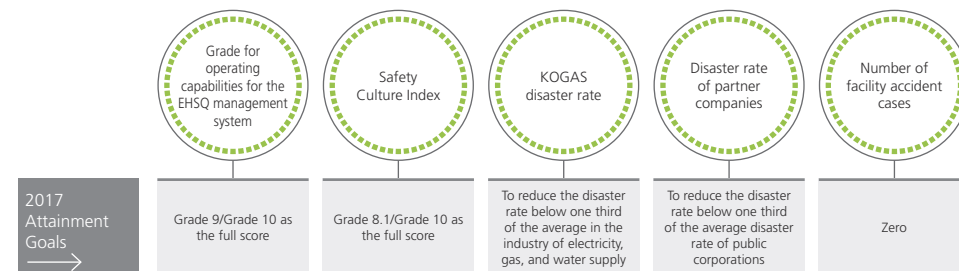
Mid- to Long-Term Safety Level Improvement Roadmap

We conduct comprehensive safety management across the company based on our vision for safety management and corresponding directions. We have selected action plans based on the long-term safety level improvement roadmap including advancing the EHSQ management to be of world class, leading the efforts to prevent disasters in the same industry, improving the Safety Culture Index, and reducing the disaster rate for suppliers, and monitor the performances.

Safety Management Strategies



Safety Level Improvement Roadmap



Reviewing Actions for Safety Management

In order to achieve continuous long-term safety management by improving safety awareness among all employees, we adopt a site-oriented safety culture where safety is the norm in every day work with a strong commitment of the CEO. Disasters are dramatically reduced through site-oriented safety management activities including site inspection against a period when things are vulnerable safety-wise, and random check. A special safety inspection takes place in partnership with related institutions including an outside expert group and Korea Electrical Safety Corporation, to prevent gas accidents and industrial accidents. Moreover, inspection is on safety management in suppliers to reduce the number of disasters on construction sites, and hold points are designated for high-risk work, thus paying close attention to preventing safety accidents.

Emergency Response System

We have established a prompt and systematic disaster response system to protect the life and assets of the public and minimize damage when a disaster is expected or occurs. Gas facilities are monitored 24/7 through the central control office in the head office, nine regional control offices, and central control rooms in four terminal divisions. Safety systems are in place including fire protection facilities including fire extinguishers and alarm devices, and passive systems, and total traffic control to manage anti-disaster facilities. A hotline is in place with related institutions including local governments, fire stations, and police stations to establish a cooperative system. Emergency drills continuously take place according to the action manual for sites in each sector including disasters and cyber terrorist attacks in Korea or abroad in order to enhance countering skills when a disaster occurs.

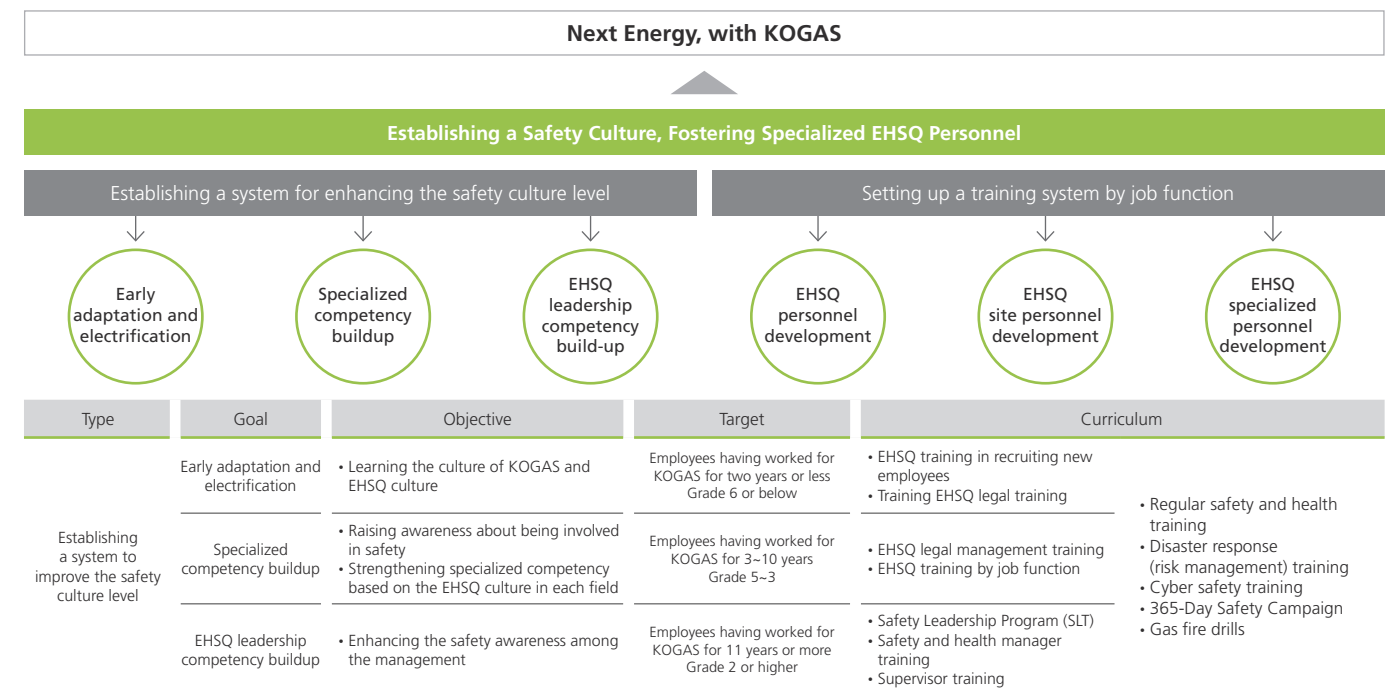
Content Covered at the Gas Fire Training Center

Type	Key Topics
Theoretical course	Basic theories including the nature of LNG and videos of overseas fire drills, etc.
Experiential course	Fire evacuation drills, experiential drills for emergency machine, and training on cardiopulmonary resuscitation, etc.
Outdoor course	Fire control training, and gas valve shutdown training, etc.

Safety Awareness Improvement Activities

We conduct training to improve employees' safety awareness to strengthen the level of a corporation-wide safety culture. Their capability to perceive risk factors is enhanced through 'Safety 365 POP-UP' and 33 training courses including 'EHSQ On-site Practice' have been opened. So far, 301 employees completed in-house and outside training courses. Executives run the Safety Leadership Enhancement Program and the weight of disasters is revised upward to be reflected in the internal performance evaluation of team directors or above. We fulfill our social responsibilities for disaster safety: conducting Safe Korea drills organized by the Ministry of Public Safety and Security aligned with the national disaster management system; conducting joint disaster response drills organized among related agencies; implementing monthly inspections for the video conferencing system in the Disaster Control Center; and video conferencing via the national mapping network. Meanwhile, we run the Gas Fire Training Center, that is, a training center for gas-induced fire outbreaks for the public including those involved in the natural gas industry, preventing such fires in through simulated fire outbreak experiences and practical firefighting drills. In 2015, 650 KOGAS employees and 88 employees of outside companies took training through the training center.

EHSQ Training System



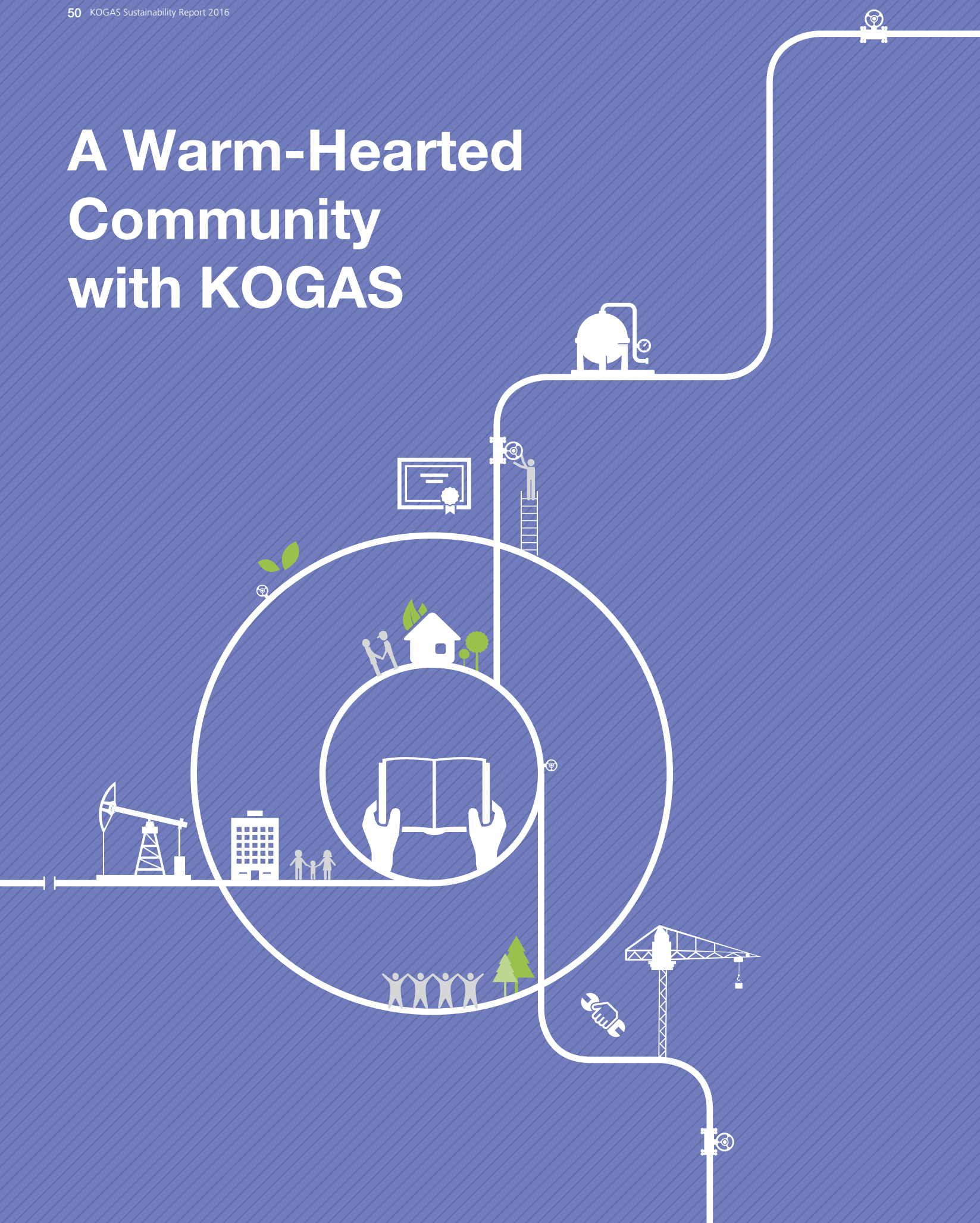
Anti-Smoking Class

Employees' Health Management

KOGAS creates a pleasant working environment by identifying health-related risks upon working on sites. We have established a health management system to prevent industrial disasters and occupational diseases by improving all employees' health. We strive to create a pleasant and healthy workplace culture by systematically managing individuals' safety and health: health management, Globally Harmonized System's Material Safety Data Sheet (GHS MSDS), health exposure assessment, and Personal Protective Equipment (PPE). Latest material safety data are collected to write the GHS MSDS, and training is organized on counter actions against fire and leakage for employees of KOGAS and suppliers. The GHS MSDS is placed on sites to be highly visible, thus informing of and spreading health and potential risks in advance.

We run the Industrial Safety and Health Committee to secure safety and health of members while securing a safe workplace in order to deliberate and decide on matters in each item of Article 19.2 of the Industrial Safety and Health Act. We strive to come up with rational solutions by seamlessly easing differences of opinions among the labor and the management. Yearly health check-up is carried out for employees' health management, while in-house health management clinics and designated medical clinics are in place. We have a wide range of welfare plans to improve employees' health and foster their cooperative spirit: semi-annual sports events and mountain climbing, various welfare facilities including tennis courts, fitness centers and table tennis rooms, and health-related club activities.

A Warm-Hearted Community with KOGAS



Reasons why Such Issues are Important to KOGAS

KOGAS believes in the starting point of sustainability, that is, fulfilling responsibilities as a corporate citizen through corporate management activities contributing to the national economy and livelihood of the public, and returning of corporate profits to the society. Yet, we do not consider local contribution activities simply from the perspective of support or charity. KOGAS, its community and neighbors are the subjects to grow alongside one another. We exert unceasing support to its community by dynamically communicating with it and identifying mutual needs. We also cooperate with our community as we consider that ensuring win-win growth amid cooperation, support and trust form accountability as a public corporation and the start of sharing values.

Approach of KOGAS

We strive to become Korea's representative national enterprise respected by people by fulfilling social responsibilities as a public corporation. To this end, we run projects to enhance energy welfare for the public by utilizing the nature of our business and practice social contribution activities suited to local circumstances of each site. Dynamic social contribution activities are underway at home and abroad: 'Onnuri Love Project' supporting energy welfare for the socially underprivileged; 'Onnuri Hope Project' to develop future generations and enhance public interest; 'Onnuri Harmony Project' forging trust with communities and global citizens; and 'Onnuri One Heart Project' for spreading the culture of sharing in KOGAS' style. With the relocation of the head office of KOGAS to Daegu, we started to take an interest in the socially vulnerable in Daegu, and we are extending corresponding support as we take the lead to revitalize the local economy.

Promises of KOGAS

- We will newly adopt social contribution projects which generate a demand for city gas: conducting fuel cell pilot projects to social welfare centers upon implementing the Onnuri Heat Efficiency Improvement Project, and supporting to install inlet pipelines for city gas.
- We will establish and implement comprehensive measures for win-win cooperation with Daegu and revitalizing its economy; fostering the local industries, engaging in social contribution, developing talents, and recruiting local talents.
- We will form a proprietary group (establishing a foundation) to play central roles in social contribution activities suited to the construction scale over the medium and long term.
- We will initiate R&D in gas technologies in partnership with local universities, while facilitating procurement of products from companies from Daegu through limited competitions, etc.
- We will contribute to a fund for shared growth for financial support for technological development in order to achieve win-win cooperation with SMEs in the region.
- We will expand scholarship programs so that poverty is not passed down to the next generation for the socially underprivileged in the region.

Performance of KOGAS



Low income class
57 households
Social welfare centers
102 centers

Heat Efficiency Improvement Project



KRW **120** million

Donation of Onnuri Gift Certificates

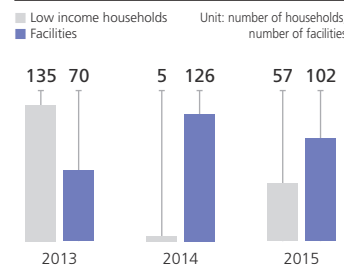


KRW **1,136** million

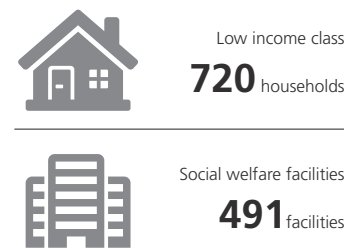
Community Support

'Onnuri' Social Contribution Activities

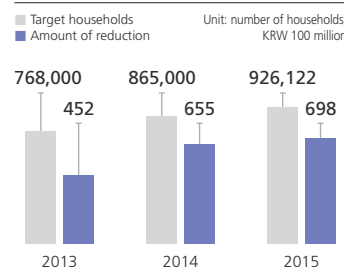
Heat Efficiency Improvement Project (yearly performance)



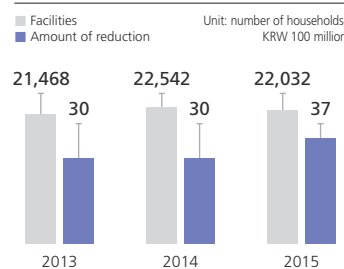
Heat Efficiency Improvement Project (accumulated performance as of 2015)



Gas Tariff Reduction Project (the socially underprivileged)



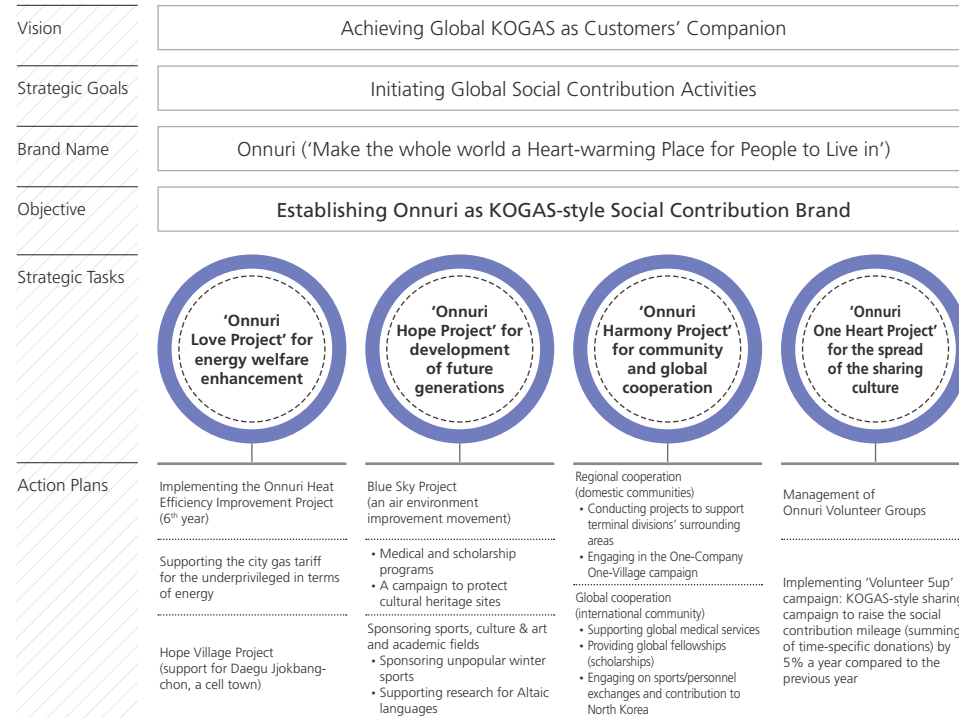
Gas Tariff Reduction Project (social welfare facilities)



Social Contribution System

KOGAS is engaged in strategic social contribution activities which reflect the nature of its business as a public corporation and the government's policy frameworks. Various activities are underway through 'Onnuri' – the KOGAS-style social contribution brand. By doing so, we wish to guarantee energy welfare for the underprivileged and spread the culture of sharing.

Social Contribution System



Onnuri Love Project

Heat Efficiency Improvement Project

KOGAS is carrying out the 'Onnuri Love Project' to enhance public benefits by expanding energy welfare projects aligned with the nature of its business. The Onnuri Heat Efficiency Improvement Project that has been steadily carried on from 2010 is operated through the budget of KRW 2 billion a year for various activities. Through the project, heating efficiency is improved through floor heating in low income households and social welfare facilities, heat insulation in walls and replacement of windows and flooring or wallpaper, while supporting the installation of inlet pipelines for city gas. We conducted the Heat Efficiency Improvement Project for 57 low income households and 102 social welfare centers in 2015. We also supported the city gas pipeline installation for 15 households and facilities. Welfare centers and local governments took part in selecting target recipients and providing services in order to raise benefits for recipients. The project also contributed to job creation by enabling 33 social enterprises to take part in the construction process. Moreover, we give out heating devices to the elderly living in the cell town in Daegu under the Hope Village Project, contributing to making the world a more heart-warming place.

Gas Tariff Reduction Project

We carry out a project to support heating fees for our neighbors struggling from a shortage of heating fees in order to improve the quality of life and achieve energy welfare for the underprivileged. In 2015, gas tariff reduction benefits of KRW 69.8 billion were provided to 926,122 underprivileged households along with KRW 3.7 billion to 22,032 social welfare facilities. Targeting basic livelihood income recipients and the lower income group, we strive to extend helping hands to more neighbors by suspending the supply cut even if their gas tariff is not paid during winter.

Onnuri Hope Project

KOGAS enhances the public value by supporting projects of public interest, and develops future generations through educational support. While sponsoring scholarships of high school and university students from underprivileged households, we generate synergies for learning support for childcare centers in the region aligned with a volunteer camp for sharing knowledge of scholarship students. Moreover, rehabilitation assistance devices are given out to children and adolescents with disabilities. We also conduct a community diagnosis in rounds for areas with little accessibility to medical services in partnership with Seoul National University Bundang Hospital. Each site conducts activities to protect cultural properties semi-annually, conserving them and engaging in environmental clean-up for 27 cultural properties around our sites nationwide. The Blue Sky Project launched to inherit the blue sky to our future generations has been conducted since 2005, which takes the lead in improving the air environment in a large city. For instance, the project conducts the air environmental survey with civic organizations and local governments, provides training on the environment for youths and installs solar power generation facilities in libraries.

Onnuri Harmony Project

The Onnuri Harmony Project is a program for social contribution to build trust with local residents in our community and global sites. Informal welcoming encounters are organized between sites and their regional residents, contracts are signed between sites and their region through the One-Company and One-Village initiative, and customized supporting programs are in operation. With the relocation of the head office to Daegu, social contribution activities along with activities to revitalize the local economy are carried out in Daegu. Related details are available on p.54~55 in the report. Meanwhile, we initiate favorable exchanges with local residents by carrying out global contribution projects beyond the domestic projects. Such efforts have a positive impact for us to proceed with developing overseas resources and for related companies to make inroads into the global market. We construct elementary schools in Mozambique, giving out supplies for learning including desks and chairs. We built local technical training classes to foster skills in welding and machinery in order to establish a proprietary self-empowering system. We will fulfil social responsibilities as a global energy enterprise by expanding consensus with local residents, continuously exploring global contribution projects which can strengthen their self-support competency instead of merely providing one-time benefits.

Onnuri One Heart Project

We carry out region-friendly social contribution activities by managing the Onnuri Volunteer Groups launched in April 1999. The Onnuri Volunteer Groups of KOGAS consists of seven teams in the head office and 13 branches of business divisions. We spread volunteering leadership by engaging in volunteering programs including the matching grant to support the underprivileged using the fund raised by employees, conducting family volunteering on weekend and sharing gifts on traditional holidays. In 2015, we launched one-on-one sisterhood projects, volunteering in seven institutions through the sisterhood of one volunteering team at the head office and one welfare center. We started a mentoring project for middle school students from underprivileged households, providing diverse activities including counseling on career, learning and cultural experiences. Our engagement in voluntary charity work is gaining a wider range of consensus for social contribution. Specific activities include house repair work with university students, preparing kimchi for the underprivileged, free meal serving in shelters for the homeless, and sharing of books and rice. We conduct the 'Volunteer 5 up Campaign' every year so that employees could be encouraged to raise their social contribution mileage points by over 5% year on year. In 2015, per-capita social contribution mileage points recorded 39.91 points, up 37% from the previous year.

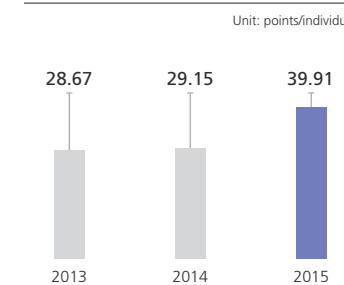
Constructing an Elementary School in Mozambique

Type	1 st year of improving the educational environment in Mozambique
Objectives	Constructing a local elementary school and providing school supplies
Project Period	2012-2015
Targets	Local residents and students
Amount Supported	KRW 660 million (4 years)
Achievements	School construction (March 2013): newly constructing classrooms and a playground, etc. Providing free school supplies: 1,300 desks and chairs

Mozambique Technical Training Class

Type	2 nd year of improving the educational environment in Mozambique
Objectives	Managing local technical training classes (piping and welding courses)
Project Period	2015-2019
Amount Supported	KRW 420 million (4 years)
Partner Organization	Korea Food for the Hungry International

Social Contribution Activity Mileage Points



Employees' Volunteering Activity in the Heat Efficiency Improvement Project



Scholarship Award Ceremony at KOGAS



Joint Volunteering with Public Institutions in the Innovation City of Daegu



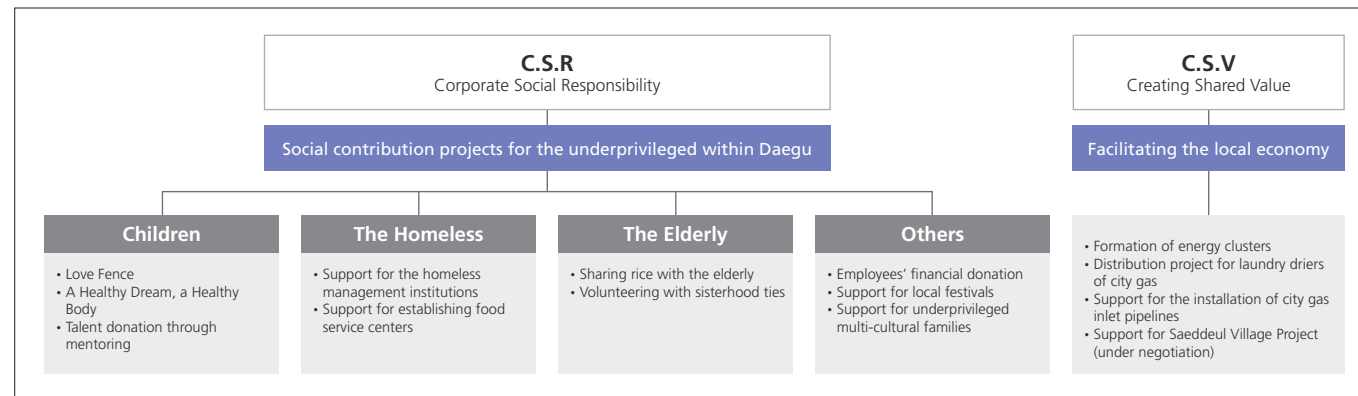
Volunteering During the New Employee Training Period in the Second Half of the Year

Contribution to and Engagement in Community

Local Region-Friendly Social Contribution

With the relocation of the head office to Daegu in 2014, we launched and execute a win-win cooperation platform to implement specialized social contribution activities catered to issues and needs of the Daegu community and to revitalize its economy. We set the directions for social contribution and talent development-focused support, considering the feature of the local region where the ratio of the underprivileged is comparatively high based on internal and external environmental analyses – government policies, current status of the community and internal competency. We plan to identify community needs through collaboration with its local government and expert agencies, and explore new projects. Our mid- to long-term goal is to develop the local industry and support SMEs in conjunction with the exploration of new projects involving new growth engines.

Local Region-Friendly Social Contribution System



Social Contribution Activities in Daegu



Commendation as an Excellent Institution in Social Contribution
(Daegu Mayor Award)

Onnuri Heat Efficiency Improvement Project in Daegu

We allocate target areas in Daegu/Gyeongbuk first among others nationwide upon selecting target households and welfare centers in the 'Onnuri Heat Efficiency Improvement Project', our representative social contribution activity. Thus, 67 targets were selected from Daegu/Gyeongbuk, which is 45% among the entire targets in 2015. For the construction of one community center for the elderly and three houses for the elderly living alone in Daegu, not only KOGAS' employees and family but also university student volunteer groups selected from 100 universities nationwide were involved together. It was a time of putting the sharing spirit into action through close bonding with the community.

Best Practice >>

| Opening Children's Toy Libraries No. 3 and No. 4 |

We opened Children's Toy Libraries No. 3 and No. 4 in 2015. The program is a part of the sharing activity for the local region in accordance with 'A Healthy Body, A Healthy Dream' agreement signed among KOGAS, Community Chest of Daegu, Kyungpook National University Hospital, and RasGas. Following two libraries that opened in 2014, the third toy library was opened in Daegu Welfare Center for the Disabled along with the fourth one in Children's Toy Library No. 4 inside Seongseo Welfare Center. We plan to enrich.



Children's Toy Library No. 1 inside Daegu Welfare Center for the Disabled



Children's Toy Library No. 2 inside Ansiim Welfare Center



Children's Toy Library No. 3 inside Namsan Christian Welfare Center

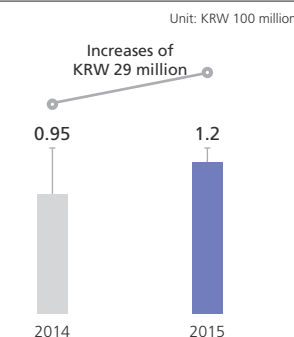


Children's Toy Library No. 4 inside Seongseo Welfare Center

Performance of Community Support in 2015

Establishing two Children's Toy Libraries (in Namsan and Seongseo Welfare Centers)	KRW 120 million
Sponsoring school uniforms for underprivileged middle and high school students	KRW 80 million
Sponsoring cultural trips for underprivileged youth	KRW 50 million
Sponsoring multi-cultural families to visit their home country	KRW 50 million
Providing medical fees to the top five primary hospitals in Daegu	KRW 120 million
Sponsoring free meal service centers (Himangui Jib (Hope Sharing Center))	KRW 72 million
Forming study rooms for adolescents in Dong-gu in Daegu	KRW 120 million
Establishing medical infrastructure in Kyungpook National University Children's Hospital	KRW 100 million
Donating Onnuti Gift Certificates using corporate card points	KRW 124 million
Donating funds to reach out to the underprivileged	KRW 100 million
Forming the Matching Grant with employees' year-end donations	KRW 150 million
Supporting heating fees for a cell town in Daegu	KRW 20 million
Sponsoring the New Year's Eve Bell Tolling Ceremony	KRW 30 million
Total	KRW 1,136 million

Donating Onnuti Gift Certificates



Project to Support a Healthy Dream and a Healthy Body

KOGAS signed an agreement on social contribution for a project titled 'A Healthy Body, A Healthy Dream' with five public-private institutions including Daegu Metropolitan Government, Community Chest of Daegu and Kyungpook National University Hospital. In 2015, we donated KRW 100 million to Kyungpook National University Children's Hospital as a part of the project. We also opened two more Children's Toy Libraries, which amount to four in total. School uniforms are sponsored for financially struggling middle and high school students. We also pay close attention to developing talents in community by constructing childcare centers and study rooms for students.

Activities for Facilitating the Local Economy

Development of the Energy Industrial Belt

As a public corporation that sides with its community, KOGAS has devised a blueprint to grow the oil cluster in Ulsan into Korea's largest 'Energy Industrial Belt' by linking it with the gas industry in Daegu. The purpose of the blueprint is to revitalize the local economy and nurture local industries. To this end, we carry out a four-step project for the mid- to long-term under a master plan. In the first stage for preparation, we will strive for localization, and in the second stage, we plan to strengthen ties with our community. The third stage will focus on facilitating the local economy substantially, and the fourth one will complete the setup of the Energy Industry Belt as the final stage. We are currently negotiating with partner institutions including Daegu Metropolitan Government and Daegu Technopark. We plan to establish industrial infrastructure suited to Daegu, and support technological development.

Formation of the SME Win-Win Fund

KOGAS signed the 'Agreement on the Shared Growth Fund for Creative Economy for Facilitating the Local Economy' with the Daegu Metropolitan Government and the Industrial Bank of Korea (IBK). KOGAS also signed a deal where KOGAS and IBK could play leading roles in revitalizing the local economy with the Daegu Metropolitan Government. The deal enables them to form the Shared Growth Fund worth KRW 50 billion to extend a low-interest fund to SMEs. Through the deal, we expect to provide preferential support for SMEs struggling in financing by automatically waiving 1.1%p for their loan interest rate within the ceiling of KRW 500 million per enterprise. Additional waivers will be provided to them depending on their credit rating.

Contribution to Revitalization of Traditional Markets

We donated Onnuti Gift Certificates worth KRW 124 million to the Community Chest of Daegu with the advent of Chuseok – one of most celebrated traditional holidays in Korea. It is a social contribution activity to contribute to the revitalization of traditional markets in Daegu by sponsoring gift certificates to be used in traditional markets. The source of the contribution was the income generated from mileage points in corporate cards of KOGAS. The gift certificates were handed out to about 124 institutions including welfare centers for the elderly and welfare centers for the disabled in Daegu through the Community Chest of Daegu.

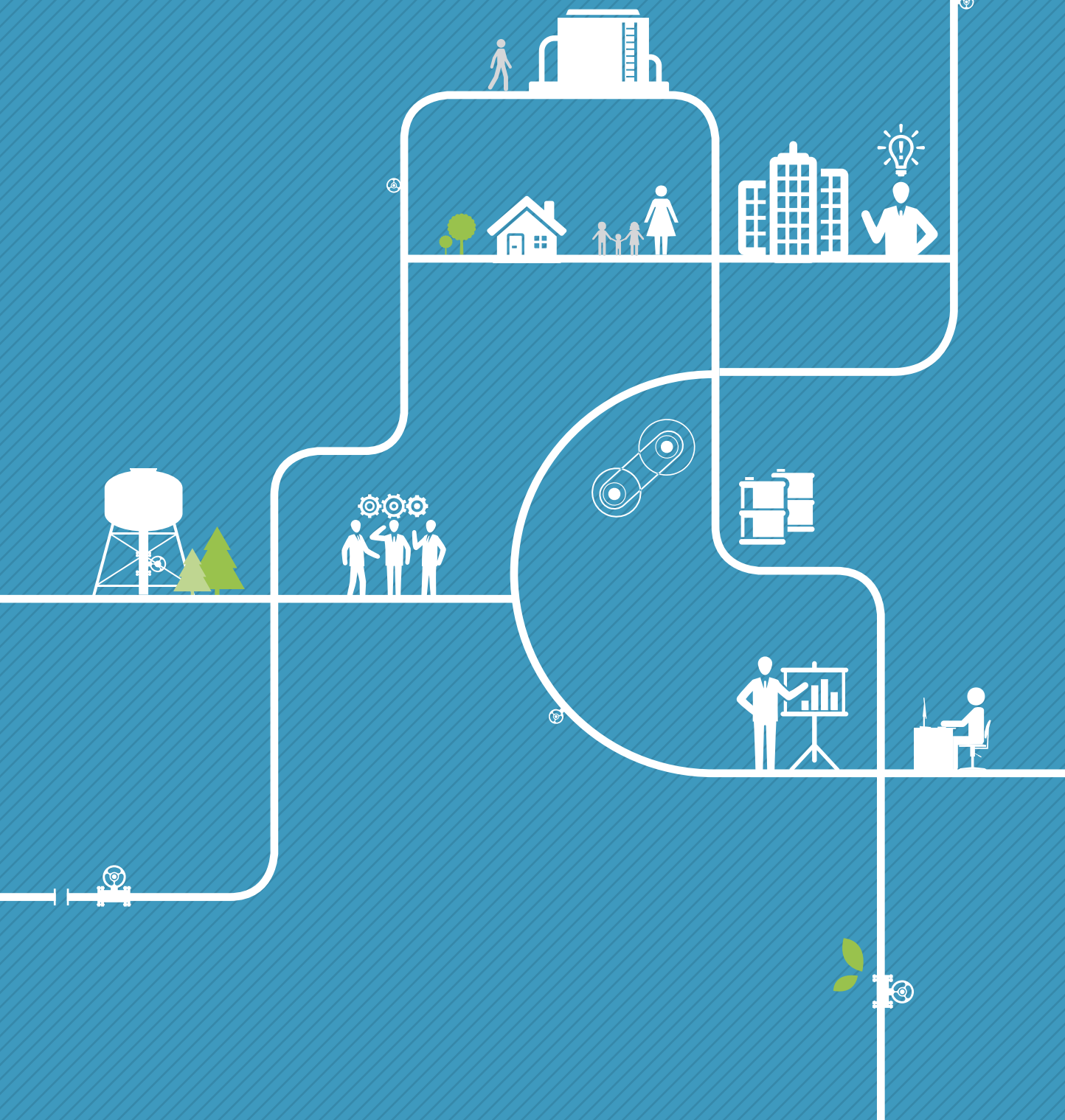
Best Practice >>

| Organization of a Procurement Seminar for SMEs in Daegu and Gyeongbuk |

We organized a procurement seminar for SMEs and enterprises with female entrepreneurs in Daegu and Gyeongbuk in June 2015. The purpose was to revitalize the local economy and realize the shared growth with SMEs by exploring excellent products from such enterprises and tapping into new sales channels. Procurement managers in each department at KOGAS had one-on-one meetings with heads of the enterprises. It created opportunities for a wide range of products to be promoted thanks to the participation of the Small and Medium Business Administration of Daegu and Gyeongbuk, the National Association of Women, and over 30 SMEs and enterprises led by women.



Creating a Vibrant Workplace with KOGAS



Reasons why Such Issues are Important to KOGAS

A vibrant workplace we envision is a space that enables individual employees to exert their capacity to the fullest for self-realization, and boosts satisfaction for their job and workplace and improve the level of immersion in work by co-creating public values. KOGAS' vision and goals can be achieved only when the labor and the management cooperate in such a corporate culture. We consider our employees as KOGAS' precious partners as they are realizing joint goals in the sustainability perspective of their organization. We perceive that respecting diversity and protecting their rights is a core factor in managing human resources.

Performance of KOGAS



10.1%

Ratio of Women
(among regular employees)

Approach of KOGAS

KOGAS selects and nurtures talents based on their capabilities regardless of their age, academic background, major and region. We establish yearly educational and training plans to suit the needs of employees to respect their values and competencies and encourage them to develop their potentials. We systematically manage the evaluation and remuneration scheme so that they could work with a sense of accountability and self-pride, while providing high-quality jobs as a public corporation. We support various programs including flexible working hours to strike a work-life balance, and strive to increase employees' satisfaction through continuous upgrading. Meanwhile, we establish our exclusive labor-management culture by perceiving the importance of rational labor-management relations to successfully achieve management goals. Diverse channels are in operation for forming bilateral consensus and communication. We also create an advanced labor-management culture where compliance with principles is the norm by establishing a system for signing rational collective agreements.



3.39 million

Average of Per-capita Training Budget

Promises of KOGAS

- We will improve a system by continuously gathering feedback to expand the system of flexible working hours.
- We will strengthen training for overseas job functions for personnel scheduled to be dispatched abroad.
- We will intensify inter-class communication training within the organization amid a rapid increase of new employees.
- We will expand the performance-based salary system through labor-management consensus
- We will select goals and specific action plans for labor-management relationship strategies aligned with government policies.
- We will continuously strengthen bottom-up communication channels and establish promotional measures on the labor-management relationship for employees.



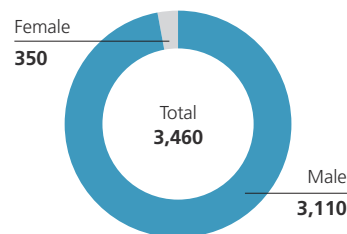
Selected as an Excellent Institution with Work-life Balance Systems

(Prize of the Minister of Employment and Labor)

Strengthening Talent Competitiveness

Status of Employees* (by gender)

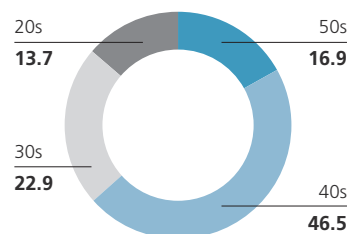
Unit: Number of employees



* Regular employees, as of 2015-end

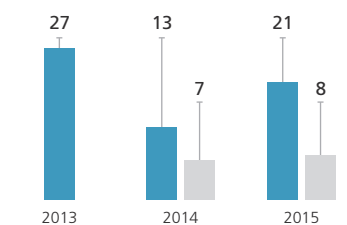
Status of Employees (by age bracket)

Unit: %



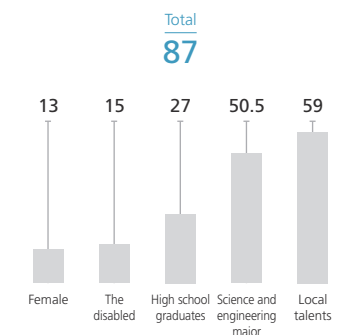
Retired Employees

Unit: Number of employees



New Employment of Regular Employees

Unit: Number of employees



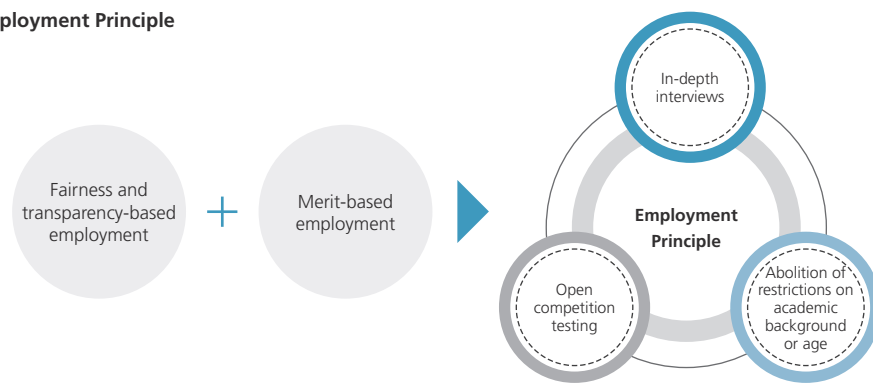
Open Employment

Human Resources Management Principle

KOGAS defined ideal talents as follows: those that challenge themselves for the future and lead changes; those that realize common success through trust and cooperation; and those that pursue excellence in their field. We employ excellent human resources fairly without limitations on academic background, age, major, or region. Transparent recruitment is conducted without disclosing the credentials of interviewees including their name, hometown, and academic background.

We select competent talents by systematically implementing job analysis through the adoption of the National Competency Standards (NCS). We figured out 14 necessary job functions including management planning, and machinery and equipment. We also selected specifically required capabilities for jobs – job functions, necessary knowledge and job performance attitudes. By doing so, we recruited talents through the NCS. There is no restriction on gender, age, religion, or physical disabilities by respecting human rights and individual diversity. We continuously recruit employees in a socially equitable manner by employing the socially underprivileged for a designated quota including local talents, high school graduates, and patriots & veterans, and adopting limited competitions for applicants who completed their internship.

Employment Principle



Current Status of Employees

As of the end of 2015, a total of 3,497 employees are working at KOGAS. The application rate of female talents is relatively low due to the nature of the natural gas industry. However, we pour in efforts to continuously generate female managers by developing job functions suited to women, achieving the female recruitment target and managing a fair promotion procedure and career paths. The average age of employees is 41.7 and the portion of employees in the 40s takes up 46.5%, so the average age is somewhat high at KOGAS. KOGAS is trying to lower the average age by facilitating voluntary retirement, adopting the wage peak system to expand new employment, and lowering the average age.

Status of Employees

Unit: Number of employees

	2013	2014	2015	
Total	3,386	3,483	3,497	
Employment type	Regular	3,347	3,453	3,460
	Non-regular	39	30	37
Gender equality	Women among regular employees	336 (10.0%)	346 (10.0%)	350 (10.1%)
	Women among manager-level positions	2 (0.06%)	5 (0.14%)	5 (0.14%)
Distribution of personnel based on social equity	The disabled	93	100	108
	High school graduates	546	558.5	547.5
	People of national merit	302	318	331
	Local talents	1,568	1,616	1,640

Strengthening Talent Competencies

Human Resources Development Strategies

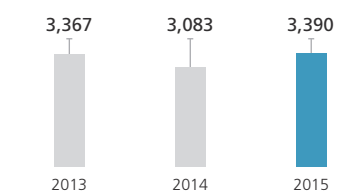
KOGAS established and operates a competency-based talent development system based on its vision and strategic directions to select and develop top talents with expertise in the gas industry. Individual demands of the organization and employees are analyzed and reflected in establishing annual educational and training plans. Diverse job training courses are available including in-house training to build up organizational competencies and secure individual competencies.

Human Resources Development Strategies

Mission	Fostering Creative KOGAS Employees that Challenge Themselves for the Future of the Energy Industry			
Vision	Strengthening Strategy Executing Capabilities through Balanced Development of Individuals and the Organization			
Objectives	Fostering personnel to execute new projects	Strengthening global competency	Intensifying job competency	
KPI	255 master's or doctoral degree holders or technicians (accumulated)	20 employees who have completed the GLTC	650 employees with in-house qualifications (accumulated)	
Four Strategic Directions	Strategic Pursuit	Performance Generation	Self-driven	Site-oriented
Seven Action Plans	<ul style="list-style-type: none"> Initiating S-HRD which is compatible with management strategies Developing KOGAS' core talents 	<ul style="list-style-type: none"> Strengthening training on equipment for safe and stable supply Stabilizing equipment through intensified in-house qualifications 	<ul style="list-style-type: none"> Internalizing the self-development program Ensuring life-cycle training from entry into the corporation till retirement 	<ul style="list-style-type: none"> Strengthening on-site job training

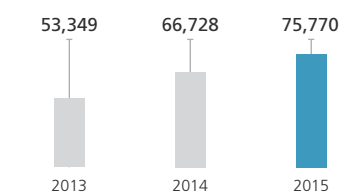
Per-capita Average Training Budget

Unit: KRW 1,000



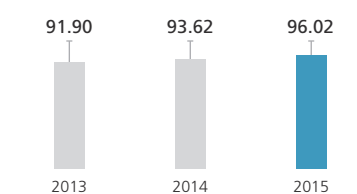
Number of Trainees

Unit: Number of employees



Satisfaction Level in Training

Unit: points



Talent Development Programs

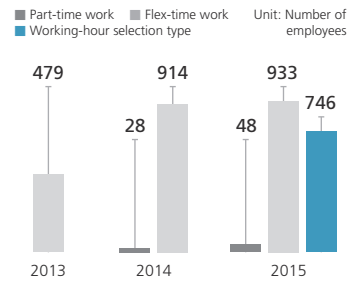
KOGAS opened 11 courses including in-house courses and overseas OJT to pursue S-HRD in line with management strategies and strengthen job competencies. We are strengthening talent competitiveness in the gas industry by enabling employees to take programs including a course to develop a specialized workforce for the re-evaluation model for overseas investment projects. By doing so, we can strengthen their competencies in LNG trading projects as the basis of stable supply and demand management and secure cost effectiveness.

We have also opened a course to develop core talents catered to KOGAS' needs as global resources development has been expanded. In 2015, we conducted a pilot program for the Global Leadership Training Course (GLTC) for talents equipped with global job expertise and competencies. As a result, we generated 21 global job specialists which can be immediately utilized for overseas projects. The number of trainees will increase, totaling 176 employees (accumulated) by 2020. We organize training to intensify equipment training for safe and stable supply and to generate strong performance by stabilizing the equipment through the in-house qualification scheme. In 2015, 621 people completed 19 courses on equipment and safety including the process of supply equipment management. We continue to foster specialists by managing 12 qualification schemes related to equipment management and maintenance. Employees at KOGAS receive customized training courses: training by life cycle from entry into work to retirement, and training on forming rank-specific roles and boosting leadership. The employee participation rate is raised through the expansion of online training in a self-driven manner. Their competency is boosted by encouraging internalization of the self-development system. Such training courses are led by training departments, but part of the budget (about 18% of the training budget) can be internally decided to us in front-line departments. As such, site-oriented training is also emphasized.

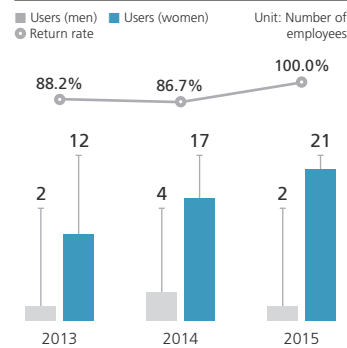
Developing Female Leaders and Specialists

We run programs to develop competent female managers to develop female employees as leaders and specialists. We provide the preliminary manager course and the leadership development course to enhance essential competencies of female leadership. We have expanded positions for female employees to be promoted to a manager level or appointed to major positions at the head office. As such, we pave the way for women to advance to high-level executives. This is expected to contribute to achieving successful management performance of KOGAS as gender-specific competencies could generate synergies.

Performance of Operating the Flexible Working Hour System



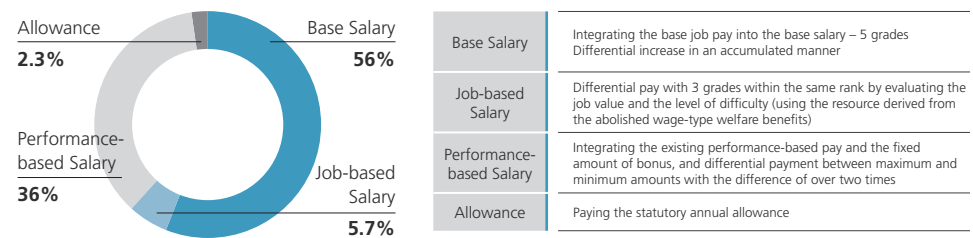
Performance of Operating the Childcare Leave



Fair Evaluation and Remuneration

KOGAS conducts fair and transparent efficiency rating based on employees' performance and capabilities, and the results are reflected in personnel appointment and remuneration. All employees set goals for their achievement and competencies at the beginning of a year, and have them approved by their manager. They are subject to year-end performance evaluations based on their individual yearly performance. For high achievers, incentives are provided to enhance their organizational immersion by differentially paying the bonus and the base salary and by giving benefits in a review to select employees to be dispatched outside. For low achievers, meanwhile, we seek higher performance by supporting competency development through training or job rotation. According to the 'Recommendations for Performance-Based Salary in Public Corporations', all wage items are broken down into basic, job, and performance-based under the pay-for-performance scheme. Accordingly, the base salary taking up 56% of the entire salaries are divided into five grades depending on competency evaluation for a differential increase. Differential payment is made so that the maximum and the minimum amounts differ by over two times by converting 36% of the entire salary into a performance-based one.

Performance-Based Salary



Work-Life Balance

Strengthening the Flexible Working Hour System

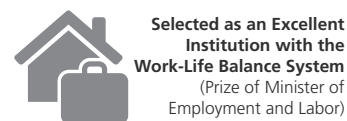
In order to facilitate the use of flexible working hours, we identify employees' needs and improve the operational system. More options are now provided on top of the existing flex-time work and similar types of restricted flexible working hour systems so that employees can select which days to apply flexible working hours. Other schemes have also been added including alternative work scheduling, compressed working and smart working. As such, the flexible working hour system has been complemented to be free from standardized working hours and space. As a result, users of the part-time work system increased 171% compared to the previous year, while users of alternative work scheduling went up in number by 102%. We will seek measures to facilitate the system by simplifying the application procedure so that the system can be more effective.

Maternal Protection System

We create an environment for maternal protection for female employees during their pregnancy based on their needs. Their working hours are shortened, their job can be changed, and in-house married couples are appointed in workplaces in the same area. Moreover, the duration of maternity leave has been expanded from one year to three years to prevent career interruption of women due to childbirth or childcare. The maternity leave after childbirth was extended from 90 to 120 days for women with multifetal pregnancy. The number of working hours on weekdays was shrunk from 15 to 30 hours a week during pregnancy and childcare to guarantee a work-life balance as much as possible. Upon returning to work after using the childcare leave, their preference for job positions is fully embraced so that their existing job career can continue. We boost female employees' job satisfaction and immersion by managing nursing rooms and in-house childcare centers in five sites and guaranteeing lactation hours during work.

Operation of Family-Friendly Programs

We run family-friendly programs to raise job satisfaction levels among employees by ensuring a work-life balance. Every Wednesday is set as 'Day of Family Love' to encourage employees to leave work on time to spend quality time with their family. Upon applying for a leave of absence due to family's illness or house chores, they can use family care leave for maximum one year.



Labor-Management Culture of Harmony

Labor Union Subscription



Labor-Management Communication Channels

- Offline**
 - CEO and unionists, meetings of the executive body in the labor union
 - Monthly morning assemblies, Day of Labor-Management Harmony
 - Seminars on management agenda (pending issues) for each division
 - Labor-management meetings in each division, workshops
 - Collective bargaining (collective/wage agreements), Labor-Management Council
 - Labor-Management Workshop on each site (meetings)
 - Management Agenda Seminar for each site
 - Unionist Seminar
- Online**
 - e-board (all employees), email (individuals, group)
 - Video conferencing, corporation-wide airing, labor-management portal site
 - Labor-management relationship updates (KOGAS and the labor union's major schedules, etc.)
 - Band for each division
 - CGEM – management research institute
 - Band for each site
 - Labor union website, labor management newsletter (communication and empathy)

Labor-Management Culture of Harmony

We recognize the importance of a labor-management relationship to generate continued management performance and establish a win-win labor-management relationship. We strive to form a desirable labor-management culture in accordance with four strategic tasks under a goal to establish an advanced partnership-driven labor-management relationship. We build trust through various communication channels for consensus forming and communication.

Management Strategies for the Labor-Management Relationship



Strengthening Communication with Employees

We strengthen face-to-face communication for reaching concord by resolving labor-management conflicts and forming a partnership, and devise bottom-up communication channels. In face-to-face communication, we explain the management agenda, and devise rational management plans for business activities, thus empathizing on mutual responsibilities. We also run the 'CEO-Employee Dialogue' as a bottom-up communication channel. In 2015, the session was held seven times in total with the presence of office & technical employees of Grade 3 or lower and at the head office and in each site. During the session, the CEO's management philosophy and vision were shared along with a free discussion. Moreover, we strengthen mutual understanding by devising diverse communication channels for handling grievances, improvement of irrational systems on site, and forming consensus between the labor and the management. Meanwhile, we provide prior written notifications on changes in corporate management: changes in the Articles of Incorporation and the organization, amendment or abolition of regulations on labor conditions, shareholders' meeting and the board of directors associated with rights of unionists and agenda proposed to the Management Committee and their results. All these matters are stipulated in the collective agreements.

Best Practice >>

| Establishing a Win-Win Cooperation Culture through the Labor-Management Partnership Program |

Relationships of the labor and the management, and of prime and subcontractors inevitably confront conflicts and confrontations by their nature instead of mutual cooperation. At KOGAS, the labor and the management established a relationship of win-win benefits and cooperation beyond mistrust. To this end, they executed diverse labor-management partnership tasks along with outside prime and subcontractors through their cooperation. In the first-stage program formed in 2014, we carried out eight programs, aiming for establishing partnerships of the 'gas family'. Both parties participated in the programs including the Hanmaeum (One Heart) Festival, culture trips with employees' families, Win-Win Workshop, and specialized training. In 2015, under a goal for symbiotic development with suppliers as well as among the labor and the management, both parties and primary and secondary suppliers participated to manage 11 programs of harmony and win-win benefits. They also generated management performance including five cases of new technological development and application, cost reduction and no accidents. In 2016, KOGAS will contribute to strengthening the national competitiveness by improving unreasonable labor-management practices and innovating workplaces that imbue hopes, while spreading the cooperative labor-management relationship through more bilateral partnership programs.



APPENDIX

- Performance Summary
- Prizes and Awards/Memberships
- Third Party's Assurance Statement
- GRI Content Index
- Sustainability Initiative
- Subsidiaries and Invested Companies

Performance Summary

Economic Performance

Major Economic Performance (consolidated financial sheets)

Type	Unit	2013	2014	2015
Revenues	KRW 100 million	380,627	372,848	260,527
Operating income	KRW 100 million	14,882	10,719	10,078
Net income (loss)	KRW 100 million	-2,036	4,472	3,192

Major Financial Indicators (consolidated financial sheets)

Type	Unit	2013	2014	2015	
Growth potentials	Increase rate in revenues	%	8.7	-2.0	-30.1
	Increase rate in net income	%	-156.3	Conversion into a surplus	-28.6
Profitability	Return on Assets (ROA)	%	-0.48	0.99	0.72
	Return on Equity (ROE)	%	-2.35	4.79	3.23
Stability	Current ratio	%	146.78	139.84	174.81
	Debt ratio	%	388.83	380.98	321.45
	Capital ratio	%	20.46	20.79	23.73
Productivity	Productivity of capital	%	6.04	6.18	6.39

Summary for Consolidated Financial Statement (consolidated financial sheets)

Type	Unit	2013	2014	2015	
Assets	Current assets	KRW 100 million	122,394	137,913	100,146
	Non-current assets	KRW 100 million	314,269	329,807	323,707
	Total assets	KRW 100 million	436,663	467,720	423,853
Liabilities	Current liabilities	KRW 100 million	83,384	98,621	57,287
	Non-current liabilities	KRW 100 million	263,952	271,855	265,997
	Total liabilities	KRW 100 million	347,336	370,476	323,284
Shareholders' equity	Paid-in capital	KRW 100 million	17,651	17,651	17,651
	Others	KRW 100 million	71,677	79,593	82,918
	Equity attributable to shareholders of the corporation (subtotal)	KRW 100 million	89,328	97,244	100,569
	Non-controlling interests	KRW 100 million	0.0031	0.0045	0.0015
	Total shareholders' equity	KRW 100 million	89,328	97,244	100,569

Government Subsidies and Grants

Type	Unit	2013	2014	2015
Government subsidies	KRW 100 million	381	9	26

R&D

Type	Unit	2013	2014	2015
R&D investment expenses	KRW 100 million	443	462	429
Technological patents (accumulated)	Number of cases	263	294	307

Generation and Distribution of Economic Value

Stakeholders	Calculation Criteria	Unit	2013	2014	2015
Suppliers	Expenses for purchasing goods from SMEs	KRW 100 million	5,550	5,306	3,569
Employees	Employee wages and welfare benefits	KRW 100 million	880	2,679	2,786
Government	Corporate tax + Taxes & dues	KRW 100 million	2,147	488	668
Community	Donations and social contribution activity expenses	KRW 100 million	145	264	207
Customers	Revenues	KRW 100 million	380,627	372,849	260,527
Creditors	Interest	KRW 100 million	8,375	8,430	7,764

Environmental Performance

Greenhouse Gas Emissions

Type	Unit	2013	2014	2015
Total GHG emissions	tCO ₂ e	682,427	592,506	502,988
Direct emissions	tCO ₂ e	329,511	246,750	150,711
Indirect emissions	tCO ₂ e	352,916	345,756	352,277

Amount of Energy Usage

Type	Unit	2013	2014	2015
Total amount of energy usage	TJ	13,782	11,760	10,189
Direct energies	TJ	6,487	4,629	2,965
Indirect energies	TJ	7,295	7,131	7,224

Amount of Water Usage

Type	Unit	2013	2014	2015
Total amount of water usage	m ³	1,634,824,872	1,577,284,392	1,480,171,339
Seawater	m ³	1,634,242,230	1,576,806,104	1,479,689,777
Water service	m ³	569,183	469,210	476,115
Others	m ³	13,459	9,078	5,447

Emission of Environmental Pollutants

Type	Unit	2013	2014	2015		
Sales volume of natural gases	1,000 tons	38,675	35,173	31,456		
Air pollution	NOx	Amount of emissions	kg	995,111	700,953	425,996
		Basic unit	kg/1,000 tons	25.73	19.93	13.54
	SOx	Amount of emissions	kg	2,732	1,891	1,148
		Basic unit	kg/1,000 tons	0.071	0.054	0.036
	Dust	Amount of emissions	kg	8,241	5,787	3,567
		Basic unit	kg/1,000 tons	0.213	0.165	0.113
Water pollution	BOD	Amount of emissions	kg	207.9	72.3	104.0
		Basic unit	kg/1,000 tons	0.0054	0.0021	0.0033
	COD	Amount of emissions	kg	51	58.6	62.3
		Basic unit	kg/1,000 tons	0.0013	0.0017	0.0020
	SS	Amount of emissions	kg	251.9	155.4	202.0
		Basic unit	kg/1,000 tons	0.0065	0.0044	0.0064
Waste	General	tons	470	781	837	
	Designated	tons	6,081	237	154	
	Construction	tons	384,951	396,644	296,166	
	Total	Amount of emissions	tons	391,502	397,662	297,145
	Basic unit	tons/1,000 tons	10.10	11.31	9.45	

Amount of Hazardous Chemicals Used

Type	Unit	2013	2014	2015
Sales volume of natural gases	1,000 tons	38,675	35,173	31,456
Amount of use	kg	355,060	168,614	261,049
Basic unit	kg/1,000 tons	9.18	4.79	8.30

Social Performance

Status of Employees

Type	Unit	2013	2014	2015	
Total employees	Number of employees	3,386	3,483	3,497	
Employment type	Regular (Including executive director)	Number of employees	3,347	3,453	3,460
	Non-regular	Number of employees	39	30	37
Distribution of employees by age bracket (Based on regular employees)	Below the 30s	Number of employees	1,167	1,234	1,205
	In the 40s	Number of employees	1,615	1,626	1,603
	Above the 50s	Number of employees	565	593	652
Women employees	Women employees	Number of employees (%)	336 (10.0)	346 (10.0)	350 (10.1)
	Women managers	Number of employees (%)	2 (0.06)	5 (0.14)	5 (0.14)
Distribution of personnel based on social equity	The disabled	Number of employees	93	100	108
	High school graduates	Number of employees	546	558.5	547.5
	People of national merit	Number of employees	302	318	331
	Local talents	Number of employees	1,568	1,616	1,640
New recruits based on social-equity	The disabled	Number of employees	12	10	15
	Women employees	Number of employees	47	22	13
	High school graduates	Number of employees	59	41.5	29
	People of national merit	Number of employees	35	20	18
	Local talents	Number of employees	133	82	65

* The data were calculated based on the All Public Information In-One.

Performance in the BOD Operation

Type	Unit	2013	2014	2015
Number of times BOD meetings have been held	Number of times	19	20	15
Agenda agreed upon	Number of agenda	43	67	50
Pre-deliberation rate	%	94	80	81
Revised agreed-upon agenda	Number of agenda (%)	0 (0)	1 (1)	2 (4)
Reported agenda	Number of agenda	33	27	28
BOD attendance rate	%	95	90	80
Attendance rate of non-executive directors	%	94	88	79
Portion of speeches/motions delivered by non-executive directors	%	65	57	55

Status of Training for Employees

Type	Unit	2013	2014	2015
Investment expenses for education and training	KRW million	8,658	8,726	9,371
Education hours per person	Number of hours	128	116	135
Education training expenses per person	KRW 1,000	2,563	2,505	2,654

Employee Training on Human Rights Policies and Procedures

Type	Unit	2013	2014	2015
Ethical training	Number of employees	2,903	2,963	-
Cyber integrity training on the code of actions	Number of employees	4,351	3,281	5,285

* Ethical training was implemented by integrating with online training on the code of conduct in 2015.

Employees' Performance Evaluation

We have established a corporate culture focusing on performance and values by operating a fair performance evaluation system. We have adopted specific evaluation standards ranging from setting goals for individuals and work units to the relevant evaluation in order to secure fairness and distinction in individual evaluation. We have complemented the institutions and processes to expand interactions between evaluators and the evaluated, thus raising evaluation acceptability among the evaluated, and reliability of the evaluation results.

Type	Unit	2013	2014	2015
Rate of application of performance evaluation	%	97.2	96.9	96.2

Employees' Rate of Return to Work After a Childcare Leave

Type	Unit	2013	2014	2015
Childcare applicants	Number of employees	14	21	23
Men employees applying for a childcare leave	Number of employees	2	4	2
Post-childcare leave return rate	%	88.2	86.7	100.0

Employees' Retirement Management

We support employees and their families to prepare for a stable post-retirement life by operating the retirement pensions scheme. By offering both defined benefit (DB) plans and defined contribution (DC) plans, we give opportunities to employees to select a plan based on their preference.

Type	Unit	2013	2014	2015
Amount of assets under management	KRW 100 million	1,251	1,241	1,664
Number of subscribers	Number of employees	3,181	3,486	3,518

Status of the Labor Union Subscription

Type	Unit	2013	2014	2015
Number of labor unionists	Number of employees	2,867	3,012	3,017
Labor union subscription rate	%	88	88	86

Status of Suppliers

Type	Unit	2013	2014	2015
Number of major partner companies	Number of companies	65	72	82

Procurement Contracts with SMEs

Type	Unit	2013	2014	2015
Purchases of SME products	KRW 100 million	5,550	5,306	3,569
Ratio of purchases of SME products	%	27.2	27.3	26.7

Support for SMEs' Competitiveness

Type	Unit	2013	2014	2015
Joint R&D	Number of cases	25	27	27
	Participating companies	25	27	27
R&D budget	KRW 100 million	29.5	26.8	22.2

Customer Satisfaction

Type	Unit	2013	2014	2015
Public-service Customer Satisfaction Index (PCSI)	Grade (points)	A (98.0)	A (97.2)	A (93.7)

Social Contribution Activities

Type	Unit	2013	2014	2015
Total volunteering hours	Number of times	52,558	45,878	74,593
Volunteering hours per person	Number of times	16.1	13.3	21.2
Discounts for gas fees	KRW 100 million	482	685	735

Prizes and Awards/Memberships**Prizes and Awards**

Title	Organized by	Year
Acquiring the highest rating (excellence) in the Customer Satisfaction Evaluation for Public Corporations (nine consecutive years)	Ministry of Strategy and Finance	2015
Selected as an excellent institution in security equipment for national major facilities – The Tongyeong Terminal Division	National Intelligence Service	2015
Korea's Environment and Energy Award – The Chungcheong Regional Division	Ministry of Environment	2015
Group commendation of the Minister of Trade, Industry and Energy in energy saving and efficiency improvement – Gyeonggi Regional Division	Ministry of Trade, Industry and Energy	2015
Commendation of Company of Merit in Sharing in 2015 (Gyeonggi Provincial Governor) – Gyeonggi Regional Division	Gyeonggi Provincial Government	2015
Korea's National Sharing Grand Award (Minister of Health and Welfare) – The Jeongbuk Regional Division	Ministry of Health and Welfare	2015
2015 Environment and Energy Award – The Chungcheong Regional Division	Ministry of Environment	2015
Excellent Institution for Integrated Defense for National Major Facilities (Primer Ministerial Prize) – The Incheon Terminal Division	Ministry of National Defense	2015
Excellent Institution in Joint Evaluation for Disaster Management in the National System	Ministry of Public Safety and Security	2015
2014 Technological Development and Cooperation Award (Small and Medium Business Administration's Director Prize)	Small and Medium Business Administration	2014
Award for a Company of Merit in Social Welfare (Gyeonggi Provincial Governor) – The Gyeonggi Regional Division	Gyeonggi Provincial Government	2014
First ranking in the Most Respected Companies in Korea for seven consecutive times in the energy sector	Korea Management Association	2014
Platinum Prize in the 2012/13 VISION AWARDS annual report	LACP	2014
Incorporation into DJSI Asia-Pacific	Korea Productivity Center	2013
Excellent Facilities with Fire Protection (National Emergency Management Agency's Director Prize) – The Tongyeong Terminal Division	National Emergency Management Agency	2013
Selected as the Excellent Safety Management Company in Korea's Safety Award (Prime Ministerial Award) – The Pyeongtaek Terminal Division	National Emergency Management Agency	2013
Grand Prize in Eco-friendly Construction in the 2014 Korea's Green Management Award – The Samcheok Terminal Division	Ministry of Trade, Industry and Energy, Ministry of Environment	2013
Grand Prize in Korea Ethical Management Grandprix in the public corporation category	New Industry Management Academy	2013
Commendation of an Excellent Institution in Disaster Safety Management	Ministry of Trade, Industry and Energy, Ministry of Environment	2013
Presidential Commendation for the Merit of Archive Management	National Archives & Records Services	2013
Selected as the Excellent Institution in Safety Management of Cultural Heritage	Cultural Heritage Administration	2013
Prize in the National Territory Traffic Award (Ministerial Prize)	Ministry of Land, Infrastructure and Transport	2013
Acquisition of the ISO 50001 Certification for the first time in the gas supply sector	Korean Standards Association	2013
Incorporation into the Company of Highest Excellence in DJSI KOREA in the gas category (for four consecutive years)	Korea Productivity Center	2013
First ranking in the Most Respected Companies in Korea in the energy sector (for five consecutive years)	Korea Management Association	2013
Acquisition of an excellent rating in the Integrity Evaluation	Anti-Corruption and Civil Rights Commission	2013

Association Membership

IUCN	UN Universal Declaration of Human Right	UN Global Compact	Institute for Global Economics
Energy & Mineral Resources Development Association of Korea	Green Company Council	Korea Environmental Preservation Association	Ethical Management SM Forum

Third Party's Assurance Statement

To the Readers of Korea Gas Corporation Sustainability Report 2016:

Foreword

Korea Management Association Registration Inc. (hereinafter "KMAR") has been requested by of Korea Gas Corporation (hereinafter "KOGAS") to verify the contents of its Sustainability Report 2016 (hereinafter "the Report"). KOGAS is responsible for the collection and presentation of information included in the Report. KMAR's responsibility is to carry out assurance engagement on specific data and information in the assurance scope stipulated below.

Scope and Standard

KOGAS describes its efforts and achievements of the sustainability activities in the Report. KMAR performed a Type 2, moderate level of assurance using AA1000AS (2008) as an assurance standard. KMAR's assurance team (hereinafter "the team") evaluated the adherence to Principles of Inclusivity, Materiality and Responsiveness, and the reliability of the selected GRI G4 indices as below, where professional judgment of the team was exercised as materiality criteria.

The team checked whether the Report has been prepared in accordance with the 'Core Option' of GRI G4 which covers the followings.

- Reporting Principles
- General Standard Disclosures
- Specific Standard Disclosures
 - Generic DMA of each of following material aspects
 - Economic Performance: EC1, EC3, EC4
 - Indirect Economic Impacts: EC7
 - Emissions: EN15, EN16, EN21
 - Effluents and Waste: EN23, EN24
 - Overall: EN31
 - Employment: LA1, LA3
 - Labor/Management Relations: LA4
 - Occupational Health and Safety: LA8
 - Local Communities: SO1
 - Anti-corruption: SO4
 - Supplier Assessment for Impacts on Society: SO10
 - Product and Service Labeling: PR5

This Report excludes a data and information of joint corporate, contractor etc. which is outside of the organization, i.e. KOGAS, among report boundaries.

Our Approach

In order to verify the contents of the Report within an agreed scope of assurance in accordance with the assurance standard, the team has carried out an assurance engagement as follows:

- Reviewed overall report
- Reviewed materiality test process and methodology
- Reviewed sustainability management strategies and targets
- Reviewed stakeholder engagement activities
- Interviewed people in charge of preparing the Report

Our Conclusion

Based on the results we have obtained from material reviews and interviews, we had several discussions with KOGAS on the revision of the Report. We reviewed the Report's final version in order to confirm that our recommendations for improvement and our revisions have been reflected. When reviewing the results of the assurance, the assurance team could not find any inappropriate contents in the Report to the compliance with the principles stipulated below. Nothing has come to our attention that causes us to believe that the data included in the verification scope are not presented appropriately.

- **Inclusivity:** Inclusivity is the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.
 - KOGAS is developing and maintaining stakeholder communication channels in various forms and levels in order to make a commitment to be responsible for the stakeholders. The assurance team could not find any critical stakeholder KOGAS left out during this procedure.
- **Materiality:** Materiality is determining the relevance and significance of an issue to an organization and its stakeholders. A material issue is an issue that will influence the decisions, actions, and performance of an organization or its stakeholders.
 - KOGAS is determining the materiality of issues found out through stakeholder communication channels through its own materiality evaluation process, and the assurance team could not find any critical issues left out in this process.
- **Responsiveness:** Responsiveness is an organization's response to stakeholder issues that affect its sustainability performance and is realized through decisions, actions, and performance, as well as communication with stakeholders.
 - The assurance team could not find any evidence that KOGAS' counter measures to critical stakeholder issues were inappropriately recorded in the Report.

We could not find any evidence the Report was not prepared in accordance with the 'Core Option' of GRI G4.

Recommendation for Improvement

We hope the Report is actively used as a communication tool with stakeholders and recommend the following for improvements.

- **Developing a sustainability management strategy and goal management system:** KOGAS disclosed the quantitative achievements of its sustainability management through this Report. To establish reliability on its actions to be taken against long-term strategies and goals, KMAR recommends that KOGAS consider setting mid/longterm goals and report on their progress.
- **Integrating report Scheme:** KOGAS is highly evaluated concerned sustainability issues through integrating report scheme to board meeting. From now on, this effort can be possible to analyze the sustainability opportunities and risks and then it can be more efficient to integrate on KOGAS' core process.

Our Independence

With the exception of providing third party assurance services, KMAR is not involved in any other KOGAS' business operations that are aimed at making profit in order to avoid any conflicts of interest and to maintain independence.



July, 5, 2016

K. H. Park
CEOP Ki Ho Park

GRI Content Index

Indicators	G4 Description	Page	External Assurance
Strategy and Analysis			
G4-1	Provide a statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	4-5	● 68-69
G4-2	Provide a description of key impacts, risks, and opportunities.	4-5, 20-21	● 68-69
Organizational Profile			
G4-3	Report the name of the organization	12	● 68-69
G4-4	Report the primary brands, products, and services.	8-9, 12	● 68-69
G4-5	Report the location of the organization's headquarters.	12	● 68-69
G4-6	Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	12	● 68-69
G4-7	Report the nature of ownership and legal form.	12	● 68-69
G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	8-9, 12	● 68-69
G4-9	Report the scale of the organization, including: <ul style="list-style-type: none"> • Total number of employees • Total number of operations • Net sales (for private sector organizations) or net revenues (for public sector organizations) • Total capitalization broken down in terms of debt and equity (for private sector organizations) • Quantity of products or services provided 	12-13	● 68-69
G4-10	a. Report the total number of employees by and gender. b. Report the total number of permanent employees by employment type and gender. c. Report the total workforce by employees and supervised workers and by gender. d. Report the total workforce by region and gender. e. Report whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors. f. Report any significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries).	58, 65	● 68-69
G4-11	Report the percentage of total employees covered by collective bargaining agreements.	61	● 68-69
G4-12	Describe the organization's supply chain.	8-9	● 68-69
G4-13	Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain, including: <ul style="list-style-type: none"> • Changes in the location of, or changes in, operations, including facility openings, closings, and expansions • Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations) • Changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination 	2	● 68-69
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization.	20-21	● 68-69
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	72-73	● 68-69
G4-16	List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization:	67	● 68-69
Identified Material Aspects and Boundaries			
G4-17	a. List all entities included in the organization's consolidated financial statements or equivalent documents. b. Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	12-13, 74	● 68-69
G4-18	a. Explain the process for defining the report content and the Aspect Boundaries. b. Explain how the organization has implemented the Reporting Principles for Defining Report Content.	23	● 68-69
G4-19	List all the material Aspects identified in the process for defining report content.	23	● 68-69
G4-20	For each material Aspect, report the Aspect Boundary within the organization, as follows: <ul style="list-style-type: none"> • Report whether the Aspect is material within the organization • If the Aspect is not material for all entities within the organization (as described in G4-17), select one of the following two approaches and report either: <ul style="list-style-type: none"> a. The list of entities or groups of entities included in G4-17 for which the Aspect is not material or b. The list of entities or groups of entities included in G4-17 for which the Aspects is material • Report any specific limitation regarding the Aspect Boundary within the organization 	23	● 68-69
G4-21	For each material Aspect, report the Aspect Boundary outside the organization, as follows: <ul style="list-style-type: none"> • Report whether the Aspect is material outside of the organization • If the Aspect is material outside of the organization, identify the entities, groups of entities or elements for which the Aspect is material. In addition, describe the geographical location where the Aspect is material for the entities identified • Report any specific limitation regarding the Aspect Boundary outside the organization 	23	● 68-69
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	2, 45	● 68-69
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	2	● 68-69
Stakeholder Engagement			
G4-24	Provide a list of stakeholder groups engaged by the organization.	22	● 68-69
G4-25	Report the basis for identification and selection of stakeholders with whom to engage.	22	● 68-69
G4-26	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	22	● 68-69
G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns.	22	● 68-69

Indicators	G4 Description	Page	External Assurance	
Report Profile				
G4-28	Reporting period (such as fiscal or calendar year) for information provided.	2	● 68-69	
G4-29	Date of most recent previous report (if any).	2	● 68-69	
G4-30	Reporting cycle (such as annual, biennial).	2	● 68-69	
G4-31	Provide the contact point for questions regarding the report or its contents.	2	● 68-69	
G4-32	a. Report the 'in accordance' option the organization has chosen. b. Report the GRI Content Index for the chosen option (see tables below). c. Report the reference to the External Assurance Report, if the report has been externally assured. GRI recommends the use of external assurance but it is not a requirement to be 'in accordance' with the Guidelines.	2	● 68-69	
G4-33	a. Report the organization's policy and current practice with regard to seeking external assurance for the report. b. If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided. c. Report the relationship between the organization and the assurance providers. d. Report whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report.	68-69	● 68-69	
Governance				
G4-34	Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	16-17	● 68-69	
Ethics and Integrity				
G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	18-19	● 68-69	
Aspects				
Aspects	Indicators	G4 Description	Page	External Assurance
Economic				
Economic Performance	DMA		26-27	● 68-69
	G4-EC1	Direct economic value generated and distributed	63	● 68-69
	G4-EC3	Coverage of the organization's defined benefit plan obligations	66	● 68-69
	G4-EC4	Financial assistance received from government	63	● 68-69
Indirect Economic Impacts	DMA		26-27	● 68-69
	G4-EC7	Development and impact of infrastructure investments and services supported	28-31	● 68-69
Environmental				
Emissions	DMA		42-43	● 68-69
	G4-EN15	Direct greenhouse gas (ghg) emissions (scope 1)	44-45	● 68-69
	G4-EN16	Energy indirect greenhouse gas (ghg) emissions (scope 2)	44-45	● 68-69
	G4-EN21	Nox, sox and other significant air emissions	47	● 68-69
Effluents and Waste	DMA		42-43	● 68-69
	G4-EN23	Total weight of waste by type and disposal method	47, 64	● 68-69
	G4-EN24	Total number and volume of significant spills	47	● 68-69
	DMA		42-43	● 68-69
Overall	G4-EN31	Total environmental protection expenditures and investments by type	46	● 68-69
Social				
Sub-Category: Labor Practice and Decent Work				
Employment	DMA		56-57	● 68-69
	G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	58	● 68-69
	G4-LA3	Return to work and retention rates after parental leave, by gender	60	● 68-69
Labor-Management Relationships	DMA		56-57	● 68-69
	G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	61	● 68-69
Industrial Safety and Health	DMA		42-43	● 68-69
	G4-LA8	Health and safety topics covered in formal agreements with trade unions	49	● 68-69
Society				
Local Communities	DMA		50-51	● 68-69
	G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	52-55	● 68-69
Anti-corruption	DMA		18-19	● 68-69
	G4-SO4	Communication and training on anti-corruption policies and procedures	18-19	● 68-69
Evaluation of the Impact of Suppliers on the Society	DMA		34-35	● 68-69
	G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	38-41	● 68-69
Product Responsibility				
Product and Service Labeling	DMA		34-35	● 68-69
	G4-PR5	Results of surveys measuring customer satisfaction	36	● 68-69

Sustainability Initiative





ISO 26000

ISO 26000 is an international guidance that standardizes social responsibilities formulated and announced by the International Organization for Standardization (ISO) in November 2011. It encompasses many existing guidelines on management integration as well as seven core subjects which span from 'organizational governance', 'human rights', 'labor practice', 'environment', 'fair management practice', and 'consumer issue', to 'local community engagement and development'. We comply with ISO 26000 and continuously manage our implementation records.

Core Subjects	Issues	Matching Provision in ISO 26000	Page
Organizational Governance	Decision-making process and structure	6.2.3	16-17
	Due diligence	6.3.3	
	Human rights risk situations	6.3.4	
Human Rights	Avoidance of complicity	6.3.5	56-60
	Grievance resolution	6.3.6	
	Discrimination and vulnerable groups	6.3.7	
	Civil and political rights	6.3.8	
	Economic, social and cultural rights	6.3.9	
	Fundamental principles and rights at work.	6.3.10	
	Employment and employment relationships	6.4.3	
Labor Practice	Conditions of work and social protection	6.4.4	48-49, 61
	Social dialogue	6.4.5	
	Health and safety at work	6.4.6	
	Human development and training in the workplace	6.4.7	
	Prevention of pollution	6.5.3	
Environment	Sustainable resource use	6.5.4	42-47
	Climate change mitigation and adaptation	6.5.5	
	Protection of the environment, biodiversity, and restoration of natural habitats	6.5.6	
Fair Management Practice	Anti-corruption	6.6.3	18-19, 38-41
	Responsible political involvement	6.6.4	
	Fair competition	6.6.5	
	Promoting social responsibility in the value chain	6.6.6	
	Respect for property rights.	6.6.7	
Consumer Issue	Fair marketing, factual, and unbiased information and fair contractual practices	6.7.3	34-41
	Protection of consumers' health and safety	6.7.4	
	Sustainable consumption	6.7.5	
	Consumer service, support, and complaint and dispute resolution	6.7.6	
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	Education and awareness	6.7.9	
Local Community Engagement and Development	Active community involvement	6.8.3	50-55
	Education and culture	6.8.4	
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	Health	6.8.8	
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Signatory to and Commitment to Support the UNGC

Since 2007, KOGAS has joined the UN Global Compact (UNGC), which is an international agreement that stipulates the social responsibilities of global enterprises. We declared that we will sincerely implement the ten principles in four areas as human, rights, labor standards, environment, and anti-corruption.

	Principle
 Human Rights	Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights; and
	Principle 2 Make sure that they are not complicit in human right abuses.
 Labor	Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
	Principle 4 The elimination of all forms of forced and compulsory labor;
	Principle 5 The effective abolition of child labor; and
	Principle 6 The elimination of discrimination in respect of employment and occupation
 Environment	Principle 7 Businesses should support a precautionary approach to environmental challenges;
	Principle 8 Undertake initiatives to promote greater environmental responsibility;
	Principle 9 Encourage the development and diffusion of environmentally friendly technologies.
 Anti-Corruption	Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery

Subsidiaries and Invested Companies

1. Subsidiaries

Type	Company Name
1	Korea Gas Technology Corporation Co., Ltd.
2	KOGAMEX Investment Manzanillo B.V.
3	KOMEX-GAS, S. de R.L. de C.V.
4	KOGAS Iraq B.V.
5	KOGAS Badra B.V.
6	KOGAS Akkas B.V.
7	KOGAS Mansuriya B.V.
8	KOGAS Canada Ltd.
9	KOGAS Canada LNG Ltd.
10	KOGAS Australia Pty. Ltd.
11	KOGAS Prelude Pty. Ltd.
12	KG Timor Leste Ltd.
13	KG Krueng Mane Ltd.
14	KG Mozambique Ltd.
15	KOGAS Mozambique, Lda
16	KOGAS Cyprus Ltd.
17	KC LNG Tech Co., Ltd.

2. Affiliate

Type	Company Name
1	Korea Ras Laffan LNG Ltd.
2	Korea LNG Ltd.
3	Hyundai Yemen LNG Company
4	Korea LNG Trading Co., Ltd.
5	Kor-Uz Gas Chemical Investment Ltd.
6	South-East Asia Gas Pipeline Company Limited
7	Sulawesi LNG Development Limited
8	TOMORI E&P Limited
9	AMEC Partners Korea LTD

3. Joint Ventures

Type	Company Name
1	Kor-Uz Cylinder Investment Co., Ltd.
2	Korea-Uz CNG Investment Co., Ltd.
3	TERMINAL KMS de GNL, S. De R.L.De C.V.
4	GLNG Operations Pty. Ltd.
5	GLNG Property Pty. Ltd.
6	CORDOVA GAS RESOURCES LTD.
7	ENH - KOGAS, SA.
8	LNG Canada Development Inc.
9	Manzanillo Gas Tech, S. de R.L. deC.V.



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