



KOGAS ANNUAL REPORT 2011



# GLOBAL **KOGAS**

Growing Together with Customers

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**KOGAS**  
Looking across the world for the good of the nation  
Whilst serving as a respected public corporation that  
fulfills its roles and responsibilities domestically

On August 18, 1983,  
KOGAS made its first step towards  
becoming a better energy for a better world  
through the stable supply of natural gas.



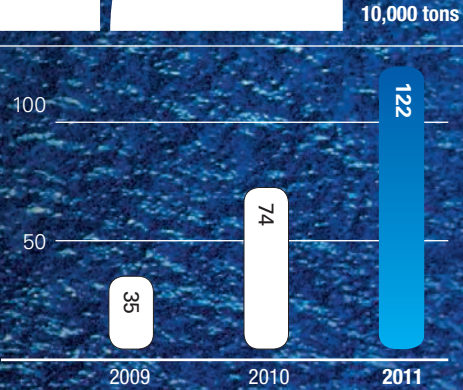


**KOGAS**

Looking across the world for the good of the nation  
Whilst serving as a respected public corporation that  
fulfills its roles and responsibilities domestically

Self-sufficiency

Three years after its inception, KOGAS began importing LNG and initiated its natural gas service. This small step led us to becoming a global energy powerhouse, one that procures the gas from 16 countries around the world, including Indonesia, Malaysia, Brunei, Oman, Qatar, and Australia.







**KOGAS**

Looking across the world for the good of the nation  
Whilst serving as a respected public corporation that  
fulfills its roles and responsibilities domestically

With the aim of escalating the quality of life for Korean citizens through the safe, stable and affordable supply of natural gas, we are expanding LNG services and building platform in the country.  
To that end, KOGAS is leading the way in pursuit of overseas resource development and remains committed to achieving energy independence.



**3,357**  
Sales volume in 2011  
(10,000 tons)



**101**  
No. of cities in  
service (cities)



**73.3**  
Supply  
rate (%)



**1,444**  
No. of households  
(10,000 households)

(As of the end of 2011)

**33.57**

Sales  
volume for  
2011

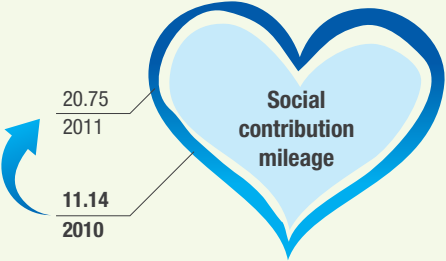
million  
tons





**KOGAS**  
Looking across the world for the good of the nation  
Whilst serving as a respected public corporation that  
fulfills its roles and responsibilities domestically

The ultimate goal of KOGAS is to contribute to creating a better Korea.  
In addition to the stable supply of energy, it engages in social contribution activities that support the underprivileged and remains committed to mutual growth with SMEs.  
In recognition of its tireless endeavors, customers have awarded KOGAS with the top ranking in customer satisfaction for five straight years.

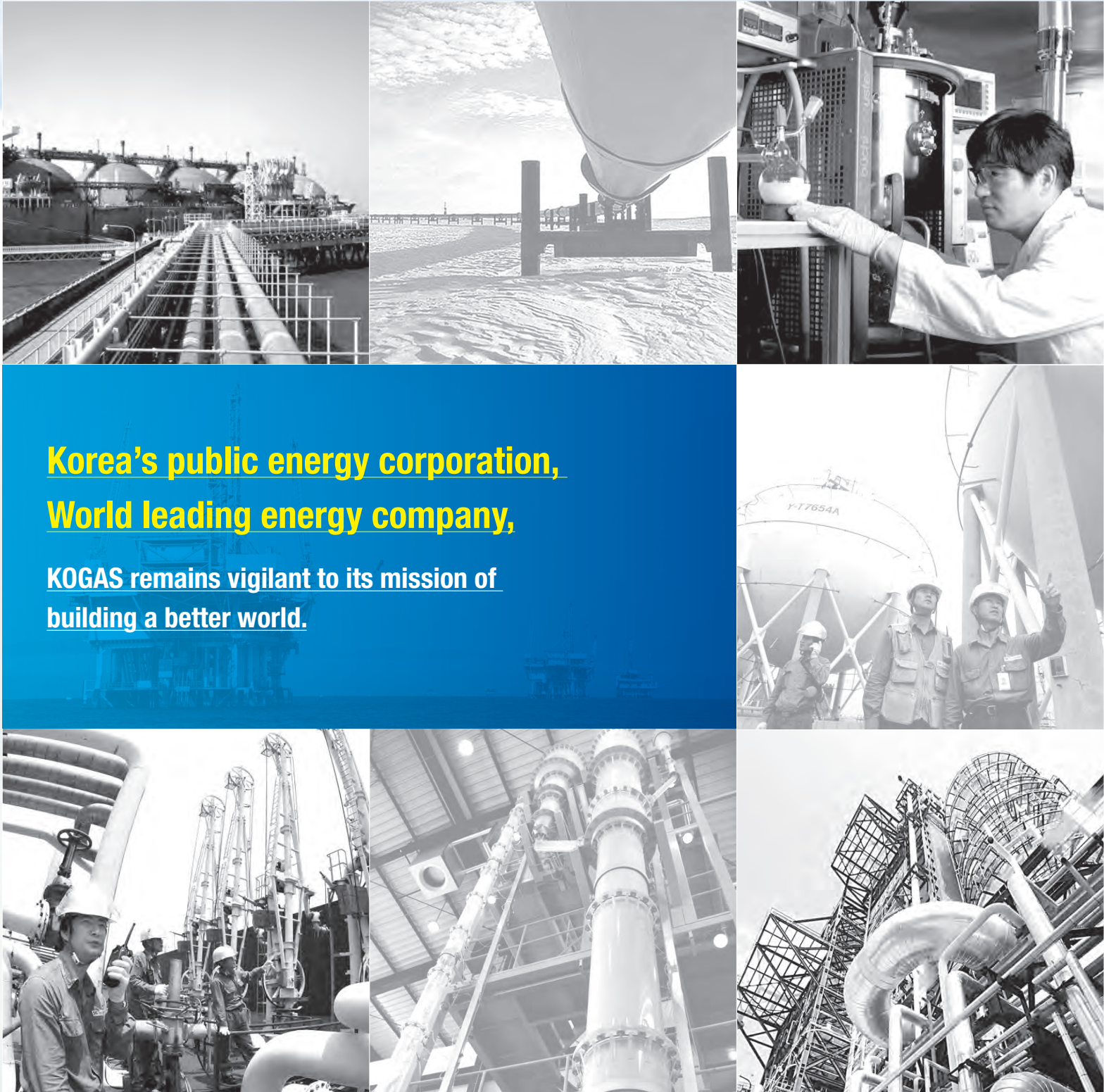


Social contribution mileage up

86.26

% year-on-year





**Korea's public energy corporation,  
World leading energy company,**  
**KOGAS remains vigilant to its mission of  
building a better world.**

# HISTORY OF KOGAS



**KOGAS**  
Looking across the world for the good of the nation  
Whilst serving as a respected public corporation that  
fulfills its roles and responsibilities domestically

- 1980  
~
- Aug. 1983 Established KOGAS  
Oct. 1986 First import of LNG  
Nov. 1986 Initiation of natural gas supply to power plants  
Feb. 1987 Initiation of natural gas supply for city gas  
Apr. 1987 Completion of Pyeongtaek LNG Terminal and distribution facilities
- 1990  
~
- May 1993 Establishment of Korea Gas Technology Corporation KOGAS-Tech)  
July 1993 Initiation of natural gas supply to central region of Korea  
June 1994 Korea's first LNG carrier entered service  
Nov.~ Dec. 1995 Initiation of natural gas supply in the Yeongnam and Honam areas  
Mar. 1996 Declared business reformation  
Dec. 1996 Initiation of natural gas supply in Busan  
Jan. 1997 Establishment of KOLNG  
Oct. 1997 Completion of Incheon LNG Terminal  
Oct. 1999 Initiation of natural gas supply to the western region of Korea  
Dec. 1999 Listing of KOGAS on Korea Stock Exchange  
Initiation of natural gas supply to the southern region of Korea (completing ring-shaped network connecting Seoul Metropolitan Area with Southeast and Southwestern tips of Korean peninsula)
- 2000  
~
- June 2000 Commencement of Natural Gas Vehicle service  
Oct. 2002 Completion of Tongyeong LNG Terminal main facilities  
Nov. 2002 Initiation of natural gas supply in Gangwon region  
(completing nationwide natural gas supply infrastructure)  
Jan. 2004 Provision of natural gas to 10 million households  
June 2007 Completion of main pipeline network connecting Daegu and Tongyeong  
July 2007 Creation of KOGAS Vision 2017 "Global KOGAS: Growing Together with Customers"  
July 2008 Inception of LNG pipeline expansion project  
Sept. 2008 Signing of MOU with Gaz Prom for the supply of natural gas  
July 2009 Ground breaking for the laying of pipelines in areas not-yet-in-service  
Dec. 2009 Selected the pilot scheme for the Public Corporation Autonomous Management Scheme
- 2010  
~
- Jan. 2010 Signed development and production rights to oil and gas fields in Zubair and Badra, Iraq  
Oct. 2010 Named at DJSI Korea listings for the second year  
Oct. 2010 Awarded the bid for development and production in Akkas and Mansuriya Gas Fields in Iraq  
Mar. 2011 Named the World's 4th Most Admired Energy Company by Fortune  
Dec. 2011 Obtained top rating in Customer Satisfaction Survey of (Korean) public corporation services for the fifth successive year

Self-sufficiency **122** 10,000 tons

Sales volume for 2011 **33,57** million tons

Social contribution mileage up **86,26** % year-on-year



Distinguished customers,

Since its foundation in 1983, KOGAS has devoted its energy and effort to the long-term stable supply of natural gas for the sake of the nation's quality of life and welfare. As a result, we have been able to realize the stable supply of natural gas nationwide and achieved remarkable performance in overseas resource development projects, and thus growing into a leading global energy company.

These remarkable accomplishments, however, would not have been possible without the unwavering support and encouragement by our customers. Therefore, all the credit and attributes belong to our customers, and to them we give our deepest appreciation.

In the coming year, lingering uncertainties in the global economy and financial markets will cause oil prices and foreign exchange rates to fluctuate, while growing international demand for LNG service is expected to increase price risks. In order to turn these crises into opportunities, KOGAS will relentlessly strive for change and innovation with an enterprising spirit in order to realize its vision of becoming "KOGAS, Working with the World and Serving the Nation."



“  
**Turning crises into opportunities,  
we are dedicated to reciprocating  
our customers’ trust and encouragement.**  
”

**A global energy company  
working with the world**

❶ In dealing with the difficulties and uncertainties currently abounding in global markets, KOGAS will concentrate its resources on its 26 overseas resource development projects in 16 countries, thus laying the foundation to become a global energy corporation.

In the past, our overseas resource development projects have been clustered in certain areas of Southeast Asia, yet we have consistently expanded the scope of our overseas projects across the world. Furthermore, we reaped tangible results in the nonconventional gas business, a future energy source, by expanding into all natural gas related business areas. Revenue sources have been diversified as we expanded the scope of business from equity investments in production blocks to exploration & production projects, overseas LNG terminal construction and O&M businesses, while securing globally competent technologies and talented personnel.

In particular, 2011 saw many of our projects bear fruit. The Mozambique offshore block hit a large-scale gas field, with a natural gas reserve equivalent to 2.6 times Korea's annual supply. We also became the first Korean public corporation to advance into Arctic resource development projects. In addition, we signed an agreement to develop three blocks in Hone River and West Cutbank in Canada—prospective areas for nonconventional gas development, while the coal bed methane (CBM) development project in Queensland, Australia is also in progress.

Not content to rest on these accomplishments, KOGAS will push forward with its overseas resource development projects until we attain our corporate value goal of KRW 30 trillion, 25% self-sufficiency and 60 percent of income coming from overseas operations by 2017.

**Customer-oriented  
public corporation**

❷ Providing clean and convenient natural gas is KOGAS' principal goal. In that context, KOGAS has been expanding its storage capacity and nationwide pipeline network to realize the stable supply of natural gas and energy security for the nation. Korea's natural gas supply increased by 7.6 percent in 2011 to 33.57 million tons, up from 31.2 million tons in 2010. As natural gas supply is predicted to continue increasing in the long-term, KOGAS is planning more LNG terminals to meet this increasing demand.

**Respected company  
that fulfills its corporate  
social responsibilities**

❸ KOGAS earned the top ratings in a customer satisfaction survey on public corporation services for the fifth consecutive year. In order to return this customer support, we will increase our social contribution programs at home and overseas in order to fulfill our corporate social responsibilities. While expanding support for social minority groups, we will continue increasing our sponsorship of the underprivileged through such programs as the Onnuri Scholarship, and Onnuri Medical Service. In a bid to fulfill our corporate responsibilities as a global energy company, we have expanded the scope of our social contribution activities to needy people in countries where we are currently conducting resource development projects, such as East Timor, Uzbekistan, Mongolia, and Vietnam.

In 2011, we also made a commitment to win-win partnerships with small- and medium-sized enterprises (SME). We provided them with our business skills in human resource development and technical information, thus helping them improve productivity and competitiveness.

Undaunted by current difficulties and fierce competition in the business environment, KOGAS is committed to growing as a respected public corporation; one that competes shoulder to shoulder with multinational energy giants.

Dedicated to building a "better energy, better world," for our customers, KOGAS will not stop until it reciprocates your support and encouragement.

Thank you.

Choo, Kang-Soo  
CEO & President



“**KOGAS, Working with the world,  
Serving the nation through continuous innovation and change”**

Under the great vision of “Global KOGAS: Growing Together with Customers,” KOGAS tirelessly works to become a global energy company through innovation and change in order to realize KRW 30 trillion in corporate value by 2017. Under the same vision, we have set the details of our goal at enhancing productivity by 100%, achieving 25% self-sufficiency and increasing the portion of overseas profit to 60%. In order to attain this, we have expanded our business network domestically and overseas, created new value as the nation's No.1 public corporation through reorganization, led innovation in human resource management and work efficiency, and improved corporate governance.

Clearly understanding that innovation and change is the prerequisite to realizing our shared vision, everyone at KOGAS will continue to make concerted efforts.

At the center of the global stage, KOGAS is helping create a brighter future for Korea.



Global **KOGAS**:  
Growing Together with Customers

KRW 30 Tril. of Corporate Value '12 → '17	Self-sufficiency ratio 9% → 25%	Overseas profit ratio 34% → 60%	Productivity enhancement 45% → 100%	
Core Competencies	Professionalism	Technology Leadership	Brand Power	
Core Values	Trust	Change	Challenge	Responsibility
Self-sufficiency	Ensuring energy source leadership	Expanding business network	Enhancing global competencies	Upgrading management system
Overseas profit share Productivity	<ul style="list-style-type: none"><li>• Promoting oil &amp; gas field development projects</li><li>• Securing non-conventional energy sources</li><li>• Fostering green energy projects</li></ul>	<ul style="list-style-type: none"><li>• Expanding supply infrastructure</li><li>• Augmenting mid-and down-stream businesses</li><li>• Reinforcing energy marketing competencies</li></ul>	<ul style="list-style-type: none"><li>• Securing global talent</li><li>• Developing core technologies</li><li>• Bolstering financial soundness</li></ul>	<ul style="list-style-type: none"><li>• Internalizing core values</li><li>• Establishing customer-oriented management practices</li><li>• Performance-based operation</li></ul>

KOGAS  
Management Policy

“**Working with the world, Serving the nation, KOGAS”**

Five missions	<ul style="list-style-type: none"><li>① Safe, stable, economic supply of natural gas to the entire nation</li><li>② Long-term security of gas resources</li><li>③ Core competencies to participate in overseas network projects</li><li>④ Corporate culture based on trust and confidence</li><li>⑤ Customer-oriented sustainability management</li></ul>
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# GLOBAL **KOGAS**: A COMPANY WORKING WITH THE WORLD



KOGAS is laying the groundwork to become a leading global energy company through the aggressive pursuit of overseas resource development projects. Not content to rest on past successes, we will continue to strategically move forward and take on further overseas projects so as to leap forward as a leading global energy company.



Global KOGAS Initiatives



»» Expanding our Global Presence

Exploration(4)
East Timor Offshore Block Exploration Project
Indonesia Krueng Mane Offshore Block Exploration Project
Mozambique Area 4 Offshore Block Exploration Project
Uzbekistan Uzunkui Block Joint Research Project

LNG Import/Related Projects (6)
Oman O LNG Project
Qatar Ras Laffan LNG Project
Yemen LNG Project
Indonesia DSLNG Joint Operation Project
Australia GLNG Project
Australia Prelude Project

Exploration & Production (E&P) Projects (9)
Uzbekistan Surgil Gas Project
Canada Arctic Umiak Project
Canada Cordova Project
Canada Horn River and West Cutbank Project
Myanmar A-1 & A-3 Project
Iraq Zubair Oil & Gas Project
Iraq Badra Oil & Gas Project
Iraq Akkas Gas Project
Iraq Mansuriya Gas Project

Overases LNG Terminal Projects (7)
Mexico Manzanillo LNG Terminal Project
Thailand PTT LNG Terminal EPC Project
Singapore LNG Terminal Technology Consulting Project
U.A.E. LNG Terminal Technology Consulting Project
China Jiangsu LNG Terminal Technology Consulting Project
China Dalian LNG Terminal Technology Consulting Project
China Zhejiang LNG Terminal Technology Consulting Project

Global KOGAS, Vision 2017

As a public corporation operating in a country that heavily depends on imports for its energy, it is our duty to secure overseas resources. Well aware of this, we continue to concentrate on becoming a global energy powerhouse under the vision “Global KOGAS: Growing Together with Customers.” In the short-term, we have set Vision 2017 as our business strategy.

Leveraging our core competencies of professionalism, technological leadership and brand power, as well as our core values of trust, change, and challenge, we have set the goal of improving productivity by 100% so as to

realize a self-sufficiency rate of 25%, as well as 60% of our overall profits coming from overseas. In 2011, we held the “KOGAS Strategy Debate” in order to share the company’s vision and details of the market environment with employees as well as seek solutions to key issues. By channeling company-wide resources into one shared goal, KOGAS will make the successful leap forward as a leading global energy company through world-class products, global competency and industry-leading performance.

The World is Our Stage

As of January 2012, KOGAS is actively engaged in 26 overseas projects, including, exploration and E&P, as well as liquefaction and terminal O&M projects in 16 countries around the world.

Committed to raising the nation’s self-sufficiency and securing a stable supply of natural gas, KOGAS has diversified from previous Middle East-dependent import supply lines to numerous other countries, while at the same time laying special emphasis on gas field development projects in the Northeast Asia region. Between 2009 and 2010, the company advanced into Canada,

Russia and Iraq. Furthermore, we entered the Arctic region, an important emerging strategic point for resource development, through participation in the Umiak field development project in North America. We continue to pursue other undiscovered areas, thus diversifying our strategic resource development areas. At the same time, we have expanded to new energy sources of non-conventional gases such as CBM, shale gas and tight gas. Aiming to become a leading global energy company, we will continue expanding our search for natural resources to every corner of the world.

Dismantling Barriers

At the beginning, KOGAS’ main business was importing LNG and distributing Natural Gas to the nation. In keeping with this, the focus of our business is now overseas development projects. We entered the upstream business of natural gas through various E&P projects, as well as expanded to mid and down-stream businesses such as LNG terminal and pipeline construction projects, thus creating a comprehensive business portfolio. Our efforts began to produce results not only in large-scale resource development projects but also in exploration projects. We are currently participating in

the Zubair oil development project, as well as serve as an operator in the Akkas gas developing project in Iraq. In addition, we hit a large-size gas field, equivalent to the nation’s supply for 18 months, at the Mozambique offshore blocks.

As a company developing, producing and selling energy around the world, KOGAS will continue to grow as a globally competent energy company, while strategically expanding its global business in the pursuit of emerging markets.



# Overseas Resource Development Projects

## Exploration

### East Timor Offshore Block Exploration Project.

KOGAS is currently involved in exploration projects at four offshore blocks—B, C, E, H--- near East Timor, with an estimated reserve of approximately 254 million tons of LNG. KOGAS purchased its stake in the project in 2007 and drilled the first exploration well in January 2011. Further geological and scientific studies, as well as drilling, are scheduled for the remaining exploration period.

### Indonesia Krueng Mane Offshore Block Exploration Project

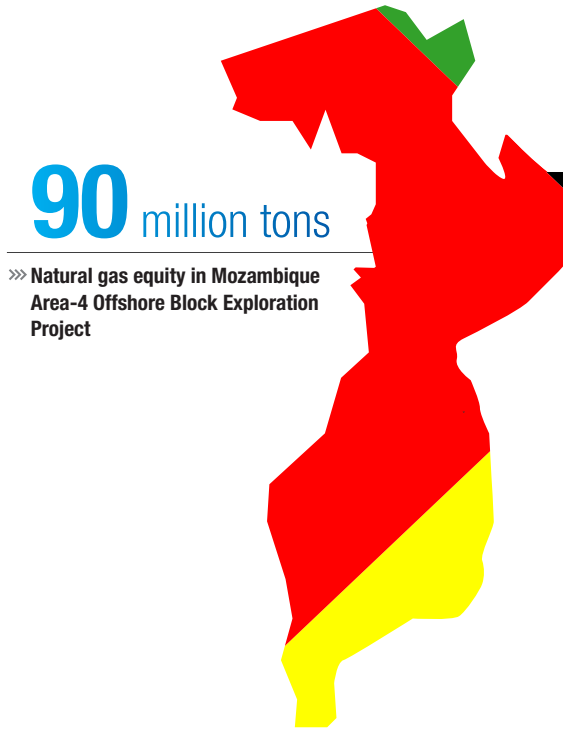
KOGAS signed a farm-out agreement to acquire a 15% stake of the Indonesian Krueng Mane block from ENI of Italy in 2007. The Plan of Development (POD) for the discovered JAU gas field with a contingent resource of 0.23 Tcf (equivalent to 4.8 million tons of LNG) was authorized by the Indonesian government in January 2012. As such, the project is currently undergoing a feasibility study, the final stage before actual development.

### Mozambique Area 4 Offshore Block Exploration Project

Located on the eastern offshore of Mozambique, the Area 4 block's total discovery amounts to 40 Tcf (equivalent to 900 million tons of LNG). Under a farm-out agreement signed with ENI in 2007, KOGAS holds a 10% stake in the block, thus entitling it to a total of 90 million tons of gas, 2.6 times the domestic annual supply. In 2010, the project consortium obtained and interpreted additional 3D seismic data. Since 2011, we have drilled three exploration wells, successfully hitting a large-scale gas field in the process. Additional drilling is scheduled at these exploration wells.

### Uzbekistan Uzunkui Block Joint Research Project

KOGAS' consortium signed an agreement with Uzbekneftegaz (UNG) regarding joint research at the Uzunkui blocks in 2008, with a 50% investment being made by each. As a member of the consortium, KOGAS claims a 25% stake of the entire project, which has completed Phase 1 of the regional seismic survey and will move to Phase 2, an up-close seismic survey, in March 2012.



## LNG Import/Related Projects

### Oman O LNG Project

KOGAS began its overseas resource development business in January 1997, taking a 1.2% share in the Oman LNG Investment Project through KOLNG, its joint venture with the private sector.

### Qatar Ras Laffan LNG Project

KOGAS participated in the Qatar RasGas project through KORAS, its overseas joint venture counterpart established in 1999.

### Yemen LNG Project

KOGAS gained interest in the Yemen Investment Project in 2005 by acquiring an 8.9% stake in the project. The project began commercial production at the end of 2009.



### Indonesia DSLNG Joint Operation Project

Partnering with Mitsubishi and other Asian companies, KOGAS purchased stakes in the Serono and Martindok gas fields which is located on the Indonesian island of Sulawesi, as well as a liquefaction plant which has an annual capacity of 2 million tons. As part of its plan to secure a long-term additional supply, KOGAS will begin importing approximately 700,000 tons of gas annually from the project beginning the end of 2014. This project is expected to increase the company's competency in operating LNG projects and in the upstream businesses.

### Australia GLNG Project

KOGAS purchased a 15% stake in the GLNG project on the condition of LNG purchase. The GLNG project develops and liquefies natural gas from the coal seam gas (CSG) field located inland of Queensland, Australia. With an annual capacity of 7.8 million tons, the project is currently in the development stage, with the aim of beginning production in the second quarter of 2015. Through this project, KOGAS expects to reinforce its competency in non-conventional gas field development and take the lead in future LNG projects.

### Australia Prelude Project

In September 2011, KOGAS signed a basic agreement to purchase a 10% stake in a project to develop the Prelude field and other small and mid-sized gas fields offshore northwest Australia and produce floating LNG (FLNG). In December of the same year, the company established a local subsidiary, KOGAS Prelude Pty. Ltd., and entered the main contract of the Farm-out Agreement in March 2012. With an annual capacity of 3.6 million tons, the project has set the goal of beginning production at the end of 2016.



7.8 million tons

»» Australia GLNG Project annual production





Exploration & Production (E&P) Projects

Uzbekistan Surgil Gas Project

KOGAS signed a Memorandum of Understanding (MOU) with Uzbekneftegaz for the Surgil project in 2006, and established a joint venture in 2008. The Surgil project is a package deal encompassing the joint development of the gas field and feed gas from gas fields in the vicinity, as well as the sale of gas chemical products, natural gas and by products from the construction and the operation of a gas chemical plant. The project is currently involved in a feasibility study and project financing. When the investment plan finalizes, gas chemical plant will be constructed in the second half of 2012.

Canada Arctic Umiak Project

In February 2011, KOGAS signed an agreement with MGM Energy Corp. to buy a 20% stake of the Umiak block in the Arctic area of Canada, thus advancing into the Arctic Resource Development Project. Having completed delineation well drilling, the block's contingent resource is verified to be 347Bcfe (equivalent to 7.29 million tons of LNG). Of this, KOGAS' share amounts to 69Bcfe (equivalent to 1.45 million tons of LNG). With this project, the company is highly expected to acquire valuable knowledge and experience in the development, pipelining and operation of blocks in frozen soil, thereby enhancing its competencies for future polar resource development projects. By creating a network with developers and the native community, the company is positively considering entering the Arctic resource development project, a district rich in natural resources.

Canada Cordova Project

KOGAS purchased a 10% stake of CGR, Cordova Gas Resources Ltd., which has 50% of working interest in 4.5 Tcf of a Cordova gas field in August 2011. The company is planning to drill the block in 2012. The project is expected to have a favorable effect on KOGAS' natural gas business in Canada as it renders KOGAS with the raw material required for future LNG projects there.

Canada Horn River and West Cutbank Project

KOGAS signed a contract with Encana, a Canadian natural gas developer, in February 2010, for a 50% share of blocks of Kiwigana in the Horn River, Jackpine and Noel blocks in West Cutbank. These locations recently came under spotlight as prospects for non-conventional gas reserves. At the Jackpine and Noel blocks, testing is currently underway at the delineation well, and the Kiwigana block has started its initial production from 10 pilot wells since the end of May 2012. From 2010 to 2011, we strove to reinforce our non-conventional gas E&P capabilities by expanding the size of blocks through bidding and equity investment. While securing additional gas reserves in North America, the company plans to import natural gas from Canada as part of its LNG project. Through such moves, we will be able to complete an integrated value chain encompassing the up, mid, and down-stream gas sectors.

Myanmar A-1 & A-3 Project

Located offshore the northwest part of Myanmar, the A-1 and A-3 blocks were verified to have a reserve of 4.53 Tcf . KOGAS entered into a gas sales agreement with China's CNUOC in December 2008 and moved to the development stage in 2009. The company is currently working on construction. After completion, gas products will be transported via submarine and on-land pipelines directly from the offshore gas fields to China beginning 2013.

>>> Estimated crude oil production at Iraq Zubair oil & gas field for 20 years

6.4 billion barrels

Crude oil production at the Iraq Zubair oil & gas field project is estimated at 6.4 billion barrels over the next 20 years

Iraq Zubair Oil & Gas Project

Located 20km southwest of Basra in southern Iraq, the Zubair oil & gas field spans 900km<sup>2</sup>, 1.5 times the size of Seoul, and boasts crude oil production estimated at 6.4 billion barrels over 20 years. On June 30, 2009, KOGAS won the bidding to the field as part of a consortium with Eni (operator) and Occidental during the first round of bidding in Iraq. The technical service contract (TSC) was signed on January 22, 2010 and rehabilitation plan was approved by SOC in June 2010. After setting of the Field Operating Division (FOD) which is an on-site organization for field operation in August 2010, the operatorship for the field was transferred from SOC to FOD in January 2011. In 2011, the Zubair oil field produced 250,000 barrels of crude oil daily, resulting in 94 million barrels that year. Of this, KOGAS lifted 940,000 barrels of crude oil for the cost recovery and remuneration fee. In 2012, additional well drilling and production facility expansion are scheduled with the aim of producing 280,000 bpd, and a total of 100 million barrels for the year. As a result, KOGAS expects to lift 2 million barrels of crude oil in 2012. With the company dispatching technicians to the FOD, where they work alongside engineers from ENI, learning their advanced skills and knowledge, KOGAS expects to move forward as an independent energy E&P operator.

>>> Estimated production at Iraq Akkas gas field for the next 20 years

2.1 Tcf

Iraq Akkas gas field E&P project is estimated to produce 2.1 Tcf (equivalent to 44 million tons of LNG) over 20 years.

Iraq Badra Oil & Gas Project

Discovered in 1979, the Badra oil & gas field sits 160km southeast of Baghdad, Iraq, near the country's border with Iran. Spanning 100km<sup>2</sup>, the block is expected to produce a total of 800 million barrels over 20 years. KOGAS landed the project as part of a consortium with Gazprom Neft (GPN, operator) of Russia, Petronas of Malaysia, and TPAO of Turkey during the second round of bidding in Iraq on December 12, 2009. The development and production service contract was signed on January 28, 2010. After the preliminary development plan was approved in December 2010, the consortium drilled an appraisal well (Bd5) in November 2011. With the goal of beginning production in 2014, the consortium is currently drilling five holes, including three production wells in 2012, while the drilling of a new oil well and the creation of central processing facility (CPF) EPC are currently in progress as scheduled. The Badra project is one stage ahead of the Akkas project. Therefore, the experience and knowledge the company earned from the Badra project can contribute to the success of the Akkas project, where it serves as an operator for the first time. Oil & gas field E&P data and information earned from the Badra project will be instrumental in drawing a preliminary development plan, creating a joint management committee, and related development & production facility works for the Akkas project.

Iraq Akkas Gas Project

The Akkas gas field is located near the border with Syria in the west Anbar state, 400 km northwest from Baghdad, Iraq. Spanning 850km<sup>2</sup>, 1.4 times the size of Seoul, it will produce a total of 2.1 Tcf (equivalent to 44 million tons of LNG) over 20 years. KOGAS earned administration rights at the third round of bidding in Iraq on October 20, 2010. Having entered into the main contract on October 13, 2011, the preliminary development plan was submitted in May 2012. This project is significant in that it is the first project in which KOGAS will serve as an operator. With the goal of beginning production in 2015, the project is on schedule, with the preliminary development plan gaining approval in August, when it also submitted its bid for EPC outsourcing. Through the successful operation of this project, KOGAS will use the opportunity to enhance its competencies as a leading global energy company.

Iraq Mansuriya Gas Project

The Mansuriya gas field is located in the state of Diyala, 100km northeast of Baghdad, Iraq. Spanning 200km<sup>2</sup>, or one third the size of Seoul, the block will produce a total of 1.68 Tcf (equivalent to 35 million tons of LNG) over 20 years. The company won administration rights as part of a consortium with TPAO (operator) of Turkey and KEC of Kuwait during the third round of bidding in Iraq on October 20, 2010. The main contract was signed on June 5, 2011, the preliminary development plan was approved in May 2012. With approved authorization, the project is expected to see initial gas production in 2015. KOGAS expects the project will open a new window of opportunity for the company to work with the Iraqi government, various state-run companies and operator in the future.





## LNG Terminal Projects

### Mexico Manzanillo LNG Terminal Project

As part of a consortium with Samsung Corporation and Mitsui Corporation of Japan, KOGAS landed the Mexico Manzanillo LNG Terminal Project in 2008. The project is a build-own-operate (BOO) project, in which the consortium will invest, build and operate the plant for 20 years (2011~2031) following construction. Equipped with two 150,000kℓ-class storage tanks and gasification facilities, the plant will supply natural gas to the CFE power plant and the city of Guadalajara for the next 20 years. With construction complete in June 2011, the plant is slated for commercial operations in May 2012. The project is expected to raise the international recognition of KOGAS' LNG terminal construction and operation competencies, thus creating a foothold for the company and other Korean companies to advance into the local market.

### Thailand PTT LNG Terminal EPC Project

In February 2008, KOGAS formed a domestic consortium to sign an EPC contract for an LNG terminal with PTT LNG Company Limited, a subsidiary of Thailand's state-run oil company PTT. KOGAS is providing technology consulting, pilot operations, and training operators to the project, while its subsidiary, KOGAS-Tech, is designing storage tanks. Pilot operations were completed in August 2011. KOGAS has been generating overseas revenue through the project, thus raising its recognition overseas. Meanwhile, it was also able to reinforce its global competency in EPC business, while laying the foundation for more overseas LNG terminal EPC projects in the future.

### Singapore LNG Terminal Technology Consulting Project

In cooperation with Samsung Corporation, KOGAS is participating in the EPC project to construct an LNG Terminal in Singapore. With its subsidiary, KOGAS-Tech, designing the storage tank, KOGAS is providing pilot operation, technical advice, and training services. KOGAS-Tech is also designing a third storage tank for the same terminal, with KOGAS also running the pilot operation and training operators at the additional facility. Leveraging its established brand recognition in the market, KOGAS will use this opportunity to help Korean companies advance into the market, whilst reinforcing its own engineers building competencies. Coupled with its experience from the Thailand PTT LNG Terminal EPC project, this will serve to contribute to future overseas projects.

### U.A.E. LNG Terminal Technology Consulting Project

Designated as a technical consultant to the Emirates LNG Terminal Project, KOGAS is defining the concept of the project, setting the design guidelines, and selecting the FEED/EPC subcontractor. It will also provide technical advisory services to the client regarding the paperwork required to gain approval of its designs and blueprints. As the world's first combined LNG terminal, integrating a floating LNG Terminal (FSRU), floating LNG storage unit (FSU), and inland gasification plant, the project will serve as an aid to KOGAS and Korean E&C companies in winning future floating LNG terminal projects. With KOGAS providing comprehensive technical advisory services throughout the entire terminal development procedure, the company is expected to increase its global business and overseas profits.

### China Jiangsu LNG Terminal Technology Consulting Project

In 2010, KOGAS landed an order from China's HQCEC for pilot operation, technical advice and the training of local operators at the Jiangsu LNG Terminal, operated by the Chinese state-run oil & gas company CNPC. This attest to the global recognition of our competency in comprehensive LNG terminal projects, which encompasses design, construction, pilot operation & O&M. With this, KOGAS will further raise its name, building on its 30 years experience and expertise that have been proven in various LNG terminal projects around the world.

### China Dalian LNG Terminal Technology Consulting Project

KOGAS' outstanding service at the China Jiangsu LNG Terminal Technology Consulting Project in 2010 earned customer trust and satisfaction. Therefore, CNPC and HQCEC returned to KOGAS for the training of local operators and the pilot operation of the Dalian LNG Terminal in 2011. This clearly indicates that KOGAS has not only accumulated technologies and knowledge through such projects, but has established a system that can perfectly serve any client anywhere.

### China Zhejiang LNG Terminal Technology Consulting Project

In March 2012, KOGAS signed a service contract with CNOOC Zhejiang Ningbo LNG, operator of the Zhejiang LNG Terminal, to provide technical training to local O&M engineers. In particular, the contract is significant in that it is the second time the company has served the same client. KOGAS provided technical advisory services regarding the designing of a storage tank for the same terminal in 2010, thus a clear indicator of the client's satisfaction with KOGAS' services.

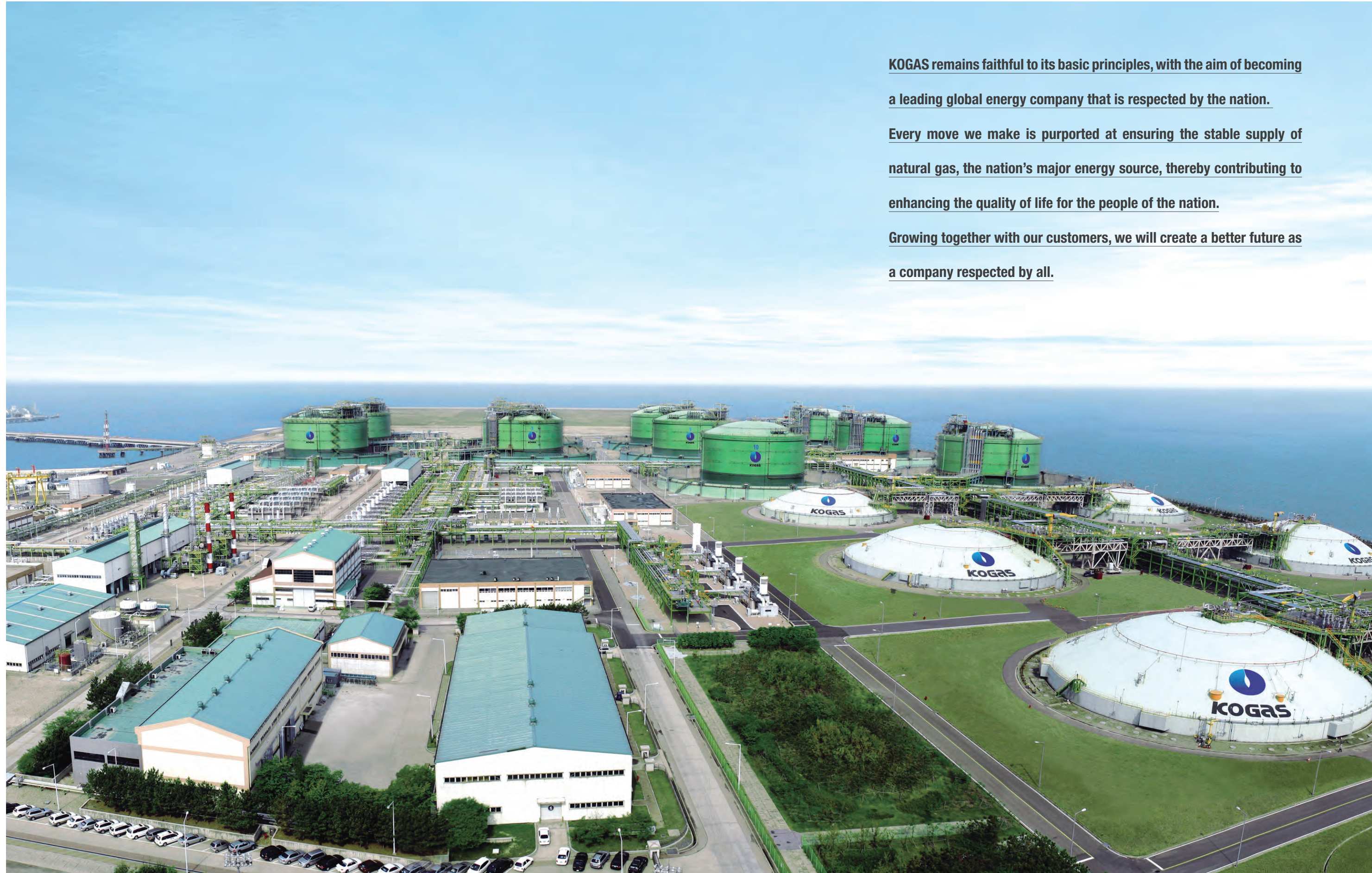
Constructing  
two units of  
**150,000**  
kℓ-capacity

>>> Manzanillo LNG Terminal Project





# GLOBAL **KOGAS**: A COMPANY SERVING THE NATION



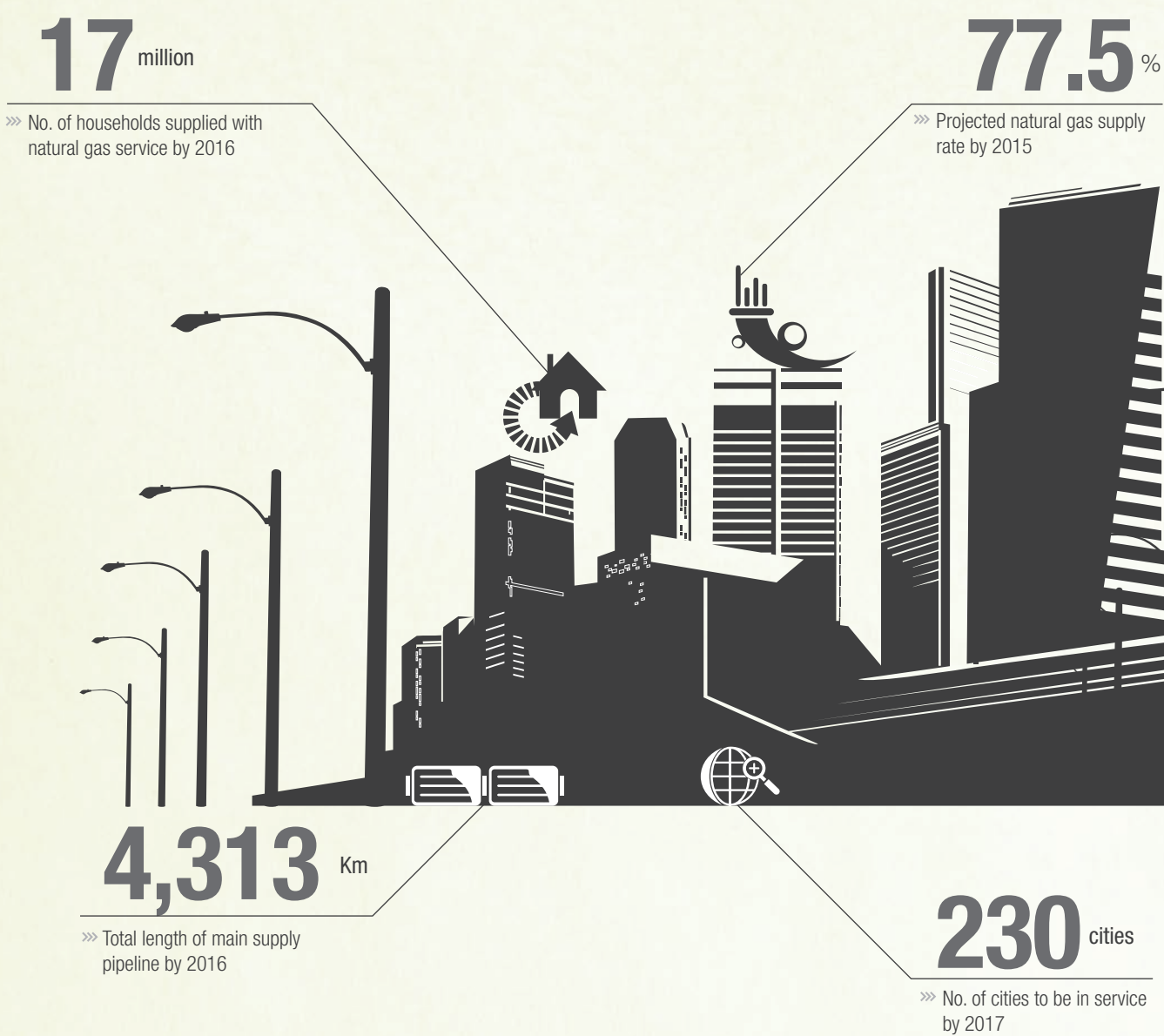
KOGAS remains faithful to its basic principles, with the aim of becoming a leading global energy company that is respected by the nation.

Every move we make is purported at ensuring the stable supply of natural gas, the nation's major energy source, thereby contributing to enhancing the quality of life for the people of the nation.

Growing together with our customers, we will create a better future as a company respected by all.



Fulfilling our roles and responsibilities to ensure stable supply of natural gas to the nation



A Company Respected by the Nation, KOGAS

Natural Gas: the Nation's Main Source of Energy

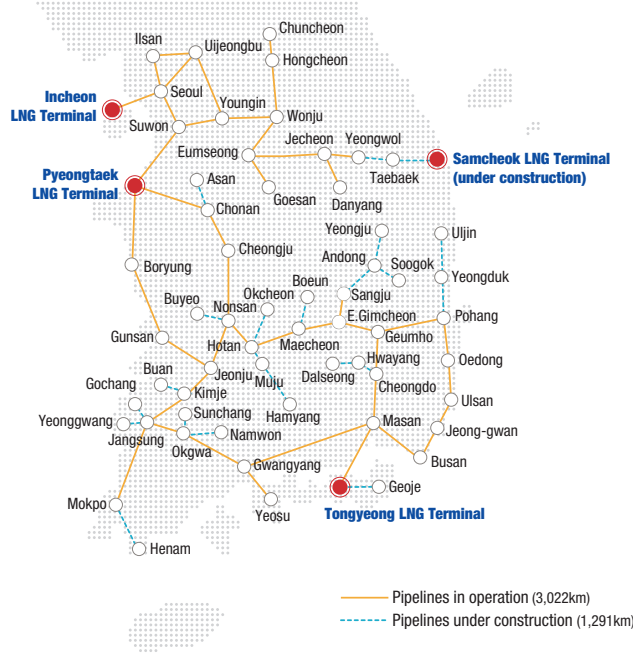
Stable Supply of Natural Gas

In line with the foundation purpose of contributing to the public welfare and convenience of the nation's citizens through the stable long-term supply of natural gas, KOGAS strives to ensure a stable infrastructure for the import of natural gas, while at the same time preparing for changing market demands brought about by various external factors. Through consistent efforts to minimize errors in regards to demand forecasting, we maintain an error rate in the 2 percent range. By developing an effective short-term supply plan, we are able to preemptively secure our nation's supply. Furthermore, we redrew our winter-summer supply scheme, enabling us to make flexible and stable responses to seasonal volatility in market demand. While diversifying the LNG supply line and advancing into upstream businesses, KOGAS works hard to ensure a stable supply and create additional energy sources. Meanwhile, the company continues to expand its storage capacity and pipeline network in order to expand the supply infrastructure. For instance, the Samcheok LNG Terminal currently under construction will increase the company's storage rate from 10.4% to 16%, similar to that of Japan, and thus further strengthening the nation's stable supply of natural gas. KOGAS will continue its relentless endeavors to create a stable supply of natural gas, thus living up to its foundation purpose.

Natural gas storage rate expansion plan



Ring-shaped nationwide pipeline network



Expanding the Nation's Access to Energy

Since natural gas was first supplied to the nation 24 years ago, the supply has increased 21 - fold. Throughout the years, public recognition of natural gas as a clean and convenient energy source has increased. In this time, KOGAS has consistently expanded its pipelines and distribution networks into remote areas where natural gas is not in service in order to realize national energy welfare. Recently, we have expanded our distribution network to 40 cities, and set a target of increasing the number of households being supplied from 13 million in 2010 to 17 million by 2016. As such, the natural gas supply rate is expected to increase from 73.3% in 2011 to 77.5% by 2015. Such efforts will help close the gap between metropolitan areas and remote areas in regards to energy supply, increasing the public's access to energy. By adding 1,291 km of pipelines to the existing 3,022km of main pipelines, the service area will increase from the current 101 cities to 230 cities by 2017. In the future, KOGAS will continue laying pipelines into not-yet-in-service areas, while also supplying natural gas to Jeju Island by constructing a new small LNG terminal. With natural gas as the nation's main energy source, we will continue to strive to ensure energy equity across the nation, thus contributing to increasing the nation's energy rights.



Safety is Our First Priority

Setting a New Standard for Safety Management—Ehsq System

KOGAS has had in place its own EHSQ (environment, health, safety and quality) management system since 1997. Taking an integrated approach to EHSQ risks, the system Ensures effective management of such risks, thus minimizing risks and improving productivity of its operation. Certified with ISO 9001, ISO 14001 and OHSAS 18001, KOGAS' EHSQ management system meets global standards.

The ultimate goal of the system lies in continuously improving EHSQ activities in order to realize optimal performance. To that end, KOGAS annually assesses the implementation of the EHSQ system at all its worksites so as to incorporate in internal performance appraisal. Applying the international assessment framework called MASTER (Management & Assessment Tool for Efficient Rating), the evaluation is made objectively and quantitatively on the performances of safety, health, environment and quality control. Corrective actions are followed accordingly based on the assessment so as to improve the company's EHSQ system to a global-leading level.

The company also provides training programs in order to foster EHSQ experts. Differentiated training programs by job class, position and duty are provided based on a long-term EHSQ training roadmap.

To help employees improve safety awareness, KOGAS has developed its own safety guidelines; benchmarking the best safety management practices. We believe this contributes to creating a safety-oriented corporate culture.



Effective Response to Disaster

•Company-Wide Crisis Management Response Process

KOGAS has established a company-wide crisis management system for effective response to disasters and risk factors in the normal course of business activities. Employees are provided with manuals that set forth appropriate behavioral guidelines and procedures according to risk levels. These integrated company-wide response procedures help minimize unnecessary confusion and chaos in the event of crisis. Furthermore, the management reiterates the importance of safety management; raising safety awareness and the expertise of employees through various programs, with such efforts contributing to self-driven safety culture activities. As a result, various surveys show that KOGAS' safety awareness continues to rise. In the future, the company will place preemptive risk management and safety control before everything, and push to establish a safety-first culture in order to create a safe workplace.

•Leading Control of Risks

KOGAS makes every effort to identify and eliminate risk factors causing from disasters or calamities. For instance, the company put in place a risk assessment five-year plan for safety checks at its receiving and distribution facilities and infrastructure. In order to preemptively apprehend and counter hazards that on-site operators may face, the company created a vast database of risk factors it collected over a period of 10 years, including 6,000 factors regarding job safety analysis. Open to the entire workforce, the database is linked with the work permit system. Compatible with the work permit system, the database is accessible to any KOGAS employee. As it rates the level of risk involved in activities, it helps to significantly enhance safety at work, allowing extra care in regards to highly dangerous work. The company also collects near-miss cases from employees, as well as presenting annual awards to best practices. As can be seen, the company applies various efforts in order to maintain a safe workplace and prevent incidents.



•Preparing for Earthquakes and Tsunamis

KOGAS' storage tanks and other gas facilities incorporate earthquake-resistant designs that can endure earthquakes of magnitudes up to 6.5. Furthermore, other receiving and distribution facilities are also secured against earthquakes. The company's earthquake detection systems can detect even the smallest quakes at its five LNG terminals and 101 valve stations, thus allowing it quickly insulate damaged areas and prevent gas leaks. The Samcheok LNG Terminal under construction on the coast of the East Sea employs earthquake-resistant design.

•Safety Control of Business Partners

Committed to preventing accidents at worksites, KOGAS has developed and implemented a practical and efficient management safety plan for its business partners who construct and repair its receiving and distribution facilities. First, the company strengthened sanctions regarding the supervision of sites, both in terms of its own workforce and its suppliers. For the safe control of dangerous work vulnerable to industrial accidents, KOGAS has designated a "hold point", in which safety inspectors are involved in joint safety checks. Applying strict criteria in the selection of subcontractors, we check the financial status and project administration capabilities of candidates. In addition, change orders are made in consideration of safety during design and construction stages, with procedures and specifications fully reflective of safety control checkpoints. Furthermore, T.B.M. (Toll Box Meet) is implemented in order to eliminate any risks prior to repair and maintenance work. Duty fit safety trainings are provided to improve safety awareness of workers and the strike-out system (Expulsion of contract worker after receiving three safety warnings) ensure the alert of safety first commitment. It is KOGAS' standard to maintain partners' safety performance at the same level of KOGAS.





# Building a Better Future for the Nation, KOGAS

## Customer Satisfaction

### CS Support System- Advanced Customer Service

KOGAS has a dedicated team at the headquarters level, as well as working-level CS departments at each regional headquarters and LNG Terminal. In addition, the company also operates a CS Committee, in which customers participate as members, as well as an online customer service center. Our customer-oriented management practices are in line with the corporate vision “Global KOGAS: Growing Together with Customers” based on the trust of our customers.

### Highest Rating in Customer Satisfaction for Public Corporation Service for Five Consecutive Years

KOGAS owes much of its growth to the nation and its customers. Therefore, the entire workforce has dedicated itself to customer satisfaction management, in line with the corporate vision “Global KOGAS: Growing Together with Customers.” As a result, the company has been selected nine times for the best practice in total in the customer satisfaction survey of public corporation service since 1999. In fact, it ranked atop in the same evaluation for the fifth year in a row.

### Communication-Based Customer Service

In a bid to preemptively solve customer complaints, the CEO sits down with customers to listen to their complaints at regular meetings. Furthermore, we have various additional communication channels at the point of contact with customers, such as Wednesday Developers’ Conference, Gas Pricing Policy Rundown, Customer Meeting, Technology Information Exchange, Wednesday Developers’ Workshop, Anti-corrosion Council, and Field Sales Day. Customer feedback collected through such channels is utilized to customize our services to the individual needs of customers.

At the request of local government and residents regarding the supply of natural gas to industrial complexes and corporate towns, we installed special service branches in an attempt to bring forward the schedule. In not-yet-in-service areas, we installed satellite stations with tankers, thus supplying gas to energy-undersupplied areas. In a bid to enhance natural gas services, we changed the supplier-oriented city gas supply contract terms and conditions, revised the natural gas supply regulations and bylaws, and improved the mega jule-based natural gas billing system. In addition, we now operate a customer satisfaction program for wholesalers and retailers, hold natural gas business explanation seminars, and engage in community engagement programs, thus contributing to the development of the city gas industry.

### >>> KOGAS R&D Focus



## KOGAS R&D Strategies

### Developing New Growth Engines

KOGAS R&D division implements various systematic and strategic R&D activities in response to urgent needs for R&D activities under the ever-changing business environment. The Center devised “R&D Plan and 9 Key Technology Development Roadmap” and selected priority R&D areas based on a selection and focus strategy. The basic strategy included reinforcing the role of the profit center and renovating the research system. Focus areas were selected as world technology (WT), green technology (GT) and core technology (CT) in consideration of the marketability of technology and suitability in relation to strategies. In order to reinforce the profit center, research subjects are selected and implemented through evaluation

and feedback regarding market conditions, strategy suitability, feasibility and economy of scale. This was done in order to establish a profitable R&BD (research & business development) system. KOGAS’ R&D division will continue expanding R&D investment, up to 4 percent of net sales by 2015, while focusing on these three key technologies. In the future, KOGAS will engage in R&D activities in line with long-term management strategies and the corporate vision. Based on the infrastructure technology required for the stable operation of LNG terminals and main pipelines, the company will develop new growth engines in upstream technologies, which are critical to the national project regarding energy resource development.

### >>> KOGAS R&D Division’s Research Projects

Area	Project
Resource Exploration	E&P projects for oil and gas fields and non-conventional energy sources
LNG Technology	Liquefaction process and liquefaction plant design technologies, LNG carrier cargo hold R&D, Ultra-size LNG storage tank design technologies
Green Growth	Core technologies for DME production, DME commercial plant design technologies development and cooperation agreements with international companies. Hydrogen station research, Small and medium-size hydrogen production, Home fuel cell monitoring project

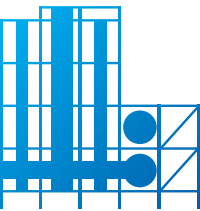




Major R&D Achievements



**270,000** kℓ  
»» World's first and largest 270,000 kℓ-capacity tanks



**300,000** tons  
»» Annual supply of 300,000 tons of DME from 2014

Development of LNG Tanker and Cargo Hold

KOGAS became the first company in the world to develop the largest 270,000kℓ-capacity tank in 2011. Furthermore, a detail design is underway for No. 10, 11 and 12 tanks to be placed in Samcheok LNG Terminal which is currently under construction. Compared to the conventional 200,000kℓ-capacity tank, the new tank is expected to reduce construction expenses by approximately KRW 70.5 billion, while boasting 35% more LNG storage capacity. The larger storage tank also reduces operational and repair/maintenance costs. The tank to be installed at the Samcheok LNG Terminal follows the latest international code and employs a higher Richter magnitude scale of 7.0(Peak Ground Acceleration 0.3g), compared to 0.2g of existing tanks. It is also awaiting a safety design certification from an international body.

KOGAS also developed source technology for the cargo containment system of LNG carriers, saving foreign royalties and contributing to the competitiveness of Korea's shipbuilding industry. Supported by the government, the company developed a membrane-type LNG carrier cargo containment system (KC-1) in collaboration with Korea's three major shipbuilders. By applying this membrane LNG tank technology, which had previously been localized to LNG carriers, Korean companies' royalties to GTT of France. Following the successful development of the KC-1 system, the KC-1 Cargo Hold will be equipped on vessels in order to commercialize the technology. The company plans to commercialize the technology by establishing a national LNG carrier for LNG imports in the near future.

DME and GTL

In anticipation of the popularization of DME in resource-scarce countries in Northeast Asia, such as Korea and Japan, KOGAS has preemptively secured all source technologies for the entire DME production process from natural gas, as well securing the basic design technology for commercial plants. Technical value assessment of DME plant was completed in 2011 regarding the commercialization of a Korean DME (K-DME). The company also signed a joint study agreement (JSA) with Saudi Arabia on the K-DME project for DME commercialization technology. After successful completion of the pilot project, which began in November 2009 and ended in 2011, the company is preparing DME commercialization of its overseas gas fields, as well as the pilot operation of a DME commercial plant by 2014. Following this, more than 300,000 tons of DME will be commercialized annually.

At the beginning of 2009, the company has developed technologies for the gas-to-liquid (GTL) production process from natural gas. Currently, a 1bpd pilot plant was constructed in 2011 and operated to find scale up factor for demo scale. GTL refers to the technology of producing synthetic crude oil, in particular gasoline, diesel and naphtha, from natural gas. More environment-friendly than conventional petroleum products, GTL products have a high market value, especially under the strict environmental regulations of many Western countries. KOGAS is working on its own technology in order to gain advantage in the GTL business.

Intelligent Pigging Technology

In-Line Inspection technology is to identify the pipeline defects with the intelligent pig that was inserted into the pipeline and passed through the pipeline by gas flow, without stopping the flow of the product in the pipeline. In the past, KOGAS had recourse to foreign companies for pipeline inspection. KOGAS R&D division began to develop the intelligent pigs such as geometry and magnetic flux leakage (MFL) pigs since 2000 and succeeded in developing geometry pig in 2005 and MFL pig in 2008. Since then, these new technologies have been applied to KOGAS' pipeline in a span of more than 2,000km and contributing to maintaining the KOGAS pipeline integrity. Now, KOGAS is looking forward to providing the In-Line Inspection services to domestic and overseas pipeline inspection markets.

Hydrogen and Fuel Cell Development

Fossil energy sources, which are the main culprit to environmental pollution, are being depleted. Therefore, KOGAS has been developing hydrogen production and fuel cell technologies since 2000 as a new renewable energy source in order to substitute depleting fossil fuels. The fuel cell is a highly-efficient, pollutant-free energy convertor that converts chemical energy into electric energy through the use of hydrogen. Free of pollutant-emissions, easy-to-store and able to be converted into another form of energy source, hydrogen has come under spotlight as the most promising future energy source for the 21st century. KOGAS is developing hydrogen generators and has completed residential fuel monitoring project for propagation of fuel cell and also is progressing a demonstration study of hydrogen station being used to refuel fuel cell vehicles. Based on its accumulated knowledge and experiences, our company will play a leading role in the development and popularization of hydrogen and fuel cell technologies in the future.

Technical Support on Site

In order to maximize the safety and efficiency of natural gas production, as well as distribution facilities, KOGAS conducts research on the materials and technological methods needed to design, engineer and maintain such facilities, as well as safety control and safety check, fluid and quality. It also provides technical support to working-level departments. In particular, the company commands industry-leading technologies in the designing and maintenance of electric anti-corrosive treated gas pipelines, damage analysis, usability evaluation and fatigue life prediction, pipeline repair, PNG pipelining, safety checks and safety assessment, pipeline relocation, earthquake resistance performance evaluation, gas flow metering and flow measuring, correction of measurement and energy meter, heating value adjustment and facility sharing technologies. In the future, the company aims to establish a more scientific on-site technical support system and efficiently manage gas facilities, thereby minimizing facility investment and operational expenses. The ultimate goal of such relentless R&D activities is the stable supply of natural gas to end users at an economic price.





Sustainable Green Company, KOGAS

Strategic Green Growth

As Korea's leading environment-friendly energy company, KOGAS has devised a green management strategy in order to realize low-carbon green growth. Following green management strategies and the government's green growth initiative, KOGAS implements various greenhouse gas (GHG) emissions reduction campaigns, and strives to develop new green growth engines in order to become a green energy company.

To that effect, KOGAS has developed mid-term strategies for green management. Under the vision of "Sustainable Green Energy Company," it devised 7 missions and 52 ideas in 3 categories; "Addressing Climate Change," "Saving Energy" and "Ensuring New Green Growth Engines" on a company-wide level. In pursuit of a new business model of low-carbon green growth, the

company has initiated a green growth business model project. Based on the eco-friendliness of natural gas as the cleanest popular fuel source with the least GHG emissions, the company defined three strategic directions; "Green Gas," "Clean Fossil Fuel" and "Renewable Energy and Energy Efficiency." Analyzing 15 related candidate businesses, 5 were selected as the most suitable. Of the five; biogas production and sales, overseas gas sales, natural gas for vehicle, efficient management of entire gas production process, and investment in new & renewable energy, the company selected overseas gas sales and biogas business as priority projects. These businesses are highly expected to contribute to reducing GHG emissions and enhancing energy self-sufficiency.



Greenhouse Gas Emissions Reduction

•Carbon Disclosure Project (CDP)

In conjunction with the global response to climate change, KOGAS has been disclosing its carbon footprint since 2008. The Carbon Disclosure Project (CDP) is an international initiative in which 3,000 global companies listed on the FT500 Index disclose information regarding carbon management to 543 financial institutions, in order to allow an accurate estimation of investment risks and opportunities.

•GHG Inventory & Calculation

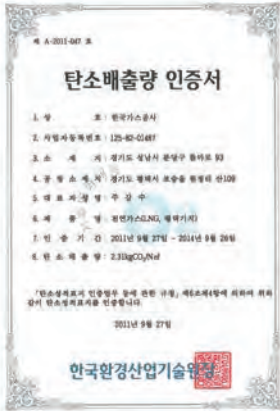
KOGAS has identified direct and indirect GHG emission sources within its premises and calculated the emission volume from each, allowing it to optimize its efforts to reduce GHG emissions.

•Government-driven GHG Energy Target Management

The GHG Energy Target Management is part of the government's low-carbon green growth initiative. As a pilot case of the program, KOGAS submitted information regarding its GHG reductions and energy consumption between 2007 and 2010. Based on this data, the government set a GHG reduction target for the company for 2012. KOGAS had each of its divisions draw up detailed plans in order to attain this target and submitted the plans to the government in December 2011. The company continues to faithfully follow this plan.

•Pyeongtaek Terminal Division Carbon Labeling

KOGAS Pyeongtaek Terminal Division became the first in Korea's gas industry to introduce carbon labeling. Carbon Labeling contains information regarding the CO<sub>2</sub> equivalent of GHG emissions for the product's life-cycle; from production and transportation to use and disposal. The system is a market-driven initiative to promote low-carbon sustainable consumption in society.



>>> Carbon Labeling

>>> Green Management Mid-Term Strategy

Vision	Sustainable green energy company		
Goals	Reduce GHG emissions and energy consumption	Create new growth engines by commercializing green technologies	Reposition as a green energy company
Key initiatives (7 missions in 3 categories)	<b>Addressing climate change</b> ➡ 1. Integrated management of GHG emissions 2. Reinforced network for addressing climate change 3. Instilling green initiative in employees' minds and daily lives	Response to regulations	
	<b>Saving energy</b> 4. Practicing low-cost green management through energy conservation 5. 'Greenizing' worksites and applying green technologies to worksites	Reducing costs	
	<b>Ensuring new green growth engines</b> ➡ 6. Green technology R&D 7. Green technology commercialization	Creating opportunities	







**Energy Management for Low-carbon Green Growth**

At KOGAS, the volume of energy involved in production has a direct correlation with greenhouse gas emissions. Therefore, the company is involved in a number of energy saving initiatives for the efficient consumption of energy. The company-wide energy saving committee, consisting of executives, sets company-wide targets for energy saving to each of the 14 divisions across the nation. Following this, the energy management team, known as the Green Growth Team, checks and analyzes the energy saving performances of each division. Every year, the company evaluates the company's energy saving performance, presenting awards to the best performers, and thus encouraging energy saving at the workplace.

At the same time, the Incheon Terminal Division has standardized the energy management process for the efficient use of energy at all its facilities by following the PDCA (Plan-Do-Check-Act) procedure.

As a result, the division obtained the ISO 50001 certificate for its energy management system, a first among Korean public corporations and the energy industry.

With the implementation of the GHG/Energy Target Management in 2012, KOGAS was assigned a total energy use volume by the government. Therefore, an efficient energy management scheme is required. The company is planning an integrated energy management system, facilitating a real-time monitoring of energy use on a company-wide level, promoting conservation of energy and establishing a database for analysis.

**New Green Growth Engine, Renewable Energy Business**

In answer to the government's low-carbon green growth initiative, KOGAS proactively develops new growth engines in green businesses. In addition to the fuel cell project currently in progress at its LNT Terminals, the company is planning a biogas project in collaboration with local governments. These projects are highly expected to reduce carbon emissions and secure new & renewable energy sources.

•**Fuel Cell**

KOGAS installed a fuel cell for emergency power in the event of blackout at its Samcheok Terminal Division currently under construction. In normal conditions, the electricity produced by the fuel cell will be sold outside the company, with the waste heat from the fuel cell being reused for heating and cooling air, thus minimizing energy consumption.

To that effect, KOGAS signed an MOU with Korea South Power and POSCO Power regarding a feasibility study in January 2012. As soon as the results are released, the company will push forward with the project.



•**Biogas**

The biogas business involves producing and supplying bio gas in collaboration with local governments and plant constructors in a build-transfer-operate (BTO) form. Biogas refers to the gas fuels degenerated by micro-organisms, such as hydrogen and methane. Biogas is a useful alternative energy source. In Korea, 136,000 tons of animal waste and 11,000 tons of food waste are produced every day. Under the London Dumping Convention, it is illegal to dump such organic waste in the ocean. Consequently, the biogas business has become a solution to environmental pollution and the need for an alternative energy source. KOGAS plans to advance into the business when the results of a feasibility study with local governments are released in 2012.

•**Other Renewable Energy Sources**

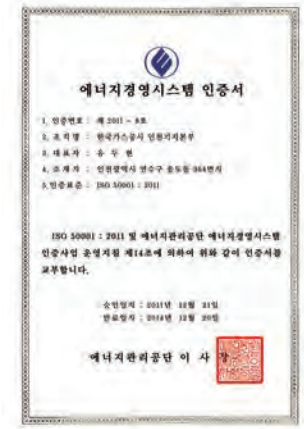
In its Tongyeong Terminal, KOGAS is considering to install a small hydro power system on the gate where seawater of the vaporizer is collected and discharged. When the system succeeds, the company is planning to apply it to all its terminal divisions. In addition, the company adopted a solar power generation system at its Cheonan Valve Station in 2009. The company also plans to install a solar heated water system at its terminal divisions, and adopt a hybrid gas heating system that uses terrestrial heat, thus creating a green workplace and reducing carbon emissions.

**Natural Gas and Social Ghg Emission Reduction**

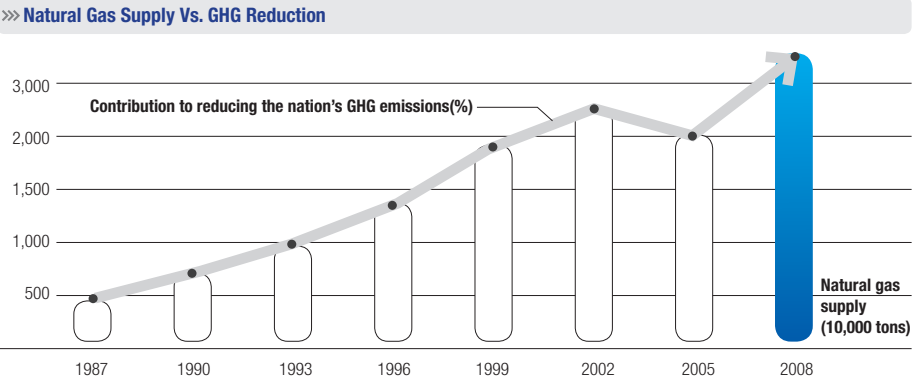
Natural gas is a relatively low-carbon energy source compared to other fossil fuels. Since its adoption in 1985, it has contributed to the reduction of GHG emissions in Korea. Natural gas will serve as an interim fuel source that can contribute to fighting global warming until a new renewable energy source that can replace fossil fuel is fully commercialized.

**Environmentally Sustainable Practices**

KOGAS fully appreciates the significance of individual's voluntary participation in the initiative to fight global warming. Therefore, the company promotes a green campaign in conjunction with companies, citizens and communities. Designating November 11 as "Walk-to-Work Day," the company encourages its employees and customers to commute using mass transportation or bicycle, thus contributing to reducing carbon emissions. In collaboration with environmental groups, the company will offer elementary and middle school students the opportunity to experience the production and distribution process of natural gas, thus awakening our next generation to the significance of energy and the environment.



>>> **Korea's first public energy company to win the ISO 50001 certificate**





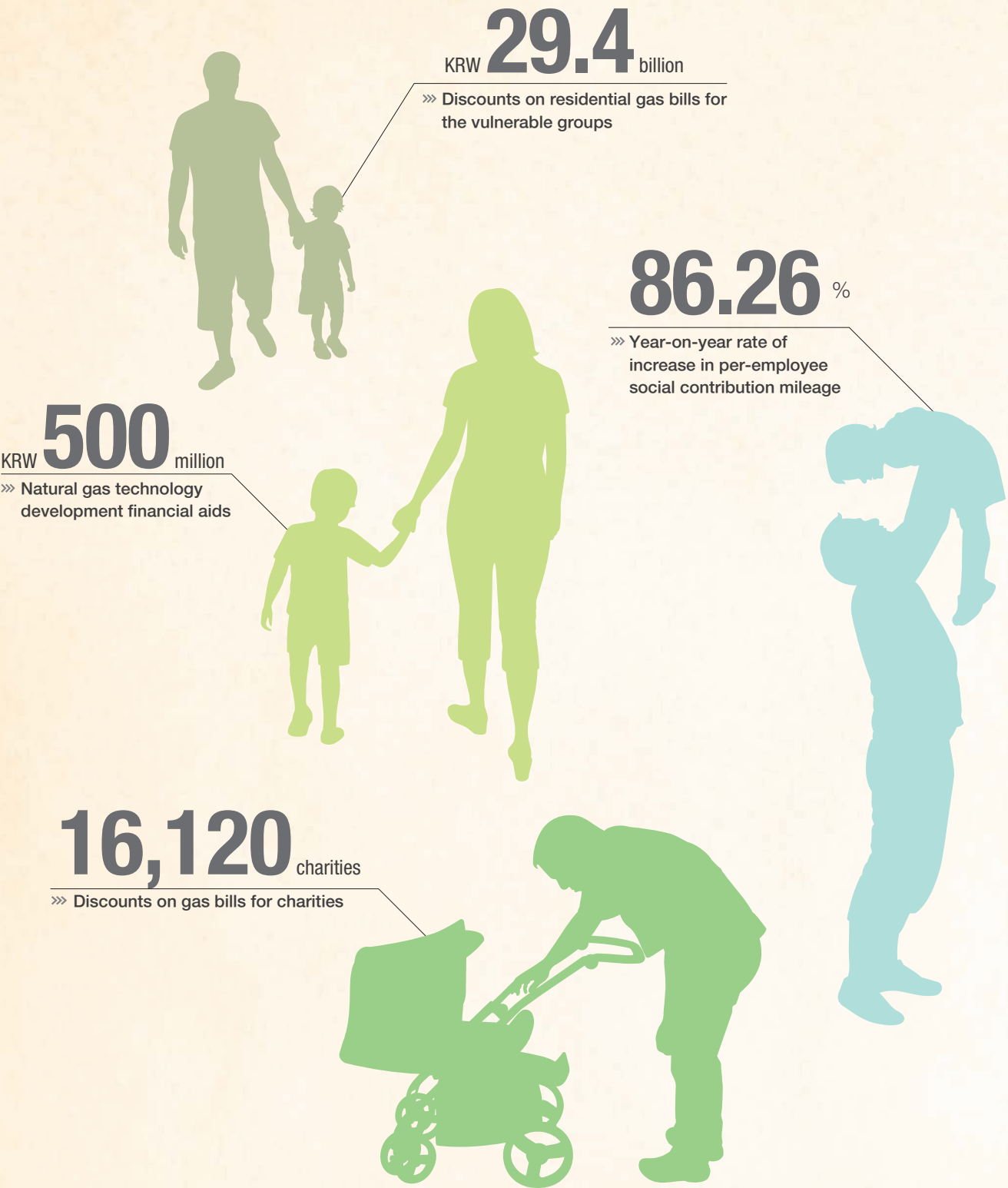
# GLOBAL **KOGAS**: A COMPANY BUILDING A BETTER WORLD



KOGAS is committed to faithfully performing its corporate social responsibilities, while also realizing sustainable growth in business. As a responsible corporate citizen, the company runs various social contribution programs, including an energy welfare program for vulnerable groups and the under-privileged overseas. KOGAS is determined to creating better energy and a better world by repaying its customers' support and encouragement.



Bringing forward a better future for all through  
sharing mindset and heart-felt caring attitude



Blue Energy, Happy World

Social Contribution Activities

In addition to performing its mission to supply clean and convenient natural gas to the nation, KOGAS also returns its profits to society. In particular, the company is involved in strategic social contribution programs in five categories: gas welfare service, environmental protection, Mecenat, global volunteerism, community projects. KOGAS Volunteer Corps is a voluntary group of employees who donate their time and talent to community services. KOGAS consistently engages in volunteer activities and organizations in order to build a better world through better energy.

KOGAS Volunteer Corps

KOGAS Volunteer Corps began 13 years ago with the small aim of contributing to a better world. The Corps provides not only monetary support to the underprivileged, but its member's time and thoughts. KOGAS has a total of 18 volunteer groups at its headquarters and terminal divisions. They volunteer their time on "Volunteers' Day" and weekends. Every month, employees donate a portion of their pay to charities and social causes. Employees also donate a small amount, under KRW 1,000, from their paychecks in order to raise funds for disaster relief and helping those in need. In response, the company matches such contributions. KOGAS employees also initiated the Volunteer 5 Up campaign, encouraging employees to raise their per capita volunteer hours and the number of fundraisers by 5% every year.



Social Contribution Philosophy

Philosophy	<b>Better Energy, Better World</b> Respect for people, quality of life
Mission	Care for people, social contribution, happy society
Community outreach	Healthy Corporate Culture Helpful Neighbor   Environmental Protection   Cultural Preservation   Community Engagement Roles and responsibilities as a corporate citizen of life
Slogan	<b>Blue Energy, Happy World</b>



Blue Energy, Happy World

Big blue-colored heart shape signifies a happier society, while the three small hearts symbolize all people, including KOGAS itself, endeavoring to realize a happier society through social contribution.



**Onnuri Project**

KOGAS' Onnuri Project enhances the quality of life for people who find it difficult to meet energy costs and realizes energy welfare. For instance, the company offers discounts on gas bills for 16,120 charities related to the disabled, children and elderly nationwide, by applying the lowest rate of charge. In 2011, it offered discounts worth KRW 4.1 billion.

In promotion of energy welfare, the company negated gas bills for vulnerable groups, including those living on government allowances, low-income families, and the disabled. These discounts amounted to KRW 29.4 billion in 2011.

Furthermore, the company has been implementing the Onnuri Weatherization Project since 2010. To date, the company has weather-proofed 360 low-income households and 130 charity buildings for the disabled and elderly; repairing flooring, installing insulation and replacing windows. The project not only improves people's quality of life, but also creates jobs for the underprivileged.



**Hope for a Better Future**

KOGAS is engaged in various social contribution projects designed to preserve the environment and traditional culture for future generations. For instance, the "Blue Sky Project" has become its signature eco-friendly social contribution project, in which it measures and analyzes urban air pollution every year in collaboration with civic groups and local governments. In addition, the company runs TV commercials for public welfare and educates the younger generations about the environment.

Furthermore, the company offers scholarships to children from low-income families, as well as repairs community child centers. The company also provides rehabilitation equipment to underprivileged disabled children and teenagers. In the future, KOGAS will develop further projects to protect and realize our next generation's dreams.



**Community Engagement**

KOGAS runs various community engagement programs at its regional divisions. In addition to cultural programs designed to meet the cultural desires of local residents, the divisions provide continued sponsorship to 16 farming villages, 12 schools and 2 military corps through sisterhood ties. We also conduct a number of social contribution projects for various regions, generations and groups.

At our Terminal Divisions in Incheon, Pyeongtaek and Tongyeong, we operate gas science centers, where future generations can learn about the natural gas business and the importance of energy sources. These centers are also becoming popular tourist attractions.



**Serving Global Community**

KOGAS does not discriminate in terms of nationality in its commitment to building a better world; with its corporate social responsibility activities transcending borders. As part of its global social contribution activities, KOGAS has been sponsoring a youth soccer team in East Timor, where it operates an overseas resource development project. In partnership with Baek Hospital, the company provides city tours in Seoul to Vietnamese children who have undergone cardiac operations through sponsorship by the Milal Heart Foundation and Yeouido Full Gospel Church. Starting in 2011, the company is subsidizing tuition fees and living expenses for students studying in Korea from countries where KOGAS operates overseas resource development projects as part of its KOGAS Global Fellowship program.

In the future, KOGAS aims to develop and implement numerous other practical programs in order to serve the global community, thus living up to its reputation as a global energy company.

**Win-Win Partnership**

KOGAS established an SME Support Team in 2011 and organized the SME Win-Win Management Council, chaired by the head of the Business Administrative Support Division. These new organizations will develop advanced win-win partnership models designed to increase the purchase of SME products, outsource construction projects to SME constructors, and promote transparent and fair contracting practices. Given the fact that LNG pipelining construction is too specialized for SMEs to participate in, the company adopted a joint contracting system, in which the main contractors administered large-scale projects. The company also gives priority to SME products and promotes the localization of imported equipment technology. While transferring its R&D technologies to related SMEs, the company provided a total of KRW 500 million in funding to five SMEs selected in the natural gas technology R&D mission in February 2011. Through such efforts, KOGAS aims to become the driving force for the nation's sustainable growth, while fulfilling its corporate social responsibilities through win-win partnerships with SMEs.





Condensed Financial Statements

Statement of Financial Position (under IFRS)

(Unit: KRW million)

	Consolidated		Separated	
	2011-end	2010-end	2011-end	2010-end
I . Current Assets	11,982,501	8,804,051	11,489,562	8,546,843
II . Non-Current Assets	24,027,997	21,220,707	22,744,940	20,627,293
(Total Assets)	36,010,498	30,024,758	34,234,502	29,174,136
I . Current Liabilities	8,140,300	6,377,665	7,472,162	6,302,430
II . Non- Current Liabilities	19,826,299	15,916,916	19,388,736	15,613,462
(Total Liabilities)	27,966,599	22,294,581	26,860,898	21,915,892
I . Paid-in Capital	1,056,063	1,056,063	1,056,063	1,056,063
II . Retained Earnings	5,690,241	5,567,107	5,678,651	5,527,347
III . Other Component of Equity	1,303,106	1,105,519	638,890	674,834
IV . Non-controlling Interests	Δ5,510	1,489	-	-
(Total Shareholders' Equity)	8,043,900	7,730,178	7,373,604	7,258,244
(Total Liabilities and Equity)	36,010,499	30,024,759	34,234,502	29,174,136

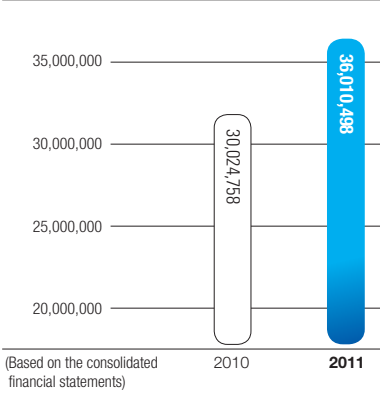
Statement of Comprehensive Income (under IFRS)

(Unit: KRW million)

	Consolidated		Separated	
	2011	2010	2011	2010
I . Sales	28,493,663	22,740,460	28,254,771	22,611,376
II . Cost of Goods Sold	27,178,751	21,437,452	26,992,471	21,384,190
III . Gross Profit	1,314,912	1,303,008	1,262,300	1,227,186
IV . Other profit	2,479	2,270	4,060	4,403
V . Selling and Administrative Expenses	291,737	255,340	257,316	238,429
VI . Other Expenses	14,507	13,509	13,869	78,723
VII . Other Profit/Loss	7,056	Δ66,363	17,597	Δ1,453
VIII . Operating Profit	1,018,203	970,066	1,012,772	912,984
IX . Financial Income	491,557	596,182	694,107	727,711
X . Financial Costs	1,262,378	1,314,406	1,284,674	1,317,173
XI . Gains on Valuation of Equity Method Securities	141,982	114,669	-	-
XII . Income Tax Expense	214,657	91,575	213,806	73,141
XIII . Net Income	174,707	274,936	208,399	250,381
XIV . Other Comprehensive Gains/Losses	184,032	Δ2,279	Δ48,023	52,648
XV . Total Comprehensive Gains/Losses	358,739	272,657	160,376	303,029

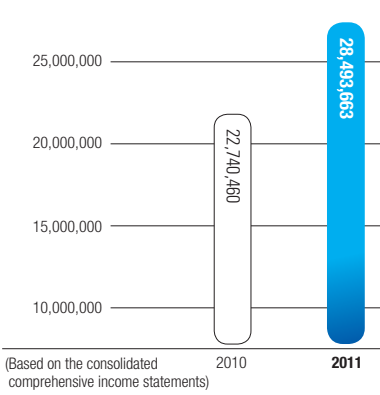
Total Assets

(Unit: KRW million)



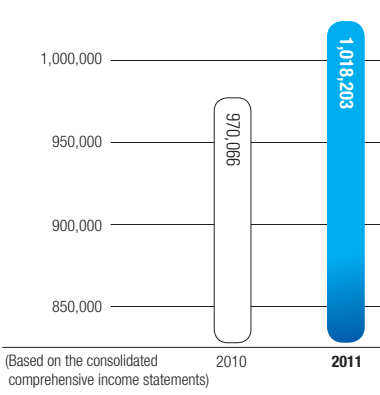
Sales

(Unit: KRW million)



Operating Profit

(Unit: KRW million)



Share Status

	2011	2010	2009
Share Price (high) (KRW)	49,000	53,800	59,600
Share Price (low) (KRW)	28,650	40,300	37,000
Shares Outstanding (shares)	77,284,510	77,284,510	77,284,510
Foreign Ownership Ratio (%)	6.9	7.1	7.0

Dividends & Intrinsic Value

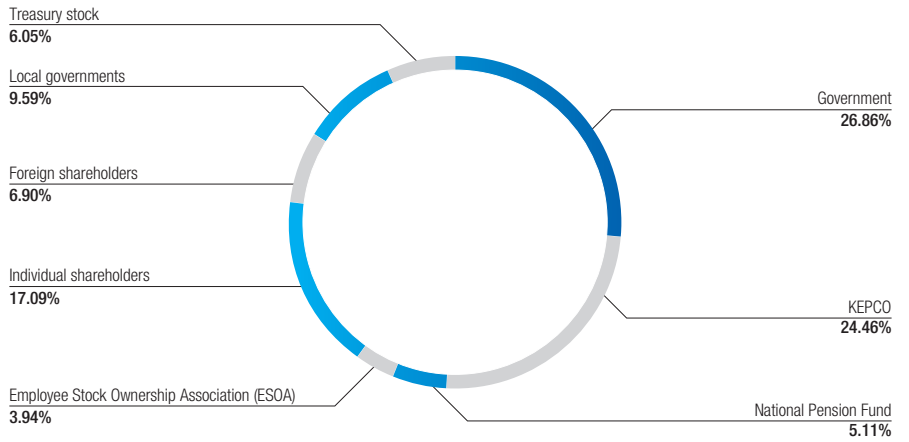
	2011	2010	2009
Dividend Per Share (KRW)	760	620	770
Earnings Per Share (EPS) (KRW)	2,406	3,787	3,278
Price Earnings Ratio (high) (X)	20.4	14.2	18.2
Price Earnings Ratio (low) (X)	11.9	10.6	11.3

Consolidated Financial Ratios (under IFRS)

	2011	2010	2009
Debt-to-Equity Ratio (%)	347.7	288.4	344.3
Net Debt Ratio (%)	285.3	240.9	278.0
Current Ratio (%)	147.2	138.0	132.0
Return on Equity (ROE)(%)	2.2	3.6	4.6
Return on Assets (ROA)(%)	0.5	0.9	1.0
Interest Coverage Ratio (X)	1.4	1.5	1.2
Growth Rate of Sales (%)	3.6	4.3	4.1

※ Net Debt Ratio = (interest-bearing debts – cash and cash equivalents) / equity

Share Ownership





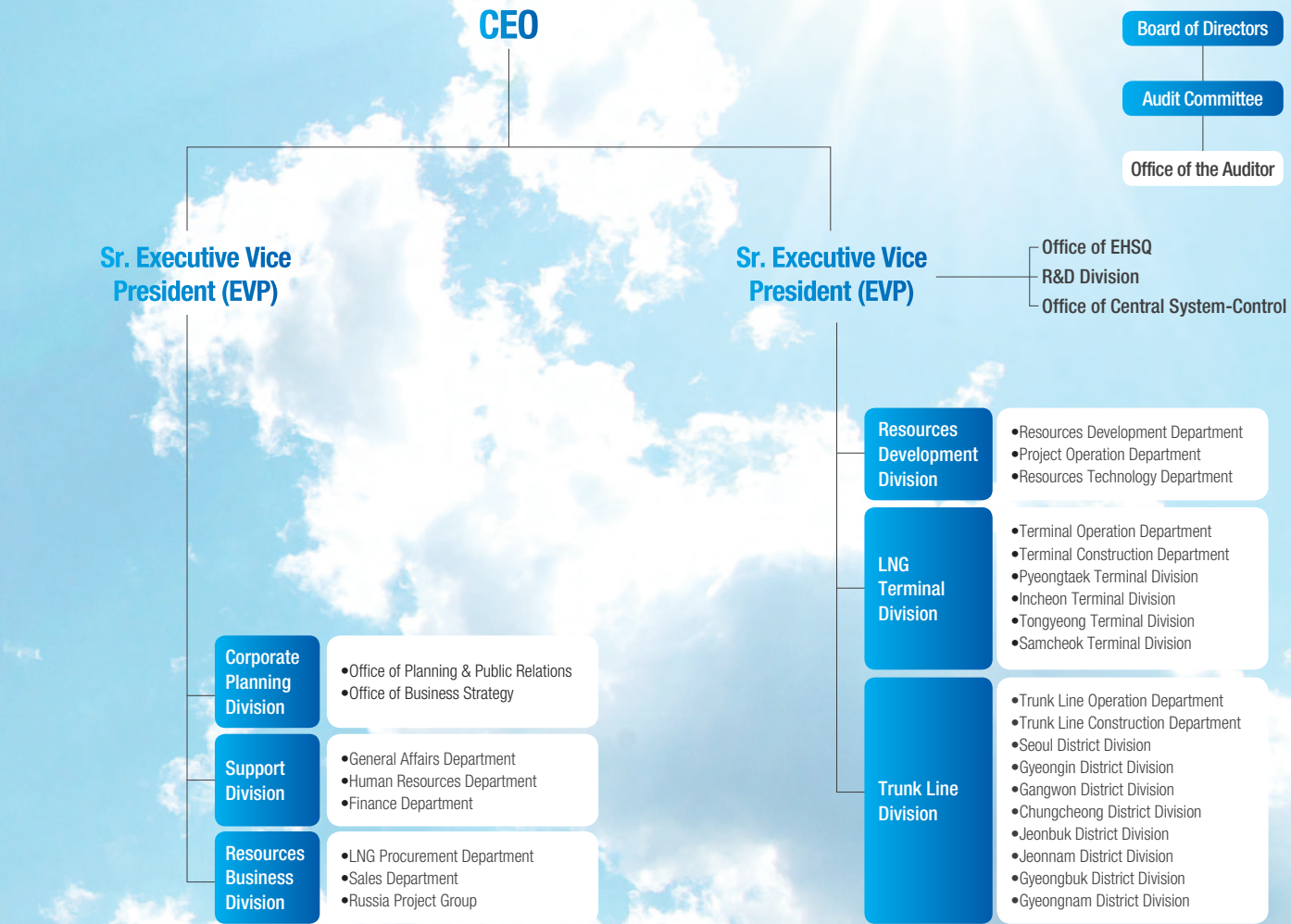
KOGAS Overview

- Establishment : 1983
- Facilities
  - Storage capacity : total 57 units with capacity of 8,320,000 kℓ
  - Pipeline length : 3,022 km
- Total assets : KRW 36,010.5 billion
- Sales : KRW 28,493.7 billion
- LNG sales volume : 3.4 million tons
- Major LNG suppliers : Qatar, Malaysia, Oman, Indonesia, Brunei, etc.
- Overseas resource development projects : on 26 projects in 16 countries
- International credit rates : A1 (Moody's), A(S&P), A+(Fitch)

KOGAS Organization Chart

(as of Apr. 2012)

6 Division, 18 Departments and 12 District/Terminal Divisions, 1 Control Center



Workforce

(as of Apr. 2012)

	Executives	Regular Staff				Special service staff	Total
		1-class	2-class	3-class	4~7-class		
Workforce (persons)	7	39	171	519	1,922	2,651	3,026