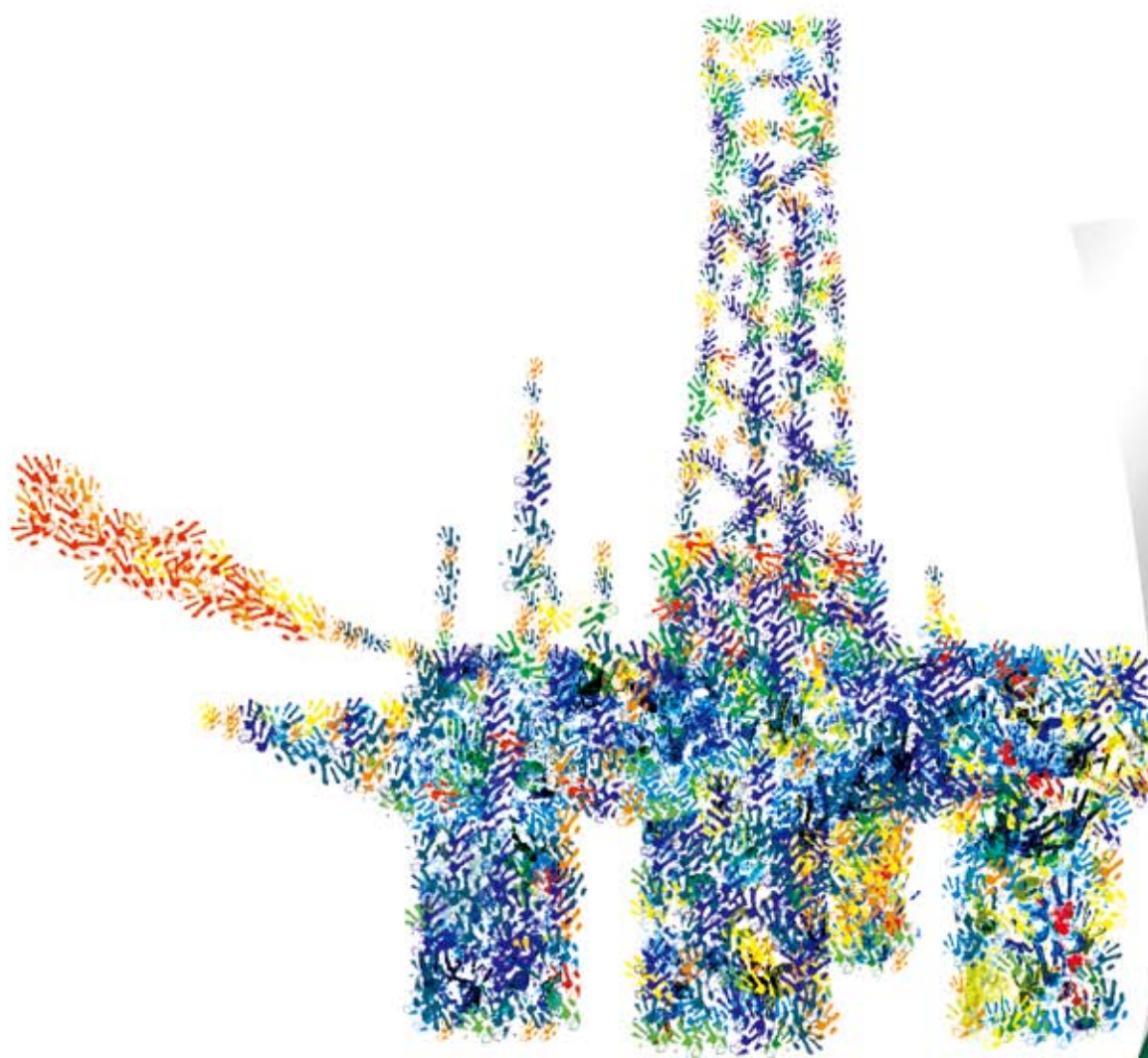


We Think Tomorrow

KNOC SUSTAINABILITY REPORT 2012



About this report

Introduction

This Report is KNOC's third sustainability report and COP (Communication on Progress) since joining the UNGC (UN Global Compact) in 2007. This Report was written to present the KNOC's commitment to reflecting stakeholders' interest and requirements in economic, environmental and social activities as well as sharing the vision and achievements in sustainability management with them. The KNOC's sustainability report will be published every other year, through which the company will communicate between internal and external stakeholders and share their opinions.

Reporting Period

This Report covers the KNOC's performance and activities from January 1, 2010 to December 31, 2011. Some issues of significance relevant to the performance of 2012 are included with additional statements, if necessary.

Reporting Boundary and Scope

We aimed to report all aspects of the KNOC's head office as well as domestic and overseas branches. Some of social and environmental information is derived from the overseas branches and local subsidiaries. The errors in the previous report found and the accounting principle changed are noted in a separate section.

Reporting Principle

The reporting principle is mainly based on recommendations of to the GRI G3.1 guidelines. Additional recommendations include ISO 26000 Guidance and major issue items of Oil and Gas Industry Guidance on Voluntary Sustainability Reporting of IPIECA, API and OGP. The guidelines and details are available on pages 84-87.

* IPIECA: International Petroleum Industry Environmental Conservation Association

** API: American Petroleum Institute

*** OGP: International Association of Oil and Gas Producers

Assurance

The reliability of the contents was verified by DNV, a third-party assurance provider. More details about the result are available on pages 82-83.

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CEO Message



Dear Stakeholders,

I would like to express my heartfelt gratitude for your unwavering support and encouragement to KNOC.

The 2011 Sustainability Report is our third publication, following the 2010, and 2007 editions. KNOC is taking a great step forward to become a world-class national oil corporation on the strength of 30-year history. The company is also engaged in differentiated social, ethical, and environmental activities beyond just a private enterprise level. This report will inform stakeholders of our endeavors and achievements in sustainability as well as our commitments to consistent practices.

Growing together with stakeholders by faithfully complying with business ethics meeting global standards

In recognition of the needs for securing reasonable profitability meeting the level of global leading companies and operating a systematic ethical management, KNOC established the "Global B.E.S.T. Practice" as its strategic goal for the ethical management. To achieve the goal, KNOC has not only reorganized the ethics charter and code of conduct but it also has strived to form a company-wide consensus through the development of unique ethical management programs, circuit ethical education at home and abroad, and a quiz contest on the code of conduct. Our overseas branches are also very active in joining the ethical management. Such endeavors enable our employees to conduct their jobs under the ethical standards and reasonable procedures, and help the company fulfill its social responsibilities.

Sincerely fulfilling the role as a global corporate citizen

To realize our vision, "A World-class National Oil Corporation Beloved by the People," KNOC is committed to implementing differentiated social contribution activities reflecting its business features and social demands. These programs include the Sunshine Service to assist residents with heating expenses, Happy Together Service to aid rural villages during the farming season and support the education and lifestyle of the underprivileged, and Hopeful Energy Service to provide scholarships for the cultivation of talents dedicated to the E&P sector. To expand our global businesses and support the educational environment of overseas local residents, and improve the infrastructure of their community, we actively operate the KNOC Family Project.

We always challenge ourselves to find better ways to run our business while improving our position as a responsible corporate citizen. We will continue to invest in the sustainability of our customers, partner firms, local communities and environment as well as our business practices and workforce.

Creating a safe and prosperous future.

With the operation of an integrated HSEQ (health, safety, environment, and quality) management system meeting the global standards, KNOC is taking the initiative in promoting a safe business environment. Each worksite focuses on improving the HSE management level through sharing their know-how and best practices and holding the HSE conferences as well as enhancing trainings against accidents. As a result of such efforts, our stockpiling bases have remained both accident- and disaster-free for 11 consecutive years.

Taking control of the nation's energy security and emerging as a world-class NOC

Since its foundation in 1979, KNOC has been playing a pivotal role in national economic development by engaging in a variety of businesses in terms of domestic and overseas E&P, oil stockpiling, and improvement in oil distribution network under the mission to deliver hope and convenience to the public through the stabilization of energy supply.

We at KNOC have been doing our utmost to realize our vision, "A World-class National Oil Corporation Beloved by the People," and reach the strategic goal, "Securing 300,000 barrels of oil equivalent(boe) of daily production and 2billion boe of total reserves." As a result, the daily production volume becomes more than quadrupled from 50 thousand boe in 2007 to 220 thousand boe by the end of 2011, and proven reserves are also increased by almost three times from 500 million boe to 1.3 billion boe. Korea's self-sufficiency rate of crude oil and gas also more than tripled from 4.2% in 2007 to 13.7% by the end of 2011.

To lay the foundation for its sustainable growth, KNOC will continue to focus on developing technologies for the improvement of exploration success rate as well as fostering management capabilities through additional oil stockpile and efficiency of managing global assets in the future. By doing so, we will play a leading role in both the expansion of national self-sufficiency capabilities and the stabilization of energy supply.

My Dearest Stakeholders!

This report contains KNOC's commitment to sustainability management in creating a transparent and prosperous future. KNOC will do its best to conduct practical tasks for sustainability and be emerged as a global oil corporation meeting the expectation of all stakeholders.

I ask for your continued support for KNOC once again. Please take a fresh look on our promising betterment and development in the future.

Thank you.

President & CEO Moon-Kyu Suh



Company Profile

GREAT & GLOBAL KNOC

Founded in 1979 as a national oil corporation for the stabilization of the domestic oil supply, KNOC has been committed to pioneering Korea's energy future by being engaged in oil resources development, oil stockpiling, oil distribution network improvement, and oil information service businesses. Guided by the strategic goal of "Great KNOC 3020" for a sizable growth in 2008, KNOC has successfully acquired foreign oil companies such as Taylor Energy of the US, SAVIA Peru, Harvest Energy Trust of Canada, Sumbe of Kazakhstan, Dana of the UK, and Anadarko of the US. The domestic continental shelf exploration has also continued. As a result, KNOC is posting nearly 300,000 boe of daily production and 2billion boe of total reserves in 2012.

Company Introduction

(as of December 2011)

Company name	Korea National Oil Corporation
Date of establishment	March 1979
Total assets	KRW 31.57 trillion
Sales revenue	KRW 8.95 trillion
Capital stock	KRW 10.77 trillion
Branches and offices	23 (domestic: 10, overseas:13)
Number of employees	1,330 persons

* Financial data is based on consolidated financial statements.

Company Name	Major Business	Location	Ownership(%)
Harvest Operations Corporation & its subsidiaries	Oil & Gas Development	Canada	100
Dana Petroleum PLC & its subsidiaries ¹⁾	Oil & Gas Development	UK	100
KNOC Kaz B.V.	Holding Company	Netherland	100
KNOC White Hill B.V.	Holding Company	Netherland	85
KNOC CASPIAN LLP	Oil & Gas Development	Kazakhstan	85
KNOC Black Hill Ltd. ²⁾	Holding Company	Canada	95
Altius Holdings Inc. ²⁾	Oil & Gas Development	Kazakhstan	95
ANKOR E&P Holdings Corporation	Oil & Gas Development	USA	100
KNOC Eagle Ford Corporation ³⁾	Oil & Gas Development	USA	100
KNOC Sumatra Ltd.	Oil & Gas Development	Indonesia	100
KNOC NEMONE	Oil & Gas Development	Indonesia	100
KNOC NEMTWO	Oil & Gas Development	Indonesia	100
KNOC Yemen Ltd.	Oil & Gas Development	Yemen	60

Changes in Investee Companies

- 1) KNOC acquired 100% shares of UK-based Dana Petroleum PLC. which has operated a lot of exploration, development and production fields in the UK, Netherland, Egypt, etc. as of September 30, 2010.
- 2) KNOC acquired 95% shares of Altius Holdings Inc. of Kazakhstan through KNOC Black Hill Ltd., one of subsidiaries, in March 2011.
- 3) KNOC Eagle Ford Corporation was established as a subsidiary in March 2011, which obtained part of shares of Anadarko E&P Company LLP's upstream and midstream assets in Texas, U.S.A.

Harvest Operations Corp.

2100, 330 - 5th Ave. SW Calgary,
AB T2P 0L4 Canada
Tel. 1-403-268-6596
Fax. 1-403-265-3490

North Atlantic Refining Limited

PO Box 40, 1 Refinery Rd.
Come By Chance,
NL A0B 1N0 Canada
Tel. 1-709-679-6831
Fax. 1-709-463-8076

Houston Office

5555 San Felipe Road, Suite
1130, Houston, TX 77056
Tel. 070-7734-0035
Fax. 1-713-552-1898

Ankor E&P Holdings Corp.

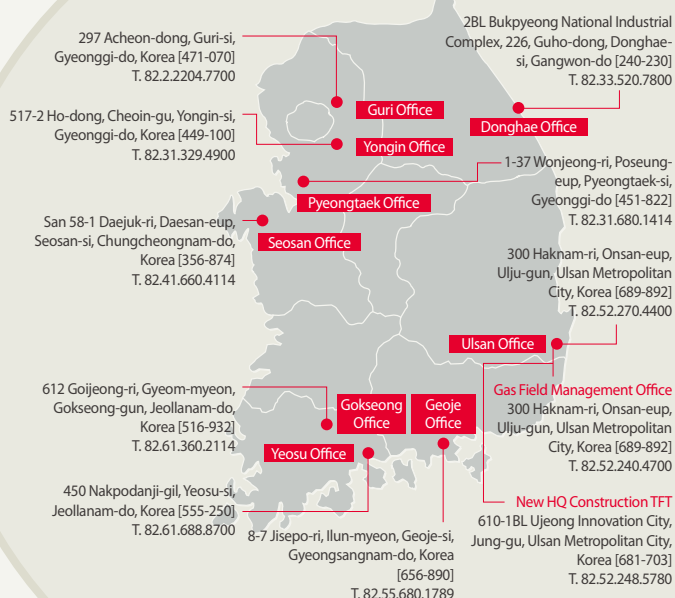
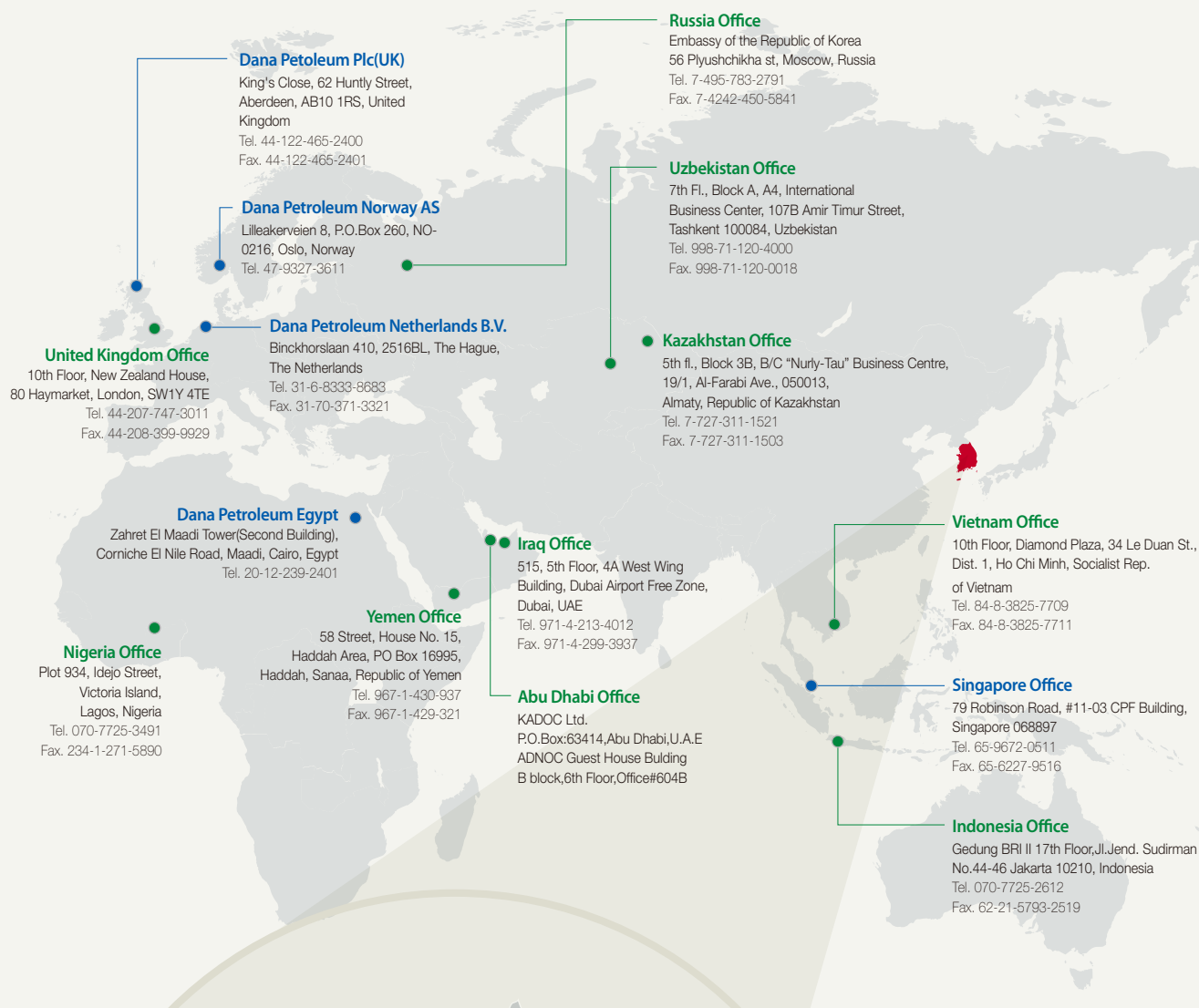
1615 Poydras Street, Suite 1124
New Orleans, LA 70112, USA
Tel. 070-7725-7175
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SAVIA Peru

Av. Rivera, Navarrete 501,
San Isidro, Lima 27 - Peru
Tel. 51-9-9445-5446
Fax. 51-1-222-5947

Peru Office

Calle Dionicio Derteano No.144
office 801B, San Isidro, Lima, Peru
Tel. 51-1-652-2685
Fax. 51-1-652-2689



Stakeholders and Communication Channels

KNOC's stakeholders are classified into employees, partner firms, customers, local communities & NGOs, academia, and government & National Assembly who have influences on its management activities. KNOC is always committed to sharing its corporate value with all stakeholders through a variety of communication channels suitable for characteristics of each stakeholder.

Employees

- **Definition**
Executives, employees at head office and domestic and overseas branch offices
- **Value Sharing**
Implementation bodies of management principles, achievement of KNOC's strategic goals



Partner Firms

- **Definition**
Subcontractors and vendors in construction, service, purchase, etc.
- **Value Sharing**
Transparent and fair business activities, consolidation of win-win relationship



Customers

- **Definition**
Domestic oil consumers, overseas E&P companies, NOCs of oil-producing countries, global major oil traders, domestic oil refineries, members of oil information service, domestic E&P financing providers, rig operators, etc.
- **Value Sharing**
National relationship, future business partnership



Government/ National Assembly

- **Definition**
Central government and National Assembly in business operation areas
- **Value Sharing**
Response to national policies, fulfillment of public responsibilities



Local Communities & NGOs

- **Definition**
Local residents at home and abroad, social organizations, local governments and public institutions
- **Value Sharing**
Pursuit of public interest, contribution to the development of local communities




Academia

- **Definition**
Research institutes for the development of oil and resources
- **Value Sharing**
Industrial-educational cooperation, cultivation of human resources and job creation



Stakeholder Engagement

KNOC carries out various communication activities depending on the interest and characteristics of internal and external stakeholders. The Fun Management, employee-tailored CEO lectures and workshops help reach a consensus on our corporate culture for internal stakeholders. The company also shares its corporate values through the various communication channels with external stakeholders - such as meetings with partner firms and policy forums - according to their features. In addition, internal and external stakeholders' opinions are used to identify material issues for KNOC's sustainability management, and those are intensively managed. As a result of such efforts, KNOC won the Presidential Prize, Stone Pagoda Industrial Medal, Prime Minister's Award, and Oil Statistics Development Commendation for four years in a row. The other achievements include the Excellent Company Certification for Labor-Management Culture, signing of international joint oil stockpiling contracts (4 times), and completion of acquisition of overseas private oil companies' assets (3 times).

Stakeholder	Communication Channel	Performance in 2011	Page
Employees	Introduction of Fun Management, employee-customized special lectures by the CEO, Workshops	Corporate Culture Conference (weekly, 38 times), special lectures by the CEO (5 times), Labor-Management Council (4 times), Labor-Management Joint Specialized Training (4 times)	36, 37
Partner Firms	Seminars for oil industry, publication of technical journals, discussion meeting with SMEs	Symposium on overseas resource development (11 times), publications (regularly)	44, 45
Customers	Visit and invitation of oil-producing countries' officials, participation in the President's official trip abroad and envoys	Government officials and CEOs of 9 oil-producing companies including Gabon and Iraq (18 times)	38, 39
Local Communities & NGOs	Provision of public services, contributions to local communities	Successful operation of economical gas stations, social contribution activities (7 times)	47, 48, 49
Academia	Resource Development Academy, drilling technology seminars, lectures by inviting the President of American Association of Petroleum Geologists	Interns in overseas E&P sector (23 persons), scholarship (56 persons), specialized colleges (KRW 3 billion)	48
Government / National Assembly	Visit to worksites by government officials, conduct of national policy forum	Conduct of Northeast Oil Hub Forum (3 times)	

Materiality Test

KNOC conducted a materiality test to identify and analyze issues that express interests to our stakeholders, before determining and prioritizing the deduced issues and status of their reporting under consideration of the materiality and implementation possibilities.

Materiality Test Process

The identification of external issues was conducted by the benchmarking of domestic and international companies in conjunction with global standards. Media research and questionnaire surveys were conducted to listen to external stakeholders including customers, partner firms, and communities. The internal issues were identified by a management strategy analysis, interviews, and questionnaire surveys focusing on our employees. Based on the research of internal and external stakeholders, KNOC has selected critical material issues for this report with consideration on the correlation, frequency, and business connectivity between internal and external issues. The chosen issues have been used to identify the status of KNOC's sustainability management and to identify the tasks requiring intensive improvement in the future.

Materiality Test Process The materiality test process was as follows:

Step 1. Identifying External Issues

- **Benchmarking:** Domestic and foreign oil majors and public corporations
- **Media research:** News reports (2010. 1.1. - 2012. 5.1.)
- **Analysis of global standards:** GRI G3.1, ISO 26000, IPIECA, API, OGP Oil and Gas Industry Guidance on Voluntary Sustainability Reporting
- **External stakeholders:** Customer satisfaction research, external stakeholder survey, interviews with experts, (etc.) ← list all external stakeholders

Step 2. Identifying Internal Issues

- **Analysis of In-House policies and strategies:** Policies and management strategies of the company and economic effects
- **Internal stakeholders:** Interviews with responsible staff and employees, conducting internal stakeholder surveys, interviews with members of departments related to key issues, and members of overseas business departments

Step 3. Composing an Issue Pool and Determining Key Issues

- **Issue pool:** Correlation, frequency, and business connectivity among internal and external issues
- **Determining key issues:** Prioritization of internal and external issues in consideration of global standards and effects on our businesses

Materiality Test

STEP 1. Identifying External Issues

The external issues were identified through the various sources including benchmarking of advanced domestic and foreign oil companies and public corporations, analyses of global standards, stakeholder research, and media research.

Benchmarking and Global Standards Analyses

KNOC benchmarked global oil companies and Korea's major public corporations with regards to quantitative achievements and material issues. By analyzing GRI G3.1, ISO 26000, IPIECA, and the Oil and Gas Industry Guide to Voluntary Sustainability Reporting (API), we have established an issue pool after grasping the global sustainability management issues.

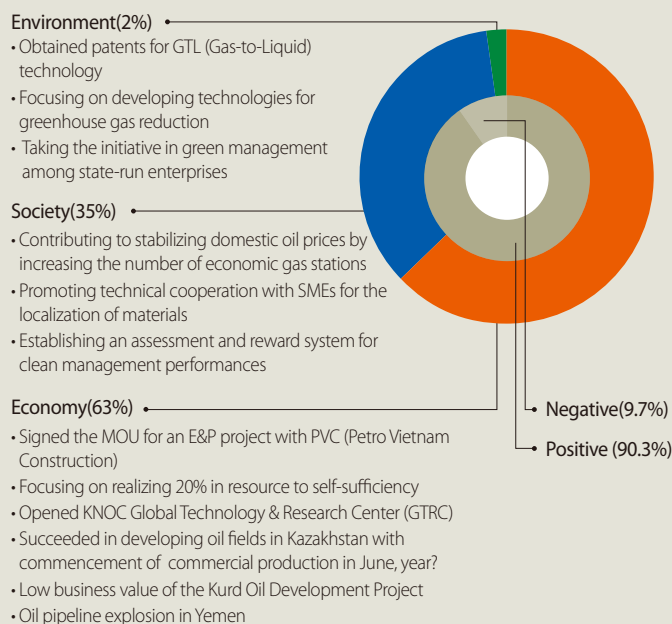
Questionnaire Survey Targeting External Stakeholders and Expert Interviews

KNOC carried out sustainability management level assessments targeting its partner firms, customers, local communities, and government in June, 2012. Consequently, the enhancements of overseas business, cultivation of new growth engines, and social contribution activities have revealed as material issues. After interviewing experts in various fields including government, academia, press/media, local communities, and partner firms, we reflected their opinions in this report.

Media Research

The media research included an analysis totaling 223 KNOC-related news articles released from January 1, 2010 to May 1, 2012.

Establishment of Two-way Communication Channels



STEP 2. Identifying Internal Issues

To identify internal sustainability management issues, KNOC implemented questionnaire surveys, interviews with employees, and analysis of In-House management policies and strategies.

Analysis of the Management Assessment and Interviews with Employees

The analysis of the management assessment and strategies was used to identify material issues of sustainability management. Cultivation of new growth engines and improvement of the financial structure stood out as material issues. In addition, KNOC has recognized its management status by interviewing relevant staffs with work experience in the head office and overseas branches in order to obtain a wide range of information on sustainability management while exchanging relevant opinions.

Questionnaire Survey Targeting Internal Stakeholders

Questionnaire surveys were conducted for our employees, through which we were able to understand our sustainability management level as well as the major reporting issues. According to the questionnaire surveys, the material issues that employees cited are the soundness of the financial structure, cultivation of new growth engines, environmental management systems, and win-win management.

STEP 3. Composing an Issue Pool and Determining Key Issues

Based on the results of the steps 1 and 2, we built the issue pool and derived key issues in our findings.

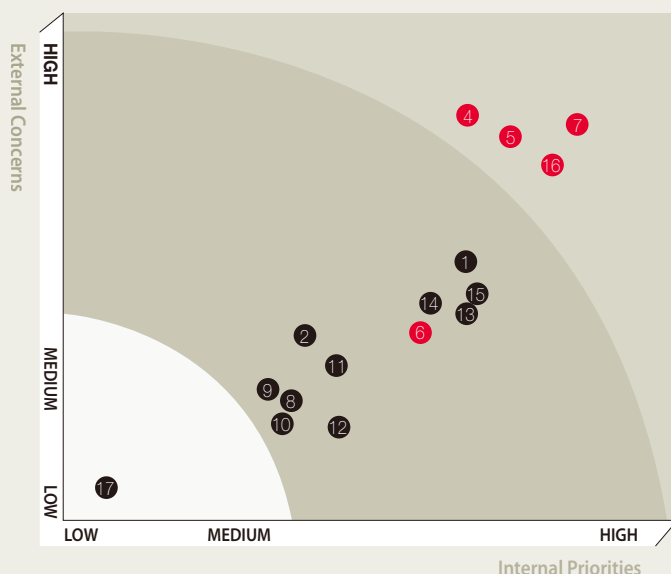
Composing an Issue Pool and Determining Key Issues

KNOC established an issue pool containing about 60 different issues in 8 areas such as sustainability management, general matters on the economy and management, the environment, labor and human rights, ethical management, product liability, partner firms and communities based on the key issues related to the management of KNOC, analyses of newly emerging issues from domestic and international oil companies and major public corporations, media analyses, and global sustainability management initiatives. We have chosen the key issues and prioritized them depending on relations between the issues and their frequencies by comprehensively determining 1) assessment on external stakeholders' material issues and 2) assessment of internal stakeholders' material issues based on the issue pool.

Materiality Test Results

As a result of the materiality test, KNOC selected 16 key issues out of 58 material issues: 6 in the economic area, 4 in the environmental area and 6 in the social area. The focused issues are intensively reported in the pages, respectively as indicated. Among others, the enhancement of overseas business, cultivation of new growth engines, and reinforcement of R&D capabilities, safety, HSE system, and social contribution activities are reported in detail through the Chapter of "Business for Sustainability". The rest issues, except for key issues, are reported in the areas of the economy, environment, society, etc.

Materiality Test Matrix

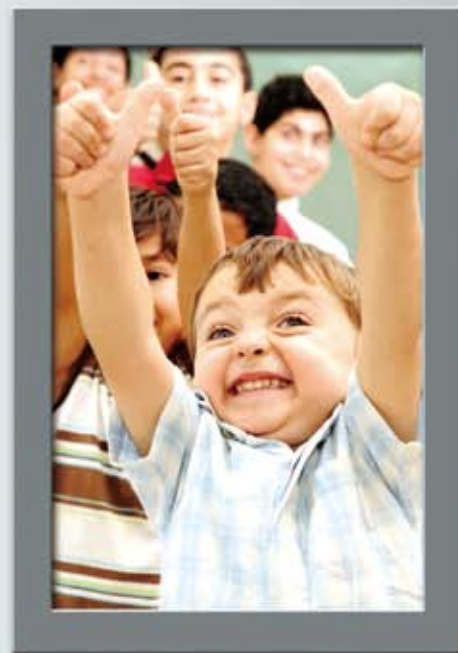


● Sustainability Issues

Name	Sector	Issue	Page
1	Sustainability Management	Sustainability management strategies	74-75
2		Risk management	67
3	Economy	Financial soundness	65
4		Enhancement of overseas business	12-15
5		Cultivation of new growth engine businesses	16-19
6		Enhancement of core R&D capabilities	
7	Environment	HSE system	20-23
8		Response to climate change (control and reduction of GHG emissions)	54
9		Efficient energy consumption and development of energy-saving technologies	55-56
10		Usage of and investment in new and renewable energy	54
11	Labor, Human Right	Securing experts	33
12		Fair performance evaluation and personnel management	34
13	Ethical Management	Compliance with ethical management	78-79
14	Product Responsibility	Improvement of service quality	38-39
15	Partner Firms	Win-win management	44-45
16	Local Communities	Social contribution activities	24-27
17	Other Issues	Social performance	30-49
		Environmental performance	50-59
		Economic performance	60-69

BUSINESS FOR SUSTAINABILITY





Issue 1. Global KNOC	12
Issue 2. Securing New Growth Engines	16
Issue 3. Environmental Safety Management	20
Issue 4. Global Corporate Citizen	24

KNOC strives to secure new business opportunities and future growth engines through various oil development business channels.

KNOC has been committed to discovering new unconventional oil and gas resources while accelerating the existing E&P businesses in the world. With an acquisition of 23.7% stake of Anadarko's Shale Oil business in April 2011, KNOC entered into the unconventional oil and gas market in earnest and secured new oil reserves of 116 million boe. The company is putting spurs to secure additional reserves in Vietnam, Kazakhstan, and Canada.



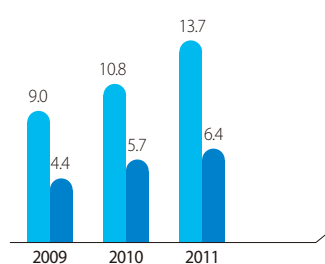
Issue 1. Global KNOC

In the case of Dana, the company is promoting rational operational strategies to attain its strategic objectives and simultaneously appreciate the subsidiary's unique corporate value by scouting management specialists from major oil companies and reorganizing existing business structure.

Self-sufficiency Ratio

(Unit: %)

● Korea ● Share of KNOC



Date of Acquisition Acquired Company or Assets

February 2008	Ankor E&P Holdings, USA
February 2009	SAVIA Peru S.A., Peru
December 2009	Harvest Operations Corp., Canada
December 2009	Sumbe, Kazakhstan
October 2010	Dana Petroleum plc., UK
February 2011	Assets of Hunt, Canada
March 2011	Altius Petroleum Int.B.V., Kazakhstan
March 2011	Assets of PCUK
April 2011	Shale Oil Assets of Ana-Darko E&P Company, USA
December 2011	Assets of Northstar, USA
December 2011	Assets of Parallel, USA





Global KNOC

KNOC contributes to the stable demand and supply of oil in Korea by actively engaging in overseas oil development, production, and exploration projects. The company has also executed M&As of leading international oil companies to accomplish the government-led task objective, 'Sizable Growth', in the early stage, which enabled KNOC not only to create synergy between existing and newly acquired fields, but to lay the groundwork for growing into a truly global company by creating opportunities to penetrate the downstream sector.

KNOC is committed to increasing the national self-efficiency through continual M&As of foreign oil companies and assets. Starting with the asset acquisition of Canada's Hunt in February, KNOC has succeeded in acquiring high-quality oil production assets in 2011: Kazakhstan's Altius and Petro Canada UK in March, the shale oil business of the US's Anadarko in April, and US Northstar • Parallel in December. Since 2008, KNOC has focused on acquiring oil production assets in strategic strongholds such as Ankor, SAVIA Peru, Harvest, and Dana. As a result, the national self-efficiency increased from 1.9% in 2008 to 6.4% in 2011, based on KNOC's development stake. After the successful acquisitions, KNOC facilitates the stable growth of its subsidiaries through the PMI*. In the case of Dana, the company is promoting reasonable operational strategies to attain our objectives given and simultaneously appreciate the subsidiary's unique corporate value. In addition, the integrated management system is taking strong root within the subsidiary through the Global Steering Committee. Because of such efforts, Dana's oil production rose by 31% from 14.8 million boe in the previous year to 19.4 million boe, and operating income also surged 412% from USD 120 million in the previous year to USD 620 million.

* PMI (Post-Merger Integration): A term referring to the integration process after a merger. PMI is an activity of systematically managing an organization to create synergy on a short-term basis after acquiring an organization with a different environment, such as business modes and organizational culture.

Interview

For the Takeoff as a Global Leader

I think that securing continual growth engines is the most important for KNOC to become one of the world's top 50 oil companies. KNOC has been successful in sizable growth for the past few years, contributing to the improvement of the national oil and gas self-sufficiency and the stabilization of the domestic oil prices through the expansion of economical gas stations. In particular, 2012 is the year for completing KNOC's mid-/long-term strategic goal, "Great KNOC 3020," which has been executed since 2008.

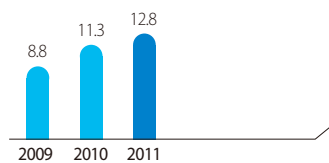
In addition to the completion of the strategic goal, KNOC should solidify its foundation for future growth by focusing on R&D, creation of synergy with its subsidiaries, cultivation of experts, etc. At the same time, it is essential for the sustainability of the company that enormous efforts should be made in the enhancement of internal capability, instillation of a global-level management system, green growth, ethical management, social contribution activities, and win-win growth with small and medium-sized enterprises (SMEs) in a balanced manner as well as external business expansion. KNOC also needs to keep an eye on actively the potential environmental risks stemming from the E&P and stockpiling business executions, through which your company is able to prevent accidents and join the government-led environmental activities such as the Low Carbon Green Growth policy.

Even though there are many difficulties in your business activities due to the unfavorable situations in the Middle East and the financial crisis in the Euro zone, I suppose that KNOC should consolidate sustainability management strategies and put them into practice from the long-term perspective; this can serve as a cornerstone for your growth into a global national oil corporation.

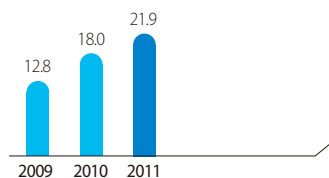
Yeo Young-seop, Administrator of the Oil Industry Dept., Ministry of Knowledge Economy

**Proven Reserves**

(in billions of boe)

**Daily Production Volume**

(in thousands of boe/day)



Expansion of New Business Opportunities through Various Channels

Korea has an energy demand and supply structured country which is sensitive to the international oil market volatility, as it has a heavy dependence on oil imports. To stabilize energy supply and cope with rapid global economic changes including international oil price fluctuation, KNOC dedicates itself to the capability enhancement as a global oil company by laying the foundation for qualitative and sizable growth through M&A and asset acquisitions. We are very active in securing oil and gas reserves through the penetration into unconventional resources markets and acquisition of promising foreign oil companies and/or assets by taking advantages of our subsidiaries. In particular, the entrance into unconventional resources markets unleashed our progress into future growth engine businesses.

The acquisition of Anadarko's shares in 2011 enabled us to dominate the unconventional resources* markets in advance and secure new oil reserves amounting to 116 million boe. It also prepared the ground for our progress in the North American market. In addition, KNOC succeeded in acquiring the

Altius of Kazakhstan with a lot of promising oil development fields around the Caspian Sea, which contributed not only to the reduction of operation expenses through the synergy with existing fields in Kazakhstan but also to securing additional oil reserves. A total of 85 million boe of reserves were secured by acquiring Hunt's assets in Canada and PCUK's assets in the UK.

We also acquired some stakes in Northstar and Parallel of the US after the selling part of our stake in Ankor to the domestic private enterprises. Furthermore, we were able to enter the UAE oil development market called "the Premier League" in the global oil industry through resources diplomacy as well as provided the private sector with opportunities for the joint investments in the E&P projects. As a result of such efforts, our reserves and production volume rose by 13.3% and 21.7% compared to the previous year, respectively. By establishing differentiated growth strategies by each regional base, we plan to create global synergy and secure continuous growth engines via the expansion of exploration.

* Unconventional resource refers to any of the oil and gas resources that can be developed and are usable through the technological development despite the lack of economic efficiency in the past. Oil sand and shale oil are typical unconventional resources.

Active New Resources Development

Korea and the UAE have been implementing collaborative business in the oil and gas development sector based on the strategic partnership formed after Korea won a nuclear power plant construction project in the UAE in 2009. KNOC had initiated the negotiation for the business with Abu Dhabi National Oil Company (ADNOC) in 2010, and signed a HOT (Head of Terms) for the development of three on/offshore oil and gas blocks of Abu Dhabi and an MOU for the cooperation in the oil and gas sector in March 2011.

With the conclusion of the drilling right contract on the three blocks with ADNOC in March 2012, KNOC has been conducting the joint operation of those blocks, and a large-scale E&P project with over 1 billion boe guaranteed in the MOU is also on the track. Our involvement with those projects has a significant meaning that KNOC not only gains a new growth base in the Middle East, but it also contributes to the improvement of the national self-sufficiency rate.

Successful Acquisition of Dana Petroleum

KNOC successfully acquired British Dana Petroleum PLC ("Dana") through a takeover bid at the London Stock Exchange. The British company possesses about 2.5 million boe of reserves in three North Sea countries (UK, Norway, and the Netherlands) and six African countries (Egypt, Mauritius, Guinea, Senegal, Morocco, and Cameroon) as of the end of 2011.

The acquisition of Dana enabled KNOC to build a stable business portfolio of the regions in North America and Africa, it also may contribute to the improvement of the national oil and gas self-sufficiency rate. It also strengthened our global E&P capabilities by making it possible to secure advanced technologies and experts. Since the acquisition of Dana, KNOC discovered oil and gas in the South October Block of Egypt and Mauritius block 7 in 2010, and in Britain and Egypt in 2011.

The company is also establishing long-term exploration business strategies for 14 new oil and gas blocks acquired in the UK and Norway in 2011, which is expected to provide favorable results in the future, because of manpower reinforcement and the improvement of exploration process.

In 2011, the first year of acquisition, we focused on the PMI (Post Merger Integration) for the stabilization of businesses, the achievement of our strategic goal, and preparation for sustainable growth. As a result, Dana's production volume increased 31% from 14.8 million boe in 2010 to 19.4 million boe in 2011. Operating income of Dana also soared 519% from USD 120 million in 2010 to USD 750 million in 2011, posting a record high since its establishment.

Hosting the Asian NOC CEO Forum 2011

KNOC hosted the Asian NOC CEO Forum attended by the top management of Asia's national oil corporations at Walker Hill Hotel in Seoul on July 19 ~ 21, 2011. This forum was prepared to promote a new Asian cooperative diplomacy and consolidate the collaboration in energy diplomacy and it is expected to build a tie in energy sector among Asia's resource-rich countries including Japan and China.

It was the second forum following last year. Under the theme of "Humans, Environment, Energy, and Asia NOC," the forum mainly aimed at growing together, at the same time continually maintaining and developing partnerships between NOCs in Asian region. About 250 participants including the CEOs of 16 companies from 8 different countries, domestic government agencies, academe, and relevant industries showed huge interest in overseas resources development. The Asian NOC CEO Forum 2011 served as a momentum for us to solidify the partnership with Asian NOCs who will lead the global economy and accelerate our entrance into new businesses by cooperating with influential global companies such as JAPEX, MITSUI, ADNOC, TPAO, and MITSUBISHI.





Issue 2.

New Growth Engines

R&D expense rose 17.5% to KRW 19.3 billion in 2011.

We have established the KNOC Global Technology and Research Center in Canada for specialized technological review and core technology building for large-scale projects.

R&D Investment

	(KRW in millions)		
Classification	2009	2010	2011
R&D task expenses	2,424	5,290	7,468
Operation and administration expenses	7,127	8,384	8,652
Equipments, cultivation of talents	2,594	2,792	3,223
R&D investment	12,145	16,466	19,343

Number of R&D Tasks

	(Cases)		
Classification	2009	2010	2011
In-company tasks	12	7	6
National tasks	14	25	20





Fostering New Growth Engines

KNOC set up 6 key strategic technologies including basin analysis on promising areas, subsurface imaging, reservoir simulation, enhanced oil recovery, unconventional energy development, and drilling and well completion. These are essential core technologies in four E&P fields such as oil geology, geophysics, engineering, and drilling.

As for unconventional energy development, KNOC established a mid- and long-term strategy to secure technologies for unconventional energy development and to boost the Eagle Ford and Black Gold businesses. R&D tasks for the shale oil and tight gas exploration technologies are also being conducted.

Additionally, KNOC established the 'KNOC Global Technology & Research Center' in Canada to conduct technical reviews on its major E&P projects and to gain the core technologies from the well-experienced foreign resources.

In 2011, we implemented 6 in-house research tasks related to key 6 strategic technologies and on site support methods, and 20 mid- and long-term industry-education cooperative national tasks for the development of both conventional and unconventional oil resources. In particular, a total of 13 patents were applied and one of them was registered. The R&D investments in 2011 were KRW 19.3 billion, an increase of 17.5% over the previous year.

To take the initiative in the national vision of Low Carbon Green Growth and secure new growth engines, KNOC is focusing on developing technologies for the GTL (Gas-to-Liquid) and subsurface storage of CO₂. Additional R&D focuses are on the multistage hydraulic fracture technology to increase shale oil production and gas hydrate development technology to secure new energy resources.

Interview

Leapfrogging into a World-Class National Oil Corporation through New Growth Engines

Technological independence in the E&P business is essential for KNOC to leapfrog into a global national oil corporation. To that end, the company needs to improve core E&P technologies by acquiring advanced E&P technologies and actively using domestic industry-academe-research R&D resources. It is also important to secure sophisticated technologies for the E&P projects in tough environment such as deep sea and polar region, enhanced oil recovery in existing production blocks, and new oil and gas resource development.

Moreover, interest in the environment has been increasing globally since the crude oil spill in the Gulf of Mexico by BP in 2010. Therefore, it is necessary to prevent any accidents in every oil field. To this end, the company should establish a standard safety procedure, cultivation of HSE management experts, full-time inspection of risk factors and maintenance, and emergency responsiveness system.

Considering the feature of oil industry, KNOC should strive to establish and achieve mid- and long-term strategic goals from the sustainability point of view, instead of short-term and performance-focused business implementation. I hope that the company is emerged as a true global company leading the energy future of the world by preparing long-range strategies and enhancing new growth engines.

Lim Jong-se, Professor at Korea Maritime University

Technological Independence

KNOC seeks to achieve technological independence by securing various advanced technologies and effectively making use of the domestic and overseas workforce. In 2011, we analyzed the technical levels and business scope of major overseas subsidiaries to enhance our core technological prowess. According to the strategic technology roadmap, we plan to carry out detailed tasks of key 6 strategic technologies obtained by 2019. The company established the KNOC Global Technology & Research Center in Calgary, Canada in November 2010 to enhance business and technological capabilities and core technologies. Through the center, we have secured excellent foreign experts in the E&P sector as well as core technologies through collaboration with them. We are also striving to reinforce internal capabilities and to foster technological manpower for future growth.

Low Carbon Green Growth

GTL business

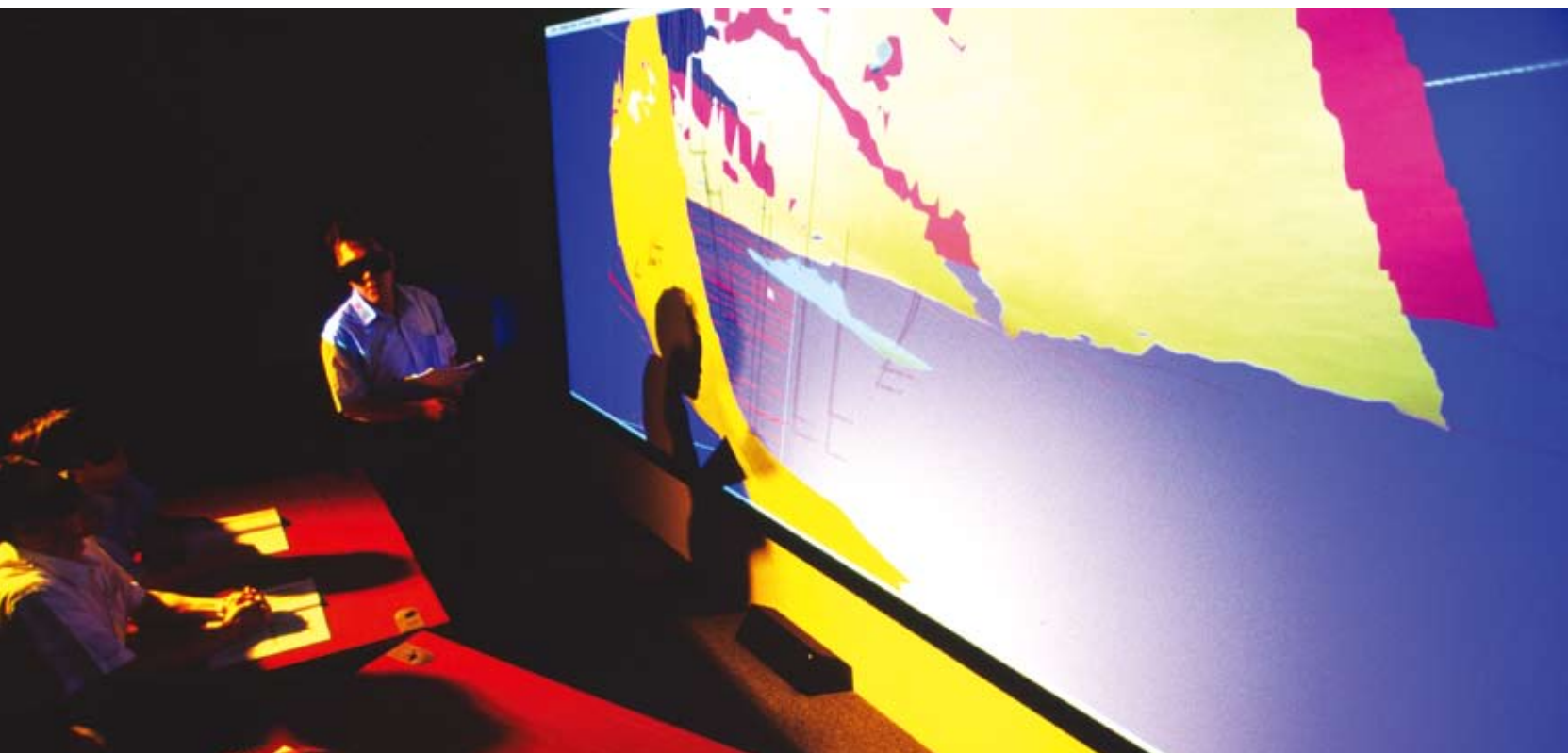
To comply with the national policy of Low Carbon Green Growth and consolidate future growth engines, KNOC is focusing on R&D in the low carbon and green growth field. As part of such efforts, the company is actively engaging in the government's green growth projects, aiming at new eco-friendly and energy-efficient technology development. By forming the GTL (Gas-To-Liquid) consortium with national research agencies and private companies, KNOC has been carrying out the GTL project since 2006. The construction of 0.1 bpd mini-plant and performance verification has been completed through the phase 1 project from 2006 to 2009. Now we are

conducting trial operation of the 1 bpd GTL pilot plant which was built by our in-house technologies through the two-phase project to be continued until 2012. Based on the data from trial operation, we plan to deduce the basic design of a 100 bpd test plant in 2012. As a result, in 2010 and 2011, we applied for two domestic patents and one PCT (Patent Cooperation Treaty), and registered five patents. In particular, we secured intellectual property rights (20% stake for KNOC) on thirteen overseas patents.

* bpd (barrels per day): Daily production volume of FT (Fischer-Tropsch) synthetic oil

Storage of CO₂ in Subsurface Formation

In line with the request of the Ministry of Land, Transport and Maritime Affairs (MLTM) and Ministry of Knowledge Economy (MKE), KNOC has been participating in national R&D projects for the geological storage of CO₂ by establishing an organization dedicated to those projects since 2010. The company is conducting the exploration of geological storage areas and evaluation of storage capacity in oceanic basins around the Korea Peninsular, building the process design and the environmental risk prevention technology business, in addition to the storage site exploration required from the MLTM. In order to develop technologies for the characterization of CO₂ storage base and to estimate storage capacity, we are implementing a study on the prediction of CO₂ behavior. As for the development of testing technologies, we are preparing a new international joint research project related to MMV (Measurement, Monitoring, & Verification). This project is scheduled to be implemented aiming at securing technological capability for commercialization for the integrated test of 1 million ton by 2015.



Securing New Energy Resources

Multi-hydraulic fracturing technology for production increase in shale plays

The area drawing the most attention in unconventional oil development is shale gas and tight oil (these two are called shale plays). Concerning shale gas, reserves that the world can use for about 100 years are believed to be almost evenly reserved throughout the world. Together with shale gas, tight oil is noted for its high economic efficiency (or profitability) compared to gas. KNOG is developing core and new production technologies for shale plays (e.g., multi-hydraulic fracturing design technology in the horizontal wells). Based on such technology and capability, we are cooperating with the field technology staffs by joining the Eagle Ford joint venture in Texas, U.S.A. We plan to retain our capability continually as an operator of shale plays which will be developed in the future as well.

Development of Clean Energy - Gas Hydrate

Fossil fuels consumed in Korea are mainly oil and natural gas. Since our country depends on more than 97% of imported oil and natural gas, it is very important to secure future energy resources. We develop gas hydrate – dubbed the new clean energy -- to replace fossil fuels. About 10 trillion tons and about 600 million tons are estimated to be reserved in the world (deep sea and frozen areas) including Korea. Gas hydrate development in Korea is carried out under the 10-year mid- and long-term scheme ('05~'14). Korea has become the fifth hydrate-extracting and -developing country in the world, having confirmed the existence of gas hydrate in deep sea below

1500 m or deeper around Ulleung Basin based on the results of exploration and drilling performed since 2000. In September 2012, we plan to carry out a 3D exploration site investigation according to a 3-step plan for gas hydrate production tests and deduction of optimal production technique of the government in 2014.

Selection of promising exploration areas and support for securing those areas including the discovery of promising exploration shale plays

- Select promising exploration areas with high priorities through the world's basin petroleum system analyses and shale plays discoveries (completion of 6 promising exploration areas).
- Lead the in-depth technical evaluation including North America shale oil (e.g., Anadarko Eagle Ford) and lay the foundation for entering the unconventional resources business by the acquisition of drilling rights.
- Lead successful exploration development through economically viable shale plays in key areas and continues to support the sustainable growth of KNOG including the timely acquisition of promising oil/gas blocks.





Issue 3.

Environmental Safety Management

With the establishment of the HSEQ (Health, Safety, Environment, and Quality) management system at each worksite, KNOC is implementing a systematic and integrated HSEQ control in operating new projects as well as existing domestic and overseas fields.

Accident-free Achievements at Stockpiling Offices and Constructions Sites

(as of 2011)

Classification	Ulsan	Geoje	Yeosu	Seosan	Pyeongtaek	Guri	Yongin	Gokseong	Donghae	Geoje Construction Office	Seosan Facility Improvement Construction TFT	New HQ Construction TFT
Multiples	10	16	12	6	11	19	13	12	10	-	-	-
Number of days	3,800	5,970	4,560	2,280	5,260	7,460	4,940	4,560	4,000	766,810**	278,280**	30,130

* Multiples : One multiple means accident-free activities for 380 days (480 days for Pyeongtaek Office) according to the 'Accident-free Enforcement Regulation of the Ministry of Labor.' (Before April 5, 2011)

※ Based on revised regulations on April 5, 2011, the accident-free criteria at our stockpiling sites was changed from 'daily-basis' to 'time-basis.' One multiple accident-free applies to 63,200 hours at product stockpiling sites, 118,500 hours at oil stockpiling sites, and 149,700 hours at gas stockpiling sites.

** Construction offices: as of man-hour



HSE Management

KNOG carries out its safety management suitable for the features of stockpiling base, drill ships and oil development worksites, and industrial and local situations. In the case of stockpiling bases, we establish a comprehensive and systematic safety management policy according to the safety management strategy.

As a result, we have secured accident-free stockpiling bases for 11 years in a row by establishing preventive action and enabling preparedness, responsiveness and restoration against disastrous accidents.

In the safety management of a drill ship, we conduct a situation diagnosis, try to improve capabilities to cope with accidents, and take education/trainings. We also strive for safety management in the oil development field through the integrated HSE(Health, Safety and Environment) management system at the drilling sites. Through systematic crisis response management, we effectively resolve and minimize personal and physical damages caused by oil leak, fire, and explosion that may occur due to natural disasters.

Safety Management of Stockpiling Bases

KNOG intensively manages 12 challenges to put into practice -- such as fair risk evaluation, emergency action plans, and education/training -- by establishing a process safety management system pursuant to the

Industrial Health and Safety Act. Based on the autonomous health and safety management system (KOSHA18001), we continually improve our activities according to PDCA(Plan → Do → Check → Act).

Because of our dedication to accident prevention activities through the robust operation of safety management system, improved system, and consolidated crisis responsiveness ability, all our 9 stockpiling bases achieved the accident-free goal for 11 consecutive years.



Safety Management

KNOC executes comprehensive and systematic safety management measures under Safety Management Strategies, reflecting the features of stockpiling bases. We have established challenging plans including system/institution improvement, expert fostering, facilities operation improvement, and consolidation of ability to cope with crisis. In 2011, we set up major plans by step and carried them out, ranging from PSM system computerization to commissioned training to control hazardous substances and extinguish fires. KNOC is fully ready to secure accident-free stockpiling bases through preparedness and responsiveness to emergency along with the prevention of disastrous accidents.

Continuous Achievements of Accident-free & Injury-free Goals at Stockpiling Sites

Safety Management

System
Advancement

Ace Training

Facility
Improvement

Emergency
Response

Classification	Performance in 2011
System Advancement	Review of computerization of the PSM System
	Making manuals for self-checking of compliance with safety-related laws and feedback, etc.
Ace Training	Overseas trainings to cultivate experts in oil fire
	Knowledge Plus System for safety environment, etc.
Facility Improvement	Conduct of safety control capability assessment at stockpiling sites
	Operation of a task force team to provide stockpiling sites with total solutions
Emergency Response	Establishment of tactical strategies to extinguish the fire of tanks and improvement of training methods
	Improvement and supplementation of emergency manuals for stockpiling sites



Signing of MOU between KNOC and DNV Korea

KNOC signed an MOU for technological exchange in health, safety, environment, and quality management systems with DNV (Det Norske Veritas), an agency specializing in the shipbuilding, maritime, and energy fields, in April, 2012. KNOC and DNV plan to promote the solid growth of the oil development business through active technology exchange in various aspects, in addition to shaping a safety culture at the worksites through mutual collaboration. The signing of MOU offers an opportunity to upgrade the KNOC's overall safety management system; it is also expected to contribute significantly to the shaping of a safety culture.



Safety Management at Oil Development Worksites

KNOC has been actively responding to the trend in internationally consolidated regulations on safety management at drilling sites since the Macondo Accident in the Gulf of Mexico. To enhance our drilling capability and safety management ability, we have built the HSE management system and drilling management system in the drilling sector. With the introduction of integrated HSE management system and drilling management system at the drilling sites of overseas offices, we promote economical, technology-oriented drilling work. In addition, we vigorously implement technology exchange and collaboration with DNV to shape a worksite safety culture. At the same time, we are doing our very best to build the world's top-tier safety management system together with the establishment of safety management culture at the oil development fields so that we can fortify safety management capabilities by employing oil development HSE experts from abroad.

Crisis Response System

By taking quick actions, KNOC effectively resolves, recovers from, and minimizes damage in case an emergency causing human, physical, and environmental damages due to natural disasters including oil leak, fire, explosion, earthquake, and typhoon. According to accident types at sites such as stockpiling branch, construction office, and gas field, we conduct education/training and carry out preventive activities continuously and repeatedly including safety education, firefighting training, and maritime pollution control training. We have signed an agreement to cope jointly with emergencies to provide personnel and equipment support in emergencies with the relevant agencies including fire stations, oil refineries, and maritime police stations. We actually maintain an emergency responsiveness system so that we can take a quick action pursuant to the response manual upon the occurrence of an accident. KNOC also manages emergencies under the MKE's manual to cope with crisis in terms of war and terrorism crisis at domestic stockpiling facilities and overseas offices. The rig business separately manages the ship security regulations of the MLTM including the Act on the Ships of Foreign Ports of Call and Harbor Facilities Security.

HSE Performance at Oil Development Fields

Region	Office/Investee Company	HSE Index	2011
Asia	Gas Field Management Office	LTI	0
		LTIF	0
		oil spill	0
	Vietnam Office (11-2)	LTI	0
		LTIF	0
		oil spill	0
	Kazakhstan Office (Altius, KC LLP, Ada)	LTI	1
		LTIF	0.06
		oil spill	0
America	Ankor	LTI	4
		LTIF	0.98
		oil spill	0
	HOC	LTI	3
		LTIF	0.13
		oil spill	4
	SAVIA Peru	LTI	28
		LTIF	0.28
		oil spill	1
Europe & Africa	Dana	LTI	2
		LTIF	0.05
		oil spill	0
Total		LTI(cases)	38
		LTIF	0.21
		oil spill(cases)	5

* LTI (Lost Time Incident): Number of fatal accidents or accidents requiring convalescence for at least four more days (as of 2011)

** LTIF (Lost Time Incident Frequency): LTI rate per 200 thousand hours worked

***Total LTIF means the average at the above business sites.

**** Total oil spill means the number of more than 100bbl oil spill cases.

2012 Safe Korea Training to Cope with Accidents

KNOC implemented necessary training to deal with accidents for three days from April 25 to April 27 in 2012 to check its system for coping with emergencies and its weak factors upon the occurrence of an accident.

The Training Planning Team was newly organized, through which the company had an emergency training against mega disasters and checked the emergency response manuals. In particular, message delivery training to check the promptness and preciseness of situation reports was taken at the Geoje and Seosan Office s, including site training to verify the ability to handle accidents at the Ulsan, Geoje, Donghae, Gokseong, and Yongin Office s and Gas Field Management Office. In this manner, KNOC has improved the areas required for better performances as deduced through the training. Furthermore, we bolster the communication function with the outside by coming up with methods of quickly and precisely delivering the accident situation more specifically upon occurrence.



Issue 4. Global Corporate Citizen

Our social contribution activities encompass Women's Capabilities Consolidating Activities in Peru, Support for Childcare Facilities in the Korean Village in Uzbekistan, Community Investment Activities in Vietnam, and Railway Construction Support in Kazakhstan.

Through all these, KNOG builds a trusty relationship with the countries where oil and gas blocks are located and consolidates a mutually amicable cooperation. We plan to deliver the sharing culture to the four corners of the world by actively fulfilling our social responsibility as well as realizing beautiful communities where all people can live happily.

Major Global Social Contribution Activities in 2011

Region	Field	Issues	Activities
Asia	Vietnam 15-1	Flood damage around the Mekong River	Relief fund for flood victims
	Yemen 4	Poor medical facilities	Delivery of medical supplies and dispatch of medical teams
Europe	UK Dans, etc.	Youth-related issues by intensified rich-poor gap	Supports for educations and sports activities of youth people in Transition Extreme slum area
Africa	Egypt	Deepened environmental pollution by rapid industrialization	Environmental educations including resource recycling
North America	US Ankor, etc.	Damage from tornadoes	Donations to philanthropic institutions and food delivery to victims
South America	SAVIA Peru, etc.	Poor medical and educational infrastructure	Supports for medical and educational infrastructure through public foundations



Activities for Global Citizenship

KNOG makes various social contribution activities through business region by expanding its overseas businesses. Centered on global branches, we plan and implement activities taking into account each region's features and stakeholder needs and fulfill our social responsibility as a global corporate citizen. Under the slogan "Taking charge of both oil business and volunteer services! Let's share the dreams and hopes of oil with neighbors," we are executing a variety of social contribution activities including medical and educational support, women's capability consolidation, and community investments.

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Through all these, KNOG builds a trusty relationship with the countries where oil and gas blocks are located and consolidates mutual amicable cooperation. We plan to deliver the sharing culture to the four corners of the world by actively fulfilling our social responsibility as well as realizing beautiful communities where all people can live happily. KNOG actively participates in global initiatives on social responsibility.

We support 10 basic principles in the four items of UNGC— human rights, labor, environment, and anti-corruption -- and carry out activities in line with the MDGs (Millennium Development Goals) of UNDP (United Nations Development Programme). The eight MDGs are as follows, and the relevant details are indicated with icons:

MDGs; Millennium Development Goals



Health



KNOC takes care of local residents' health and safety through health center sponsorship and environmental campaigns.

Health Center Support and Health Campaigns

Our subsidiary, SAVIA Peru, assists health centers in partnership with the Committee of Health Administration (CLAS in Sechura) through an agreement with the local government.

In 2011, we provided \$/100,000 worth of sponsorship including infrastructure improvement and medical expert fostering support. We carried out health campaigns to disseminate the community's interest in health to local residents and assist in medical activities. For the health campaign in Talara waged in partnership with Lions Club, diabetes examination for 178 patients was conducted, 35 adolescents and adults received cleft lip and palate surgeries, and 250 people had cataract surgeries. We provide support in the form of medical supplies and medical personnel quickly in case of floods and other natural disasters in Vietnam. We also assist pregnant women with premature birth and perform abortion prevention education and surgeries to enhance maternal health.



Women



KNOC helps foster women's social independence through vocational training so that women can engage in social activities with confidence.

Support for Women's Education and Training

SAVIA Peru has signed an agreement with Artisan Women's Association to bolster women's competencies. With the full support of KNOC, workshops and lectures are given by SAVIA Peru. In fact, education and training were offered to 50 women in 2011. SAVIA Peru offers vocational training, aids in women's understanding of the distribution market, business etiquettes, and manners, provides technology training, and assists finance and training instructors to ensure the seamless operation of the Artisan Women's Association.



Environment



Given the increasing interest in the environment worldwide, KNOC launches various activities such as contests and performances publicizing the value of environment, together with environmental conservation activities and campaigns.

Environmental Conservation Activities and Painting Contests for Environmental Protection

SAVIA Peru implements environmental conservation activities and contests through environmental clean-up campaigns to let people know of the importance of environment and value of natural resources. In the contest in the Sechura area where 230 elementary and middle school students participated, the value of natural gas was widely spread by selecting "The Natural Gas in my Sechura" as contest topic. Moreover, SAVIA Peru donated cleaning tools such as brooms and gloves for the environment clean-up campaign dubbed "Puerto Rico, I love you clean." In 2011, they donated about USD 4 thousand to an environmental education program for resource recycling. They are also proactive in donating on demands of local philanthropic institutions. In the Egyptian oil/gas blocks, environmental education such as resources recycling methods to prevent environmental pollution caused by rapid industrialization and various environmental protection activities have been conducted.



Investment in Education and Communities



KNOC shares the economic achievements of oil/gas blocks with communities through educational activity support for children and adolescents and community investment.

Investment in Community's Educational Infrastructure

Our Uzbekistan Office is promoting the construction and improvement of infrastructure in Siongo* and Ik, the residential area of Goryeo people. In 2011, they implemented the renovation of a children's hall in Siongo Village and a senior's center in Ik Village. We also have a strong and supportive relationship with the village people by regularly visiting them.

The Vietnam Office contributes part of its financial revenue to building community infrastructures each year. In 2011, about USD 117,000 was used to build a library for a sister school, Daehwarok Elementary School, and to provide assistance in the form of scholarships, computers, and school supplies by gathering the opinions of public officials and school masters of community schools. Vietnam Office's employees provided volunteer services such as mural painting and painting of walls, etc., by participating in social volunteer activities. Aside from Vietnam, meal service, education support for children and adolescents in slums, and infrastructure construction activities are carried out in Peru and the UK.

* Since the Goryeo people who had lived in Siongo of Sakhalin moved into Uzbekistan, it became known as Siongo Village.





UN Global Compact (UNGC)

KNOG complies with the 10 fundamental principles in four items -- human rights, labor, environment, and anti-corruption -- as presented by UNGC to fulfill its corporate social responsibility (CSR). We have been reporting the activity results in compliance with the principles through COP (Communication on Progress) since we became a member of UNGC in August 2007.

Classification	Principle	Performance Indicator	Page
Human Right	1. We support and respect the protection internationally proclaimed human rights.	Educations on human rights, ethical management, and sexual harassment prevention	78
		2. We make sure that we are not complicit rights abuses.	37
	3. We uphold the freedom of association and to collective bargaining.	Occurrence of labor disputes	37
Labor	3. We uphold the freedom of association and to collective bargaining.	Compliance with the Labor Standards Act, recommendations of ILO (International Labor Organization) and collective agreements	37
	4. We eliminate all forms of forced and compulsory labor.	Compliance with the Labor Standards Act, recommendations of ILO (International Labor Organization) and collective agreements	37
	5. We effectively abolish child labor.		37
	6. We eradicate discrimination in respect employment and occupation	Employment rate for disabled people	31
		Employment expansion of local talents	32
Environment	7. We support a precautionary approach to environmental challenges.	Risk management in non-financial sector	67
		Response to climate change	54
	8. We undertake initiatives to promote greater environmental responsibility.	Global warming prevention activities	54, 55, 56
		Energy-saving activities	55, 56
	9. We encourage the development and diffusion environmentally friendly technologies.	Investment expenses in environment	53
		R&D for green growth	17, 18, 19
Anti-corruption	10. We work against corruption in all its forms, including extortion and bribery.	Executives' Integrity Pact Improvement of whistle-blowing system	78
		Pledge to business ethics	79

SUSTAINABILITY

PERFORMANCE





Social Part	30
Environmental Part	50
Economic Part	60

The Challenges of a Global KNOC Unfold in the Global Arena.

As a result of implementing collaborative businesses in the oil and gas sector through summit diplomacy between Korea and UAE, KNOC laid the foundation for participating in the development of oil fields containing estimated 570 million boe of original oil-in-place and oil-producing fields with more than 1 billion boe. In addition, KNOC is emerging as a global oil major through conducting successful PMI targeting acquired subsidiaries and differentiated growth strategies customized to each business foothold.



Social part

Disclosure on Management Approach

Management Principle

KNOC puts its human resources (HR) policy into practice based on employees' creativity and abilities and contributes to the realization of a fair society through socially equitable talent employment. Guided by our vision for customer satisfaction, i.e., "Partner for success supported by customers through prime oil services," we execute customer satisfaction management and actively carry out win-win growth activities with SMEs related to oil stockpiling and developing businesses. By selecting the top four strategic challenges for social contribution, we conduct active community society contribution activities.

2012 Materiality Test Result

External Concerns

Labor & Human Right

- Employee communication
- Prohibition on discrimination
- Development of human resources

Ethical Management

- Information disclosure
- Fair competition

Product Responsibility

- Provision of core information and technical supports Partner Firms
- Fairness and transparency in selecting partner firms

Local Communities

- Vitalization of local economy
- Investment expansion in local communities

Labor & Human Right

- Safety and health of employees
- Protection of employees' human rights
- Cultivation of female talents

Ethical Management

- Protection of internal whistle-blowers

Product Responsibility

- Customer communication and complaint resolution
- Protection of customer information
- Marketing communication

Partner Firms

- Social contribution and environmental management of partner firms
- Eradication of irrational demands to partner firms

Local Communities

- Health of local residents

Labor & Human Right

- Securing experts
- Fair performance evaluation and personnel management

Ethical Management

- Compliance with ethical management

Product Responsibility

- Improvement of service quality

Partner Firms

- Win-win management

Local Communities

- Social contribution activities



Labor & Human Right

- Labor-Management relationship
- Balance between work and life
- Corporate culture
- Improvement of working environment and custom of labor practices

Ethical Management

- Anticorruption system

Local Communities

- Effect evaluation on local communities

Internal Priorities

Social Data Summary

Classification		Unit	2007	2008	2009	2010	2011
Employees	Number of employees	Persons	1,121	1,213	1,233	1,268	1,330
	Percentage of female employees	%	10.40	11.90	12.50	14.98	14.33
	Percentage of engineering graduates	%	72.70	100	39	50	56.60
	Percentage of the disabled employment	%	2.10	2.10	2.20	2.21	2.28
	Training expenses per employee	KRW in millions	2.0	2.3	2.8	3.2	3.3
	Cultivation of core talents	Persons	101	122	126	146	144
	Ethical management diagnosis	Points	72	74	77	75	78
Customers	Customer satisfaction (PCSI)	Points	85.8	88.2	90.4	92.6	91.9
Partner Firms	Percentage of purchasing products of SMEs	%	24	32.10	34.10	39.91	60.90
Local Communities	Investments in social contribution activities	KRW in millions	511	535	4,178	4,476	4,718
	Mileage for voluntary services	Mileage/person	-	-	14	32	35
	Number of Opinet users	Thousand persons	-	-	30	52	112
	Number of economical gas stations	Places				641 (as of July 2012)	

Employee Status

Employee Status				(Persons)					
Classification		2009	2010	2011	Classification		2009	2010	2011
Employment Type	Executive	7	7	6	Position	Executive	7	7	6
	Permanent position	1198	1233	1290		1st~3rd degrees	190	201	214
	Special position (support position)	20	19	22		4th degree	318	323	344
	Special position (specialty & general position)	8	9	12		5th degree	310	300	362
						Below 6th degree	380	409	370
Social Minorities	Female	151	171	200	Employment (as of permanent position)	Number of new employees	38	68	93
	Disabled	27	26	27		Female	8	25	32
	National veterans	91	90	92		Disabled	2	2	-
Age	20's	150	142	114		Local talents	10	19	40
	30's	478	501	530	Retirement	Number of the unemployed	14	34	35
	40's	398	411	431					
	Over 50's	179	186	221		Average length of service (years)	11.5	11.8	11.4

* Contract period of employees at support position is renewed every year, and that of employees at specialty & general position is terminated after a certain period.

* Number of the unemployed covers voluntary resignation, retirement, discharge and mortality.

* The above data may differ slightly from our external disclosure figures. The employee status in this report includes the number of supernumerary employees.

Interview

Good Company that Grows Together with Communities

The Volunteer Service Center in Anyang City has been carrying out social contribution activities jointly with companies in partnership with KNOC since 2007. This year marks its 21st year since the launch of the social contribution activities jointly with companies. Actually, the activities can be said to be the first social contribution model nationwide, creating synergy effects jointly with 10 companies in Anyang City. With corporate social responsibility emerging as a hot issue, corporate social contribution activities have become a must-do in business rather than a good thing to do, emerging as an essential factor if one is to grow into a respected company from a competitive company. KNOC works hand in hand with communities with its continuous activities rather than one-off activity, as a main player of joint corporate activities. Based on heartfelt volunteer services by employees and social responsibility culture spread within KNOC, KNOC is carrying out social contribution activities vigorously.

KNOC executed the following social contribution activities in 2011 and attained satisfactory results for both local residents and our employees: Ecosystem Experience Camp for Volunteer Service Centers and multicultural home children; Talk about Your Wishes for children with incurable diseases, and; Joyful Seoul Culture Experiences with corporate partners. I think the establishment of an organization in charge of social contribution activities to enhance the professionalism and effectiveness of corporate social contribution activities is necessary. I hope KNOC establishes itself as a respected company that grows together with communities through activities in line with its business directions and values, considering the various stakeholders in the communities.

Gang Hyun-gu, Team Leader of the Anyang City Volunteer Service Center

Employee

Sustainability Performance
Sustainability Efforts
Appendix

Employee Value Creation

KNOC expands newcomers' employment and employees training for a virtuous circle of sustainable growth. We contribute to the realization of a fair society through socially equitable HR employment and fulfill our social responsibility as a public corporation.

Open Hiring of Talent

KNOC actively selects the right people equipped with job capabilities and growth possibilities in line with its talent model. By hiring external specialized personnel, we enhance our professionalism and vitality within our organization. We are committed to hiring more challenge-driven, professional talented people and investing in and supporting KNOC members' competencies consolidation.

Human Resource Philosophy



Fulfilling Our Social Responsibility through Open Employment

KNOC gives employment opportunities to socially underprivileged people including high school graduates, young people, and disabled people to realize open employment. By actively operating a preferential policy for socially underprivileged people such as employment target system, youth internship, and bonus point system, we employed 32 talented female people and 40 talented local people.

Among those who participated in the youth internship, 11 were hired as regular position employees.

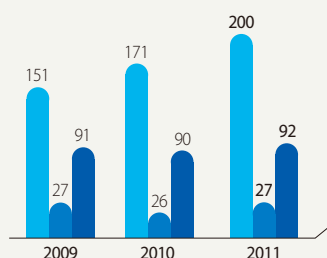
Preferential Employment of Social Minorities

- **Female:** Employment targeting system for female talent
- **Disabled:** Employment targeting system for the disabled
- **National veterans:** Additional points to employment recipients
- **Local job seekers:** Employment targeting system for talent in local communities and our relocation area
- **Youth people:** Implementation of youth internship program, additional points to new applicants

Number of Social Minority Employees

(Persons)

● Female ● Disabled ● National veterans



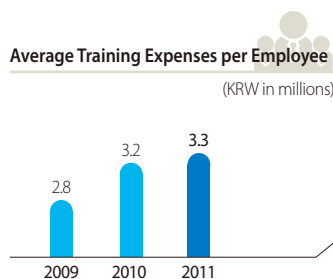
Enhancement of Organizational Vitality through Internal and External Manpower Exchange

KNOC enhances organizational vitality through internal and external human resources exchange. In 2011, we held the Global Steering Committee meeting to discuss HR exchange between KNOC and its overseas subsidiaries. KNOC enhanced understanding of the business process of overseas subsidiaries; for their part, the subsidiaries had the opportunity to narrow down the social and cultural gap by carrying out business together with KNOC's head office employees.

Through the global mobility using the overseas subsidiaries' personnel having ample technical experiences, we create HR operational synergy effects in our global business and enhance the exploration success rate.

Average Training Expenses per Employee

(KRW in millions)

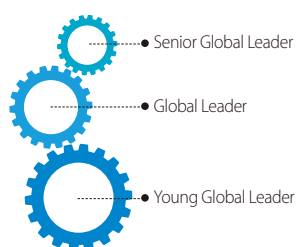


Talent Fostering

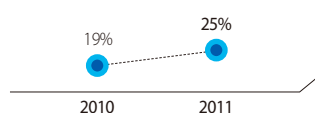
KNOG fosters site-centered professional human resources having global competitiveness. For the intensive nurturing of four capabilities – KNOG core values, leadership, global, and job – we operate systematic training system, advanced e-HRD system, and multivalues (community) for knowledge sharing. In 2011, the annual average training hours per employee were 139 hours, and training cost per employee was KRW 3.3 million. We plan to create employee value and consolidate their competencies continually.



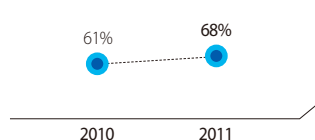
Leadership Pipeline



Global Capability Index



In-house Oil Development Technology Index



Training of New Employees

KNOG offers e-learning on oil development to aid in new employees' understanding of the oil development business before they start work. We also conduct camp training for organizational strength, teamwork improvement, and creativity enhancement. Through in-house training, we offer KNOG's visions and business skills and operate job specialization training through which employees learn in-depth knowledge on resources development from internal experts. Furthermore, through one-on-one mentoring with employees equipped with ample experience, we provide an opportunity for new employees to adapt to our organizational culture.

Leadership Training

To foster core talent by hierarchy to lead the global oil development business, KNOG operates global leadership programs including the leadership course by hierarchy, cross-training courses between office workers and technical workers, global course, and one-on-one mentoring by top internal and external experts. The leadership program by hierarchy is designed to acquire proactive leadership capability according to KNOG's leadership pipeline; it is an essential program operated targeting all our employees. We actually nurtured 13 senior global leaders (Overseas Subsidiary Head) and 15 young global leaders (Section Chief) in 2011. We newly adopted common training by stage and cross training course between office and technical workers, intensively improving oil development capabilities for team leader or higher class.

Specialized Capability Consolidation Training

KNOG improves professionalism in various fields related to oil development such as resources engineering and geology through Oil Academy, an internal job specialization training. We also offer OJT training through which the job is carried out jointly with the staff in charge in each field at KNOG's overseas oil and gas blocks to foster ample field sense and operational ability. We actually selected 42 people for the OJT training in 2011. We actively help employees learn advanced technologies and earn degrees in specialized fields including law school, MBA, petroleum engineering, and geology at domestic and internationally renowned universities.

Employee Value Creation

Fair Performance Evaluation and Remuneration

KNOC builds a performance-centered culture wherein performance and remuneration match. By adopting a new HR system in 2010, we abolished the seniority system and unified the HR and remuneration system centered on performance capabilities. In 2011, we consolidated organizational competitiveness by promoting the private company-type performance-based annual salary system and fostered a fair evaluation culture. As a result, 87% of all our employees received performance evaluation.

Operation of Performance Management System

KNOC operates an evaluation system centered on performance and capability, and the consequential fair remuneration/reward is offered. Guided by three strategic directions -- strategy linkage management, enhancement of objectivity and fairness of evaluation, and reasonable remuneration and motivation -- we monitor the weekly, monthly, and quarterly target achievement processes. Through the establishment of SEM (Strategic Enterprise Management), an integrated base of performance management job, we maximize corporate value by offering KNOC's strategic decision making-related information ranging from strategy establishment to performance reward.

Setting Organizational and Personal Goals Linked with KNOC's Vision

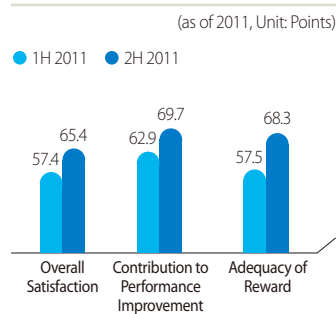
To set evaluation indices and goals linked with KNOC's vision, we declare our strategic goals at organizational and individual levels and carry out decision making by securing harmony between top-down and bottom-up modes. By reviewing the evaluation indices' feasibility and goal level's adequacy, we challenge ourselves in establishing goals and make an effort toward the achievement of those goals.

Operation of Fair Performance Evaluation System

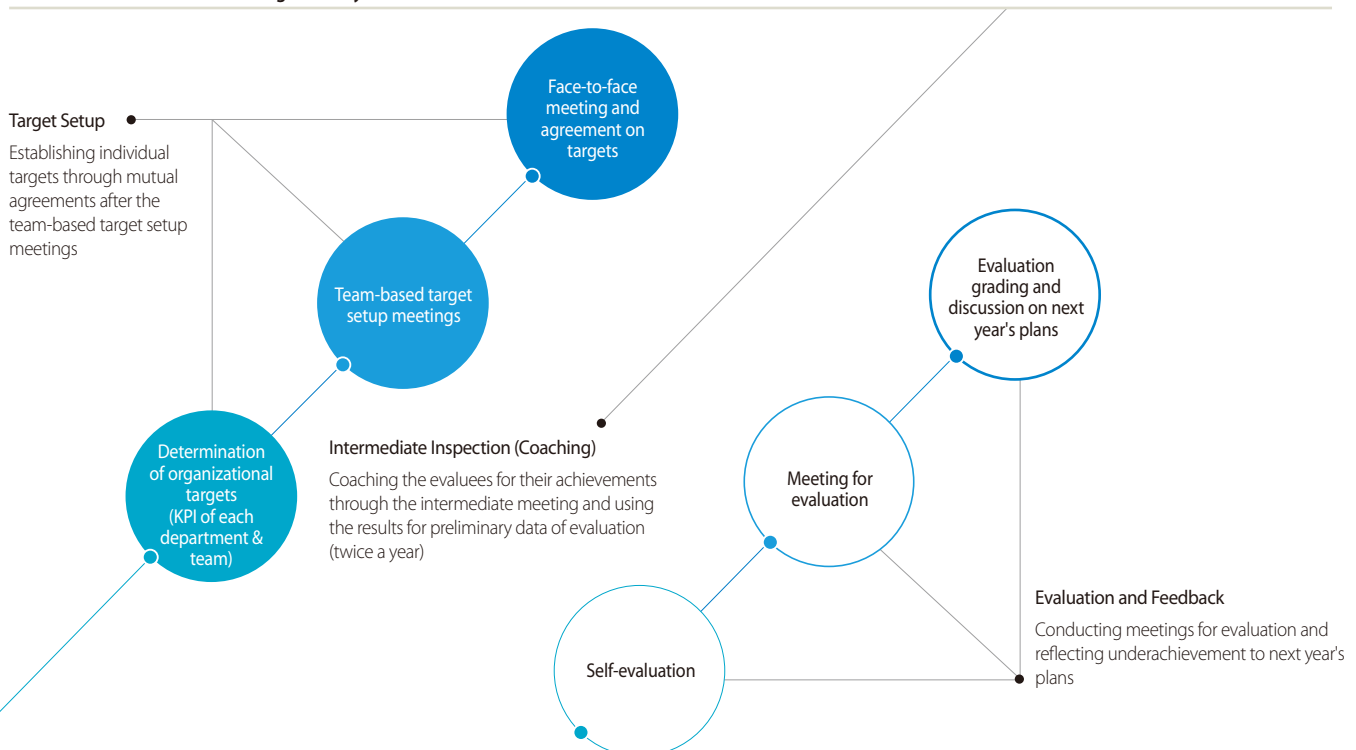
To ensure the objectivity and fairness of individual and organizational evaluations, KNOC has built a 3-step evaluation process: evaluation, coordination, and confirmation. It also operates the Evaluation Committee.

In addition, we conduct an employee satisfaction questionnaire survey to improve the efficiency of the performance management system. Our performance evaluation satisfaction score in the second half of 2011 was 65.4 points, up 8 points compared to the first half of 2011.

Satisfaction Level of Performance Management System



HRD-focused Performance Management System



Family-Friendly Management

KNOC endeavors to create a great workplace to work in through harmony between work and life. The family-friendly system is a system that promotes sustainable performance improvement while carrying out work and life in harmony. In 2011, we performed family-friendly status diagnosis and deduced measures to improve both work and family life by conducting family-friendly management consulting.

Flexible Work Environment

KNOC shapes a flexible work environment to institutionalize a family-friendly culture. We operate a flexible work system including commuting system with gap in terms of commuting time. By designating every Wednesday and Friday as a going-home-early day, we form a culture of leaving the office or worksite on time. We also recommend using various leave systems including the nursing leave system autonomously.

Activation of Family-Friendly Welfare System

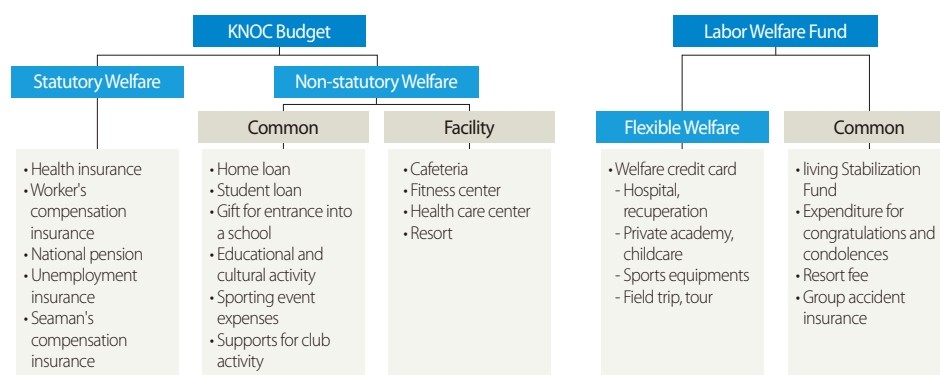
KNOC operates a family-friendly welfare system to realize harmony between work and life. The retirement pension fund is fully deposited to external institutions. By operating a job transfer support program, we offer consulting and training expense upon retirement. We operate a selective welfare system to meet welfare demand according to life cycle and to offer welfare tailored to each individual. To fortify maternity protection, we amended KNOC's regulations related to leave and leave of absence for childcare in 2011. We also assist in child delivery and childcare by setting up child caring facilities at the head office. KNOC operates the leave of absence for childcare and a leave system for a couple's simultaneous childcare. A total of 8 female employees used the childcare leave in 2011. Furthermore, we add welfare benefits for multi-child homes and host family-invitational events to put family-friendly management into practice.

Health Management for Employees

KNOC abides by the Labor Standard Act and Industrial Health and Safety Act so that its employees can enjoy a healthy life in a pleasant work environment. We specify the issues in health, safety, and health management in the collective bargaining agreement. KNOC's domestic branches host monthly meetings of the Industrial Health and Safety Committee, which is in charge of health and safety; the same number of committee members from labor and management attend the meeting.

Welfare Benefits

(As of 2011)



BUSINESS CASE STUDY

Introduction of EAP (Employee Assistance Program) System

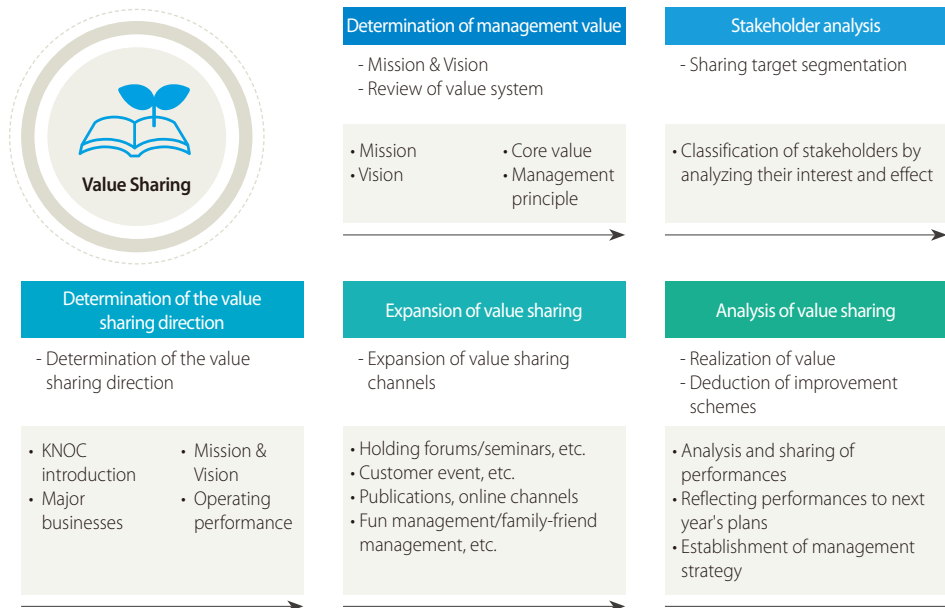
KNOC has introduced an EAP system to relieve stress and handle its employees' grievances, which hinder their commitment to work. By setting management indices, stress related to job, personal relations, home life, and personality are measured, and external experts conduct psychological counseling based on the measurement results. A total of 61 cases of counseling involving 22 employees were recorded in 2011. We will improve our employees' will to work and promote organizational activation by managing employees' stress and grievances.

Corporate Culture

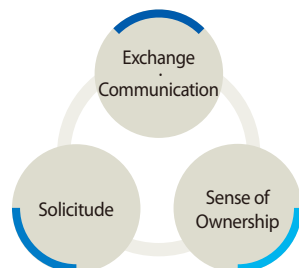
KNOC shares its values with employees and creates a work environment wherein working is great and enjoyable with executing 'Fun Management'. Through communication and bond of sympathy, we build cooperative labor-management relations.

Value-oriented Management

To implement continuous growth after the sizable growth strategy, KNOC has been consolidating core value-oriented management. We inspect the value system by monitoring the CEO's commitment and employees' bond of sympathy level, establish a value sharing process, and share the vision and strategy with our internal and external stakeholders. By analyzing issues and matters that are of interest to our stakeholders together with KNOC's management value, we set the direction for sharing and reflecting them on the job plans and strategies.



FUN Management Tasks



Fun Management

Under the goal of great work environment where working is fun, KNOC implements autonomous organizational atmosphere shaping, family-like work environment consolidation, employee engagement, and pride enhancement. Toward this end, the CFO, PR Team, HR Team, Fringe Benefits Team, and Management Strategy Team play a pivotal role by organizing a council. To consolidate exchange and communication among organization members, we carry out various activities including social meeting of employees (31 meetings), organizational activation training program (7 times), corporate culture opinion gathering (8 times), Lunch Academy (enjoying wine, etc: 5 times), Happy Time (making a team with a story: 9 times), and Surprise for You (making a vibrant commuting time: 7 times). We enhance employee engagement and pride by rewarding outstanding employees and departments in terms of Fun Management via core value and teamwork improvement programs.



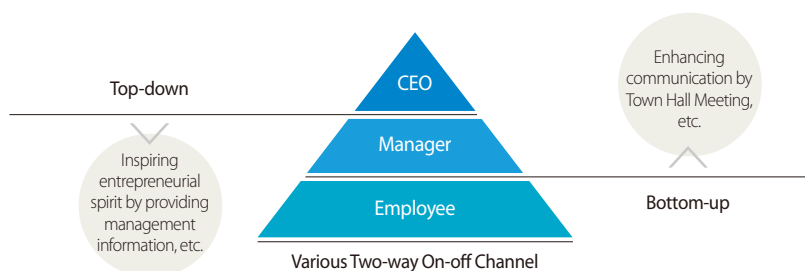
Labor-Management Relations of Win-Win Growth and Cooperation

Communication Management

KNOC's labor and management form a bond of sympathy using various communication channels and retain partnerships pursuing the common benefits of labor and management. In particular, we have significantly expanded the social meeting with employees, town hall meeting, green board, CEO hotline, corporate culture CoP, CoP of balance in work and life, and two-way communication channels. KNOC promotes employee engagement and collaboration through the joint workshop of labor and management and one-heart athletic meet of labor-management. Concerning the labor-management council held quarterly, 8 officers each from labor and management attend the council meeting and resolve pending management issues through negotiation. In the branch worksite, the labor-management meeting is held quarterly, including debates on pending issues on safety, environment, and health at worksites. Through a resolution for labor-management cooperation to become a global company, collaborative relations are solidified. Consequently, our labor-management culture was presented as the best practice for labor-management culture at a public agency workshop of the Ministry of Strategy and Finance held in March 2010, with KNOC acquiring outstanding company certification in labor-management culture in June 2011.

* CoP: Community of Practice

Establishment of Two-way Communication Channels



Human Rights Protection of Employees

KNOC complies with the ILO Convention 87, Freedom of Association and Protection of the Right to Organise Convention on the freedom of association and protection of right to organize (ILO #87), ILO Convention 98, Right to Organise and Collective Bargaining Convention on the application of principles of right to organize and right to collective bargaining (ILO #98), and ILO Convention 182, Worst Forms of Child Labor Convention on immediate action for forced child labor prohibition and extermination (ILO #182). KNOC's labor union has 12 chapters by region, with the union members consisting of 4th grade employees or under.

The membership type is open-shop, and employees become labor union members upon their employment; they can withdraw their membership on their own. As of 2011, the number of labor union members was 1,009 or 77.9% of all employees. No labor dispute has occurred since the KNOC labor union's foundation. We notify our employees of key changes in management operation at least seven days in advance. We are committed to developing win-win labor-management relations by maintaining sound and cooperative labor-management relations. For employees' human rights protection, we offer education related to sexual harassment prevention through new employees' induction education and e-learning, based on which we form a sound corporate culture.

BUSINESS CASE STUDY

Labor-Management Smart Work Research Committee

To enhance job satisfaction and smart work handling, KNOC's labor-management jointly operates the Labor-Management Smart Work Research Committee. The committee seeks to improve the working mode, labor environment and corporate culture, and labor-management development direction suitable for environmental change.

Major Tasks and Performances (May to November, 2011)

Preparing for the development of labor-management relations meeting changing business environments through the improvement of working process

Major Tasks	Performances
Education on labor environment	Learning of the change of labor movement and dual unionism
Improvement of corporate culture	Introduction of EAP (Employee Assistance Program) system and proactive grievance handling
Promotion of labor-management relations	Discussion on social responsibility of the union

Customer

Sustainability Performance
Sustainability Efforts
Appendix

KNOC's Customers

Business	Customers
Exploration & Production	<ul style="list-style-type: none"> • Participants in overseas E&P projects • Buyers of gas and oil produced in Korea
Oil Stockpiling	<ul style="list-style-type: none"> • National oil corporations of oil-producing countries • International trading firms • Domestic and overseas oil refineries
Financing	<ul style="list-style-type: none"> • Borrowers of loan by the special accounting for energy and resource business
Oil Information Service	<ul style="list-style-type: none"> • Members of the service and oil information contents partners

Customer Satisfaction Management

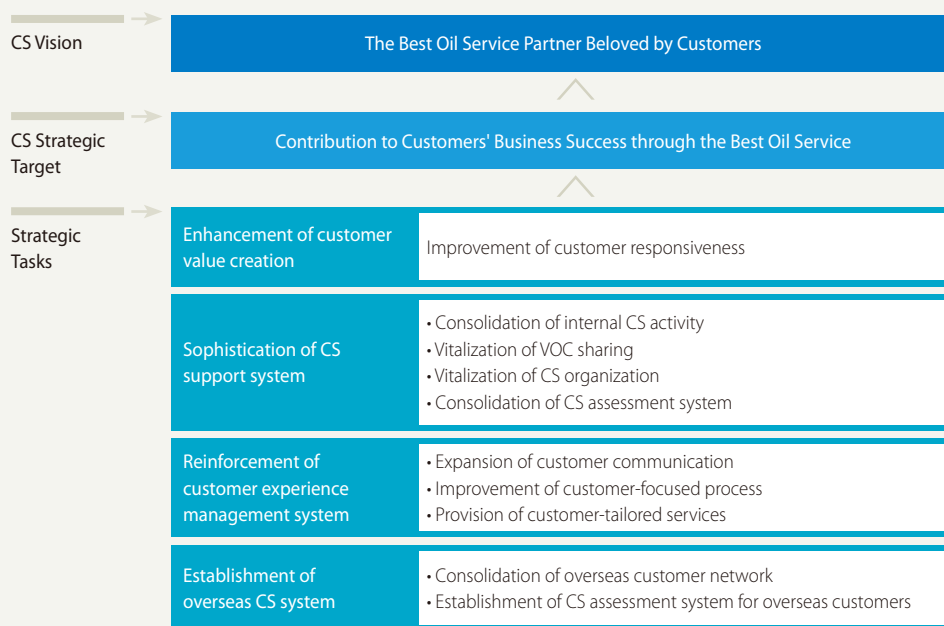
Guided by the CS vision of "Partner for success supported by customers through prime oil services," we deal with strategic challenges in line with customer needs by business area.

KNOC Customers

KNOC's customers are targets to whom service is offered by KNOC for Korea's energy security establishment and oil industry development. Customers can be divided into a small number of professional customers having clear goals in business, customers having long-term and close relations, and customers requiring specialized information including oil information. We offer business engagement information to customers in the oil development business including companies participating in overseas oil development and rental services of stockpiled oil and stockpiling facilities to customers in the oil stockpiling business. We also support information on special accounting system and quick loan to customers using special accounting loans. The members of our oil information service and contents partners are provided with weekly/monthly oil statistics data, oil-related analytic information, location of gas stations and oil prices.

Customer Satisfaction Management Strategy

Under the customer satisfaction vision of "Partner for success supported by customers by prime oil services," we implement four strategic challenges: consolidation of customer value creation capability, enhancement of customer satisfaction support system and consolidation of customer experience management system, and establishment of overseas customer satisfaction management activities.



Customer Satisfaction Management Activities

To execute effective customer satisfaction management, KNOC carries out various activities such as organizational reshuffle, establishment of customer management system, VOC process, and customer-oriented service use environment.

Effective Customer Satisfaction (CS) Management through Organizational Reshuffle

To carry out CS management across KNOC, we changed the CS Management Dept. into PR Team affiliated with the Office of Secretary. The PR Team improves communication with customers and collects and analyzes customer needs in various ways.

Before Reorganization	After Reorganization
<ul style="list-style-type: none"> • Department in charge: Management Strategy Team • Regarding the CS as part of management evaluation • Difficulty in expanding the CS management throughout the company 	<ul style="list-style-type: none"> • Department in charge: Secretary Office, PR Team - Enhancement of CS practice by directly reporting major CS matters to the CEO and expansion of the CS management throughout the company

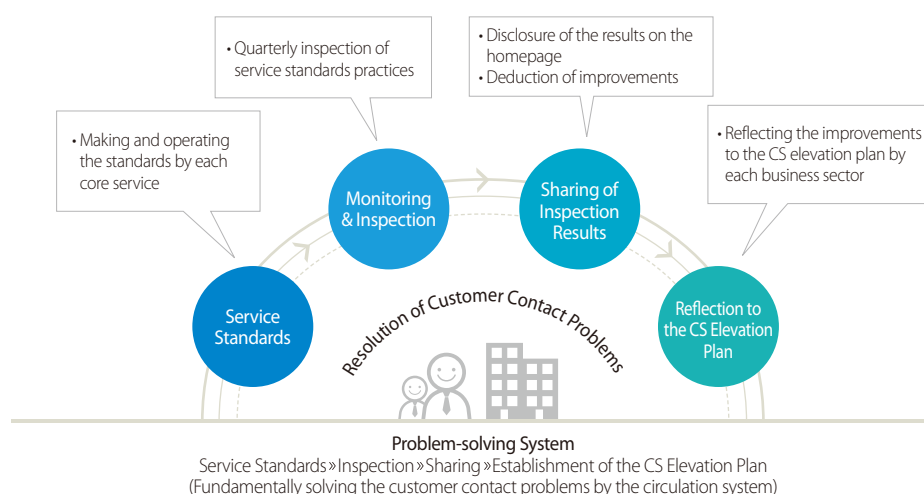
KNOC reformed the E&P business organization centered on region and strategic foothold, through which the company manages VOC more systematically.

Before Reorganization	After Reorganization
<ul style="list-style-type: none"> • Organization by the function (development, production, new business, exploration and overseas office) - Duplication of target customers and CS activity - Duplication of customer contact point 	<ul style="list-style-type: none"> • Organization by strategic foothold (Asia, Americas, Europe and Africa) - Improvement of relations between the organization and target customers, and systematic VOC control - Resolution of customer contact problems and systematic management

Moment of Truth Management System for Service Improvement

Through service standard operation, KNOC checks service quality improvement and standard compliance status at the moment of truth with customers. We check 46 items including promptness of service, compliance with procedures, and correction, targeting 13 departments in 5 business sectors. Matters to improve as deduced through such checking are reflected on the plan establishment and service standard amendment for CS improvement by business sector. In 2011, 13 departments attained full marks in internal evaluation indices by carrying out all items of the service standard. The details of the service implementation standard and results are posted on the homepage of KNOC. We have not violated any law and regulation for the past 3 years in relation to the information and services we offer.

Resolution of Customer Contact Problems



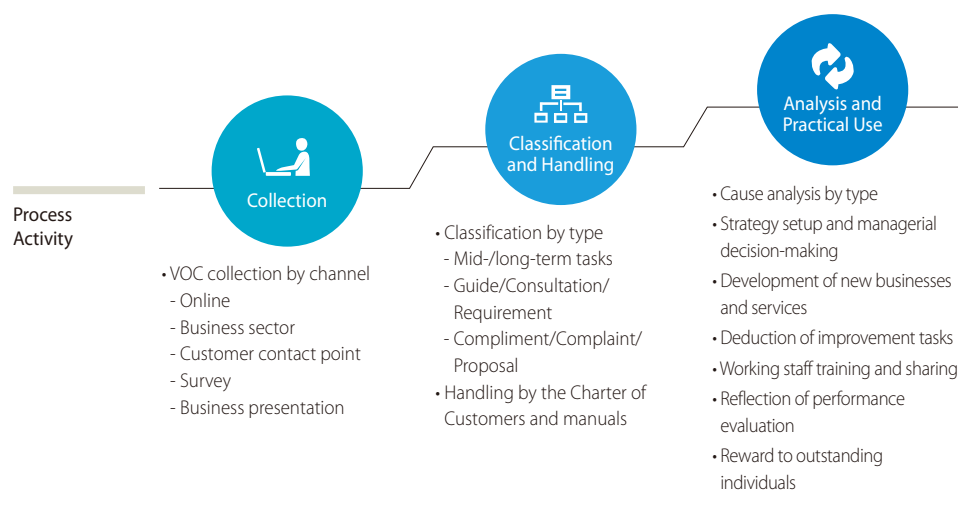
Customer Satisfaction Management Activities

Integrated VOC Management System

Establishment of Integrated VOC Process System

Through voice of customer (VOC), KNOC identifies customer needs and realizes CS management by meeting them. We collect VOC through a variety of channels such as online channel, moment of truth by business, questionnaire surveys, and business presentations and classify and manage VOC according to the agencies requiring such and types of collected VOC. Various customer needs collected through the VOC management system are used across KNOC, including CS improvement, employees' CS capability enhancement, and decision making for business management.

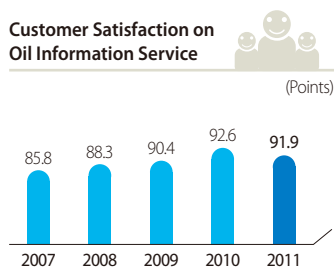
VOC Process



Various VOC Collection Channels

KNOC collects various ideas for KNOC's development and opinions on the improvement of a variety of laws and regulations, systems, and procedures by offering spaces for the suggestion of opinions to customers and citizens on its homepage. Once a customer's suggestion is registered, KNOC reviews the suggestion internally and deliberates on the suggestion or decides the grade of adoption through submission to the Suggestion Screening Committee for consideration. When a suggestion is adopted as an excellent suggestion, we offer some reward according to KNOC's rules. We also listen to VOC via diverse channels such as satisfaction survey, questionnaire survey, and business presentation or road show.

Customer Satisfaction on Oil Information Service



CS Survey

Our CS score was 91.9 points in 2011, down 0.7 points compared to the previous year. This is attributed to decline of the score in sectors including the oil development sector in spite of rise of the score in the oil stockpiling sector. Based on the CS analytical results for the past 4 years, we plan to improve responsiveness to enhance job handling speed, assistance in handling customer complaints, facilities use convenience, and integrity in job handling.





Providing Customer-centered Information Service

KNOC strives to enhance the accuracy and reliability of oil information as well as offer customer-centered information services.

Efforts to Activate the Oil Information Service

After collecting and analyzing specialized information on the overall oil business at home and abroad, KNOC contributes to the domestic oil industry's development and national competitiveness consolidation by offering the information to the government, industries, and consumers. We produce various oil statistics information at home and abroad through the operation of oil information system, such as Petronet, Pedsis, and Opinet as state-recognized oil statistics agencies and offer services via publications, books, Websites, and smart phones.

We also made an effort to launch an oil information retainer service, analyze international oil markets and industries and international energy collaboration and research, develop a statistical information analysis system, and carry out maintenance/repair. Recently, KNOC developed the Opinet Website to carry out the public benefit function including the enhancement of the domestic oil market's transparency and general public's oil products purchasing cost savings. It also discloses the selling prices of overall gas stations nationwide. We are committed to improving CS by combining various types of service media such as navigation, Internet portal, smart phone, and IPTV and by improving information service quality and use accessibility.

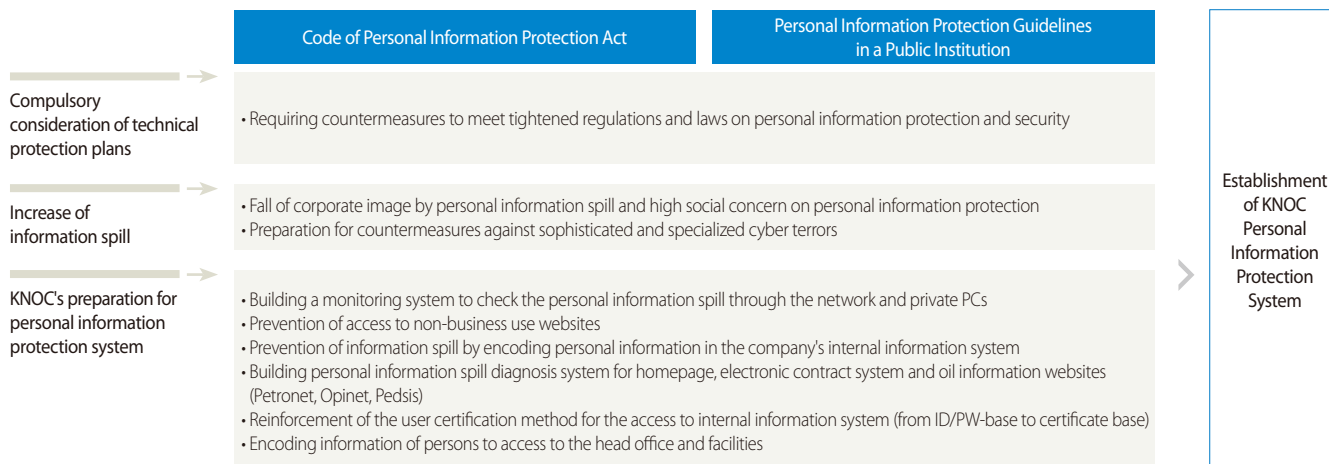
Enhancement of Accuracy and Trust of Disclosure

For impeccable disclosure, KNOC has adopted an inspection system such as frequent disclosure inspection notification mail and drawing up of oath. We send an inspection notification mail to prevent frequent disclosure omission and for timely disclosure in advance and impose the obligation of implementing the drawing up of oath in good faith on the staff in charge of disclosure. As a follow-up action, we execute a drawing up responsible system wherein a checklist on compliance with the disclosure manual by item is submitted and the staff in charge of disclosure is appointed. In addition, we implement the double check system for frequent disclosure wherein the Dept. in charge and Audit Dept. check disclosure additionally after the first check.

Consolidation of KNOC's Personal Information Security System

KNOC prepares personal information security measures pursuant to the Personal Information security Act. As the number of accidents and damage scale increase nowadays in relation to personal information, we seek safe and reliable information management system and security mode for the security of personal information. From the establishment of a system for personal information distribution and monitoring to the supplementation of the existing user authentication system, we implement various personal information protection consolidation activities. Through such continuous personal information security consolidation activities, we will endeavor to enhance the in-house information security level.

Establishment of Personal Information Protection System



Partner Firms

Sustainability Performance
Sustainability Efforts
Appendix

Realization of Fair Society

Efforts to Realize a Fair Society

KNOC offers equal opportunities to partner firms by improving unfair practices and systems and strives to build a fair society.

Symbiotic Development System Establishment

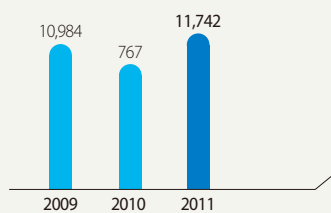
KNOC has built a symbiotic development system to establish fair awareness and system. We inspect monthly performance and conduct internal evaluation based on four challenges: forming a Symbiotic Development Group, consolidation of socially underprivileged support, establishment of fair trading order, and establishment of fair performance distribution system. We plan to form a bond of sympathy for symbiotic development among all our employees and fortify actual assistance for the socially underprivileged.



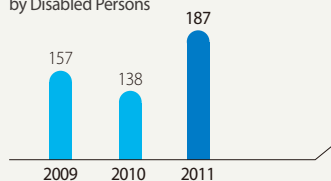
Product Purchase through Target Companies



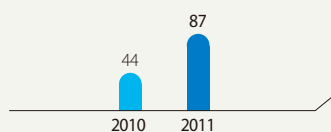
Products of Enterprises Owned by Women



Products of Enterprises Owned by Disabled Persons



Products of Social Enterprises



Symbiotic Development Activities

Forming a Symbiotic Development Group

As the need for social responsibility increases, as a public agency, KNOC organized the Symbiotic Development Group to play a pivotal role. The group consists of 14 people in addition to the group head who is at the executive level. It has identified 10 challenges to deal with in four areas such as social responsibility and win-win growth. The group inspects performance through internal workshops and seminars and debates on the direction of development.

Practical Tasks of the Co-prosperity Promotion Group

Social Responsibility	Enhancement of Job Capability	Win-win Growth	Satisfaction of the People
<ul style="list-style-type: none"> Hiring more high school graduate Sisterhood with Korea's traditional markets Expansion of social contribution activities 	<ul style="list-style-type: none"> Debt and investment control for the consolidation of financial soundness Enhancement of managerial efficiency by work process improvement, etc. 	<ul style="list-style-type: none"> Supports for the consolidation of SMEs competitiveness Purchase of SMEs' products and NEP-certified products 	<ul style="list-style-type: none"> Eradication of reckless management Use of economical gas stations for corporate vehicles Service improvement for the People

System Improvement to Bolster Support for Women's and Social Companies

KNOC has introduced the internal performance evaluation system to bolster support for women's and social companies. It shares the system across KNOC and puts the relevant plans into practice. By making annual procurement plans for women's and disabled people's companies, we execute the plans and expand the procurement of the relevant products by awarding additional points at the qualification screening stage to select a successful bidder.

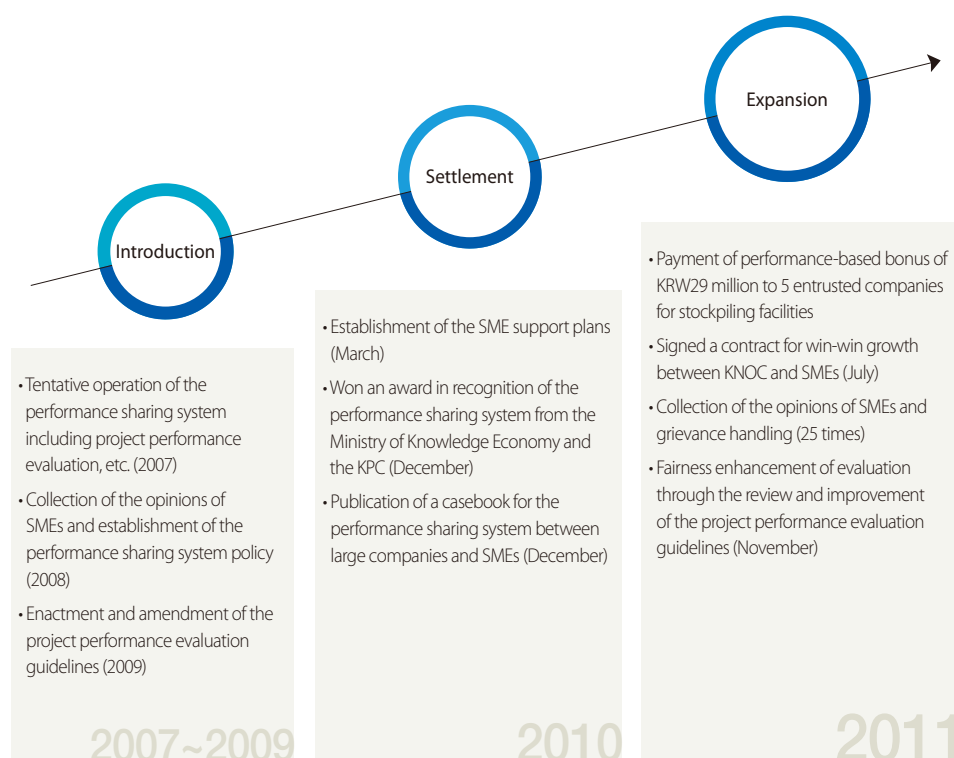
Shaping of Win-Win Culture through the Establishment of Fair Trading Order

KNOC makes efforts to build fair trading order with SMEs. We avoid voluntary contracting by enacting private contract operation rules and handle the entire processes of bid and contract through the e-procurement system. This way, we abide by transparent and fair competitive bid procedures. We operate a subcontract cost direct payment system and subcontract cost payment checking system to block evil practices such as payment delay and payment by bill to our secondary and tertiary partner firms and guarantee adequate payment. We stipulate the collaboration obligation between contract parties in the contract terms and conditions for goods, construction, and services for win-win growth. We actually build sound cooperative relations by imposing the Integrity Contract Performance Contract upon signing all contracts.

Promoting Win-win cooperation with SMEs through the Fair Performance Distribution System

For win-win cooperation with SMEs, KNOC executes a performance sharing system pursuant to the Act on Win-Win Cooperation Promotion between Large Companies and SMEs. The performance results of SMEs selected through competitive bids are annually assessed, targeting 11 services in 5 fields that repeatedly occur such as service on expenditure for oil stockpiling bases. According to the assessment results, we share in the performance by extending the contract period (additional 2 years and limited to 3 years in total) and through cash payment (up to 2% of the contracted price). KNOC can consistently ensure high-quality services, and the relevant SMEs can develop stable sales channels and secure revenues and stable employment. To solidify win-win cooperation relations with SMEs and establish fair trading order, KNOC held in 2011 a Win-Win Growth Signing Ceremony between KNOC and SMEs to implement the sharing performance system. Specifically, we entered into a win-win growth agreement and held meetings with SMEs to listen to their difficulties and collect opinions. We consolidate cooperative relations for win-win growth by hosting regular meetings and encouragement events with partner firms' employees. We plan to reorganize the performance results assessment criteria and operate various types of performance sharing system in linkage with the business for localization.

Promotion and Results of the Performance Sharing System



Win-Win Growth

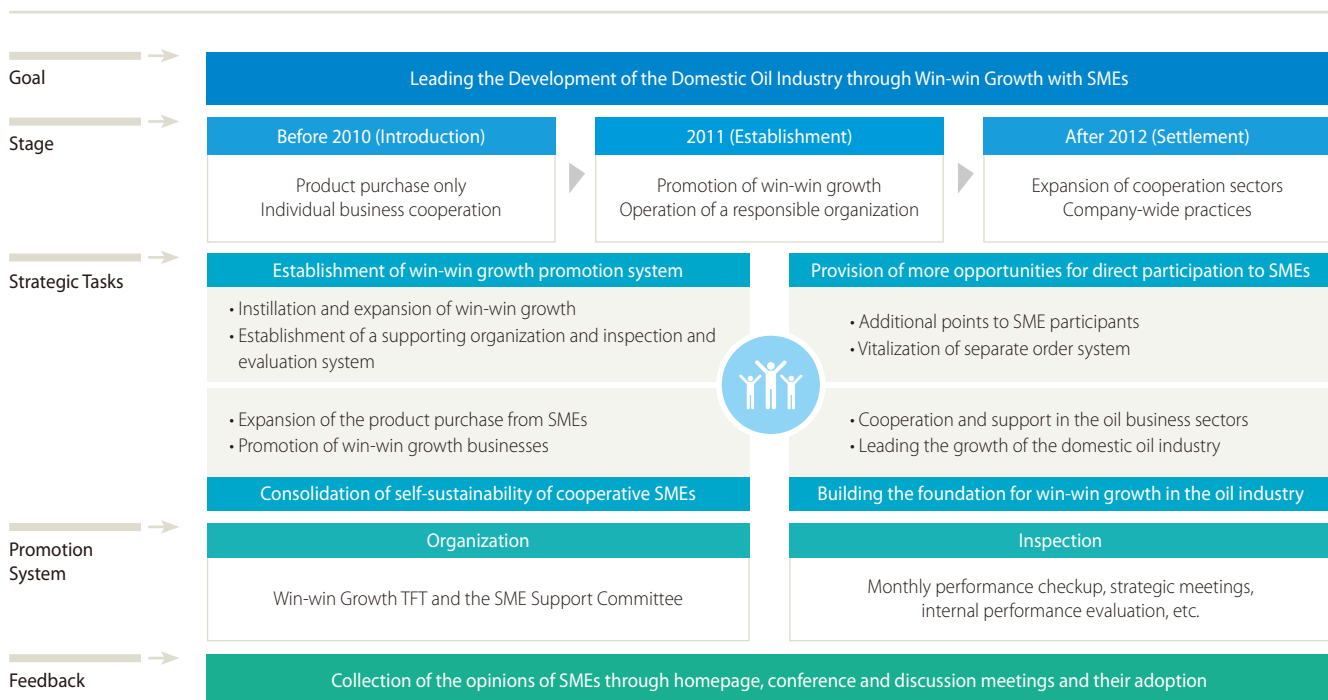
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Win-Win Growth Activities

To build sound partnerships with SMEs, KNOC establishes fair trading order and assists in SMEs' competitiveness consolidation.

Establishment of Win-Win Growth Vision and Strategic System

KNOC implements a win-win growth strategy to engage actively in the government's win-win growth policy and promote sound development with SMEs related to oil stockpiling and oil development business. We carry out various win-win growth policies based on four strategic challenges: win-win growth system establishment, SMEs' direct engagement opportunity expansion, SMEs' autonomous capability consolidation, and laying of foundation for the oil industry's win-win growth.



Interview

Trust Relations Built through Win-Win Cooperation

I think KNOC, by fulfilling its social responsibility through active win-win growth activities, is spearheading win-win cooperation and performance sharing, which have become hot issues recently. Samjin Security is a company managing, supervising, and inspecting HR (employment, resignation, punishment, reward), education/training, four major insurance benefits and retirement, equipment, administration, and other various matters under KNOC's stockpiling branch expenditure service contract. Our employees have never worried about unfair treatment or unreasonable conditions since we started collaboration with KNOC in January 2011.

KNOC treated us as a partner for win-win growth, and we have received huge help in participation in the bids of other agencies by improving service performance in collaboration with KNOC. Recently, Samjin Security acquired ISO9001 (quality management international standard) and Management INNO-BIZ SME certifications from the Administrator of Small and Medium Business Administration, thanks to the dramatic improvement of our employees' management and operation capabilities and company image. To be a sustainable company, I believe a company needs to breathe and grow with society. I hold KNOC in high regard as a model company in social responsibility, considering its sincere fulfillment of its role as a good corporate citizen. I hope for the two companies' good business relationship to continue based on win-win cooperation and trust.

Park Jun-seok, General Manager of Samjin Security

Organization Dedicated to SME Support



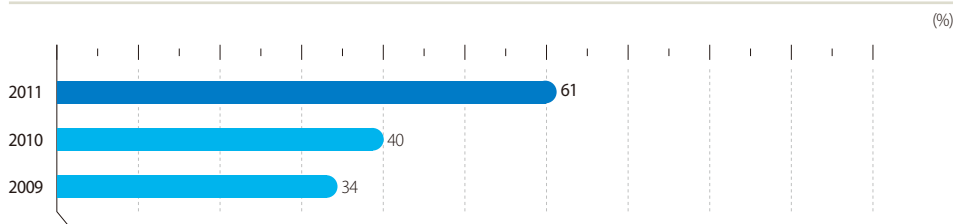
Win-Win System Establishment

KNOC set up organizations such as “Win-Win Growth Unit” and “Win-Win Growth Committee” to support SMEs. Based on these organizations, we systematically select and implement cooperative businesses to be carried out with SMEs and relevant bodies. We have fortified implementation capability for win-win growth by regularly inspecting win-win growth implementation results and including win-win growth-related items in the internal performance evaluation. We also induce interest and participation in win-win growth by executing presentations and education/training for our employees.

Expansion of SMEs’ Direct Participation Opportunities

KNOC operates a contract system to expand SMEs’ direct participation opportunities. We actively execute the public procurement system for SMEs’ products including competitive bid between SMEs, preferential procurement of products for technology development, and separate procurement of materials for construction. In case SMEs have difficulties in engaging in stockpiling base construction due to business scale and difficulties, we expand SMEs’ direct engagement opportunities by operating the bonus score system of SMEs’ engagement and promote SMEs’ status consolidation as a direct contracting party (main contractor). We have been continually raising the procurement ratio of SMEs’ products (goods, construction, and service) since 2009, and we purchased SMEs’ products worth KRW 76,654 million or 60.9% of our total purchase amount in 2011.

Product Purchase Rate from SMEs



Support for Partner SMEs’ Autonomous Capability Consolidation

KNOC raises the localization rate of maintenance/repair materials of oil stockpiling bases through strategic alliance with excellent SMEs. In 2011, we realized foreign currency saving effect of KRW 8.3 million by localizing foreign materials in 15 fields including pier berthing system through various forms of assistance such as technical data offering, test run supervision, and performance evaluation. For partner firms’ resources development technology capability consolidation, we implement cooperation for energy resources technology development by participating in the industry-academe-research sectors’ joint R&D projects.

Localization of Materials

(KRW in millions)

Classification	2009	2010	2011
Success in localization	4 sectors including the Crude Oil Pump Cooler	12 sectors including the Marine Loading Arm Seal	15 sectors including the Docking Facility
Foreign Currency Savings Effect	1,014	606	830

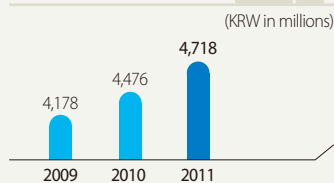
Laying the Foundation for the Oil Industry’s Win-Win Growth

As a national oil company, KNOC plays a leading role in activating the domestic oil industry and bolstering its competitiveness. We have induced private companies’ joint participation in overseas oil development projects and have laid the foundation to make inroads into the oil industry and relevant fields. We have also consolidated the international cooperation network by hosting the Asian NOC CEO Forum. By hosting the Oil Industry Seminar and Drilling Technology Seminar, KNOC seeks development measures for Korea’s oil industry and lays the foundation for the win-win growth of the oil industry by sharing technology information.

Local Communities

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Appendix

Investments in Social Contributions



Social Contribution Activities

Strategic Social Contribution Activities

Based on strategic social contribution activities related to its businesses, KNOC puts sharing management into practice and helps create a society where everyone can live in harmony through company-wide social contribution activities.

Social Contribution Strategies

KNOC carries out social contribution activities reflecting business features and social needs under the vision of "World-class national oil company supported by citizens." We have selected four strategic challenges: underprivileged class support consolidation, fortification of participation in community development, global social contribution, and fostering of energy professionals. Social contribution investment cost was pegged at KRW 4,718 million as of 2011, and it has been persistently on the rise since 2009. We plan to shape a culture of social trust and sharing through the enhancement of social contribution activities.

Social Contribution Conduct System

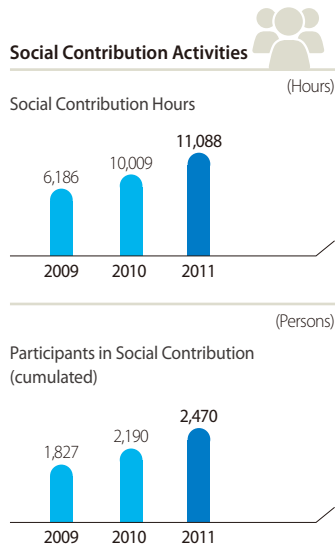


Social Contribution Organization System

KNOC has divided social contribution organizations into two systems for the activation of social contribution activities. In Korea, 26 and 10 volunteer service teams in the head office and stockpiling branches, respectively, are carrying out social contribution activities based on KNOC Volunteer Corps. Autonomous social contribution activities are carried out abroad, according to social contribution strategies suitable for the local situation.

Social Contribution Organization





Consolidation of Driving Force for Social Contribution Implementation

Social Contribution Commitment and Engagement

KNOC encourages employees' participation in social contribution activities to activate such activities. The management manifests its commitment to social contribution through the CEO's message and contribution articles to the press/media. Based on these, we promote social contribution engagement including PR activities for employees' interest enhancement, opinion collection, and capability consolidation education through workshops for staff in charge of social contribution and social volunteer activities following new employees' training. In 2011, 2,470 employees engaged in social contribution activities for 11,088 hours, thereby spreading happiness and hope.

Monitoring Consolidation to Activate Social Contribution Activities

For the activation of social contribution activities, KNOC established a volunteer service mileage system and the results have been monitored. In 2011, the mileage points per person reached 31. The company gives rewards and plaques to excellent volunteers with more than 100 cumulative mileage points to encourage consistent volunteer activities. The rewards will be donated to social welfare centers that the winners want to give in the future. We also deduce tasks to accelerate our social contribution activities through questionnaire surveys targeting our employees and external beneficiaries.

* The volunteer activities mileage system is a system of granting incentive benefits for systematic and efficient performance management and to excellent volunteers by awarding mileage score according to volunteer activity hours for KNOC employees' volunteer service.

Substantiation of Social Contribution Activities through Partnerships with Private Organizations

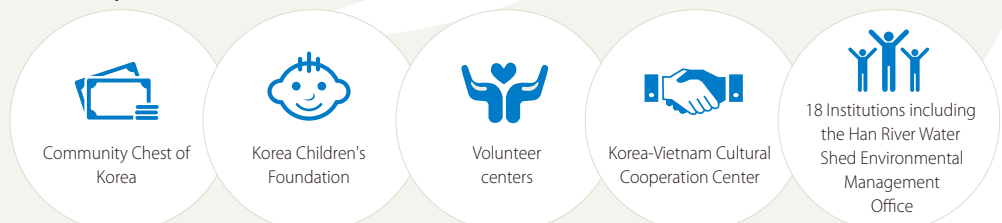
KNOC carries out solid social contribution activities by establishing partnerships with social contribution organizations. We substantiate social contribution activities by building solid partnerships with private organizations equipped with professionalism, such as social welfare joint fund raising association and child foundation. As a result of conducting social contribution activities jointly with companies together with KRIHS and LG Ericsson, we won the Governance Award in the 18th National Volunteer Service Festivity.

Social Contribution Partnership Program

Program



Partnership



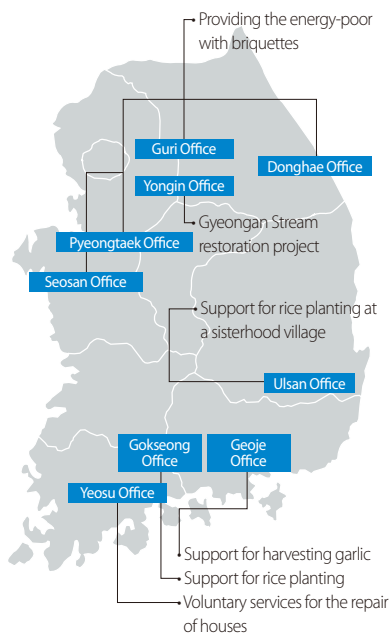
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Donations by Employees' Fund-raising

(KRW in millions)

Year	Category	
2008	Medical supports	8
2009	Delivery of rice	49
2010	Meal service	62
2011	Heating expenses	58

Happy Together Activities



Social Contribution Activities

Social Contribution Activities in Four Fields

'Sunshine' Service for the Consolidation of Underprivileged Class Support

KNOC provides heating assistance service based on the SUNSHINE brand in view of the public energy industry's features. We subsidize the heating costs including oil gift vouchers and briquettes to the energy-poor whose energy purchase cost exceeds 10% of the household income, based on expenditure related to various fuels. The fund is procured through our employees' donations and KNOC's matching grant. We actually maximized the effect of social contribution activity by executing the service before winter starts. We will realize energy welfare through active support for the energy-poor and budgeting.

HAPPY TOGETHER: Service Together with Community

Through the HAPPY TOGETHER service to support education for underprivileged class and children and help rural villages during the busy season, KNOC fulfills its social responsibility. Based on regular communication with communities where our head office and stockpiling branches are located, we carry out social contribution activities. We will become a public corporation that contributes to society by executing social contribution programs customized to the community's needs.

'Hope Energy' Service to Foster Energy Professionals

KNOC fortifies industry-academe partnerships to foster specialized personnel in the oil development field and provides scholarship service. The annual oil development scholarship size is pegged at KRW 400 million, and scholarships were awarded to 283 students from 2005 to 2011. We also support the formation of autonomous scholarship students' network through the Scholarship Students Club. When scholarship students are admitted to resources development departments, we offer various post-support measures by providing an opportunity to tour oil development sites, etc.

'KNOC Family' Project Using the Global Network

KNOC conducts customized social contribution activities in line with the local features using the global network. We assist not only in medical services but also secure economic independence through a public social contribution foundation, SAVIA Peru Association in Peru. We persistently search for and operate new social contribution programs by diversifying support fields in linkage with the local NGO.

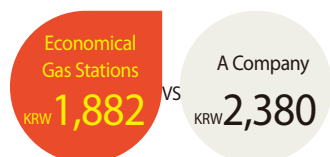




알뜰주유소

Gasoline Prices at Economical Gas Stations and Common Gas Stations

(as of July 12, 2012, Gangnam region)



Average Daily Number of the OPINET Users



(Persons)



Contribution to Prices Stability and Consumer Convenience Enhancement

Opening of Economical Gas Stations

As the need for new oil demand and supply model emerges according to the domestic oil price hike, KNOG has been promoting economical gas stations since November 2011. By procuring gasoline and diesel in large quantities jointly with Nonghyup and cutting down gas stations' auxiliary service cost, economical gas stations sell gasoline and diesel to consumers at lower prices than normal gas stations. Economical gas stations sell at KRW 100 lower per liter than other gas stations. As of July 2012, 641 economical gas stations are operated. Economical gas stations are expected to increase to 1,000 by 2012 and 1,300 by 2015, making up 10% of the total gas stations in Korea.

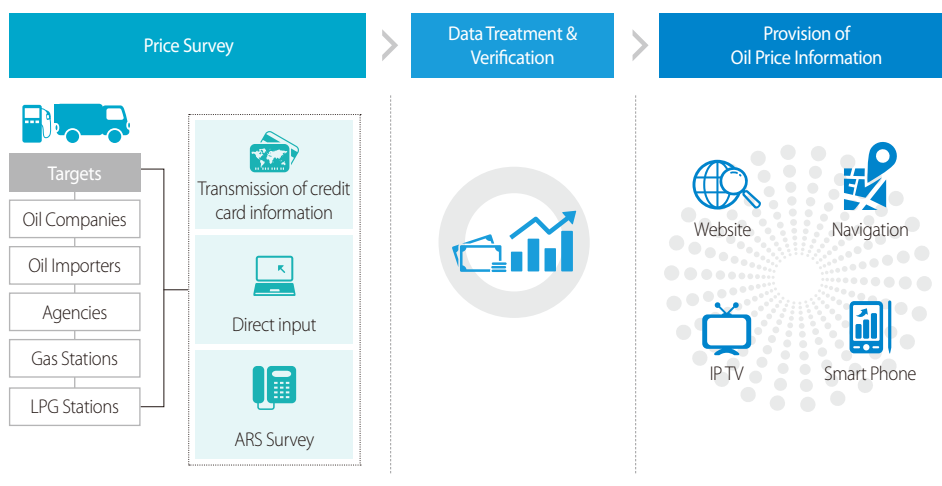
Measures to Activate Economical Gas Stations

- **Launch of Economical Gas Stations Association:** The Economical Gas Stations (EGS) Association was launched by entrepreneurs to establish economical gas stations early and to increase rights and interests. The association aims at the economical gas stations' activation through joint marketing business, indication of bottlenecks, and sharing of useful information.
- **Launch of EGS card:** KNOG issued the EGS card for user convenience at EGS (Woori Bank card in February 2012, Nonghyup card in May 2012, and Post Office card in March 2012).
- **Open a Charge Account:** KNOG allows the EGS operators to have charge accounts up to KRW500 million in order to encourage them who hesitate the change into EGS due to existing charge accounts-based transactions.

Domestic Oil Prices Stability and Consumer Convenience Enhancement through OPINET

KNOG increases consumer convenience through the operation of OPINET, which offers domestic oil prices information such as real-time oil selling prices of gas stations nationwide. Through the selling prices survey and disclosure of about 19,000 domestic gas stations' selling prices of oil, we have improved statistical preciseness and have generated oil cost saving effect of more than KRW 270 billion annually. Thanks to continuous efforts for consistent contents and services improvement and PR toward citizens, the daily average number of users reached 147 thousands as of July 2012, up 117 thousands compared to 2009. The use of OPINET has been activated considerably. We will strive for prices stability and consumer convenience enhancement through the early establishment of LPG selling price disclosure and service enhancement.

Work Process for the Opinet Service



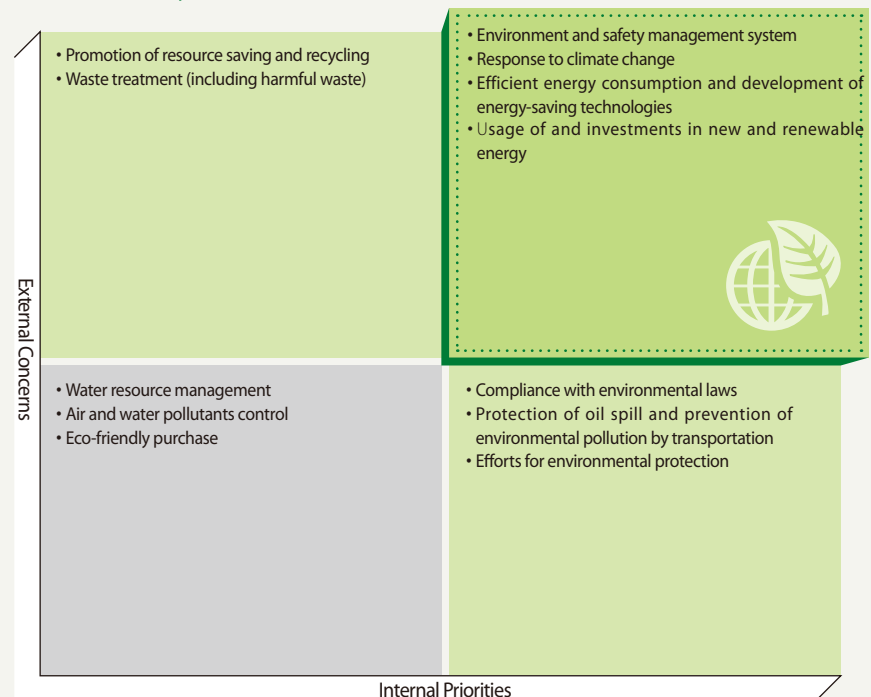


Environmental part **Disclosure on Management Approach**

Management Principle

KNOC continuously strives to improve its quality and environmental management systems (ISO 9001, ISO 14001) established at all worksites. To operate stockpiling bases environmentally, the company always monitors all environmental pollutants and implements countermeasures to minimize them. In addition, an integrated HSE management system is being conducting to raise the HSE level of the domestic and overseas E&P worksites.

2012 Materiality Test Result



Classification		Unit	2007	2008	2009	2010	2011
Safety Accident	Gas Fields *	LTIF	0	0	0	0	0
	Rig2 **	TRIR	1	0	0	1	1
	Stockpiling ***	%	0	0	0	0	0
	Construction Site ****	%	0	0	1	0	0
GHG Emissions	Total	tCO ₂	6,336	6,115	6,201	6,626	6,076
	Direct emissions	tCO ₂	476	452	434	440	445
	Indirect emissions	tCO ₂	5,860	5,663	5,767	6,186	5,631
Energy Consumption	Total	TJ	121	117	119	128	117
	Electricity	MWh	12,073	11,689	11,980	12,895	11,814
	City gas (LNG)	m ³	10,820	11,819	12,487	16,572	18,777
	LPG	kg	6,109	6,267	5,525	6,245	6,739
	Steam	GJ	5,500	5,458	4,649	4,817	4,400
	Kerosene (boiler)	ℓ	34,845	30,042	19,676	14,655	12,845
	Diesel	ℓ	13,913	13,435	10,119	8,870	7,163
	Gasoline (vehicle)	ℓ	62,293	51,276	55,955	55,492	56,437
	Diesel (vehicle)	ℓ	63,343	67,622	70,558	73,982	95,913
	LPG (vehicle)	ℓ	0	0	153	623	816
Total Water Consumption		Ton	867,948	744,572	757,158	834,121	856,907
Water Quality Management	Waste water discharge *****	m ³	890,365	1,143,394	1,134,106	1,219,367	1,212,367
	Foul water discharge *****	m ³	1,369	2,195	2,305	2,591	1,432
Waste Management	Onshore sector	Ton	1,447	616	2,056	1,017	1,414
	Marine sector	m ³	141	184	186	137	128
Environmental Protection Expenses	Purchase of green products	KRW in thousands	587,091	351,904	544,288	753,648	1,648,371
	Investments in environment	KRW in millions	7,333	19,564	4,602	10,459	3,867

** Safety accident rate on the rig: TRIR (Total Recordable Incident Rate): TRI incidence per 200 thousand hours (TRI cases*200,000/hours worked) (as of the criteria of the International Association of Drilling Contractors (IADC))

**** Accident rate in the domestic construction industry: Number of accident victims/total number of full-time employees (as of 2011, Gejeo Office, Seosan Office and New HQ Construction TFT)

***** Offices in Ulsan, Geoje, Yeosu, Seosan and Guri

***** Offices in Yongin and Gokseong



Environmental Management System

KNOC pursues eco-friendly management through continuous improvement of the HSEQ management system and environmental target management at domestic and international worksites.

Health, Safety, Environment, and Quality (HSEQ) Management System

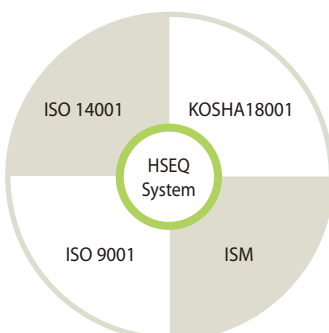
KNOC seeks natural ecosystem protection and eco-friendly management and actively engages in domestic and overseas efforts to cope with global warming. We tirelessly improve the HSEQ management system, meet domestic and international legal requirements, and shape a safe, eco-friendly work environment. We continually reflect changes in external business environment, stakeholder needs, corrective (preventive) action, deliberation results, and job process change on the HSEQ management system regulations documents. We enacted and amended regulation documents for 481 times in 2011. To consolidate the HSE management system's efficiency in the oil development area, we formed the Integrated Oil Development Unit in 2009. By establishing the HSE management system as oil development standard that reflects the key issues in the oil development area and relevant international regulations, we apply the system to domestic and overseas oil development worksites. We share each worksite's HSE knowledge and know-how through GCoP, form a network between domestic and international HSE expert groups of KNOC by hosting the KNOC HSE Conference, and enhance specific implementation capability in key HSE issues.

* GCoP: Global Community of Practice

HSEQ Management System and the Linkage of Worksites at Home and Abroad

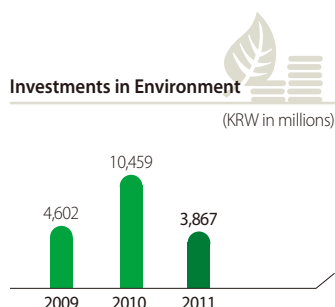


HSEQ Management System



HSEQ Management

KNOC manages the quality and environmental management systems (ISO9001, ISO14001) regarding all worksites, realizes accident and disaster-free worksites through continual improvement activities, and strives for environmental conservation in the surrounding areas of its worksites. We manage stockpiling bases through the health and safety management system (KOSHA18001) and drill ship sector through the quality management system (ISO9001) and by building the ISM/ISPS code on a ship's safety/security. We have ensured system effectiveness by analyzing the HSEQ management system activity results to achieve management policies and goals and by continuously improving aspects requiring improvement. In 2011, we deduced 53 improvement recommendations through internal audits and completed 48 cases of correction and 138 cases of corrective actions on 157 improvement recommendations through third-party audit and inspection by an external agency.



* The figure of 2009 was changed due to the reflection of omitted amount.

Environmental Performance

KNOC puts eco-friendly management into practice by consistently expanding environmental investment, such as improving facilities and equipment in eco-friendly ones in all its worksites and minimizing the pollutants generated within the worksites. By consolidating responsibility on environment, health, and safety by business sector, we prepare coping strategies by responsibility type and fortify regular education/training on various anti-pollution activities, energy savings, and onsite health and safety.

Environmental Investment

KNOC's environmental investment was KRW 10,459 billion and KRW 3,867 billion in 2010 and 2011, respectively. Investment cost rose sharply with the new acquisition of atmospheric pollutants and wastewater management facilities/equipment following the additional construction of the Ulsan base. To operate eco-friendly stockpiling bases, we invested in various environmental facilities, i.e., expanding the installation of oil retaining wall, securing the soundness of ground-installed pipes, installing high-efficiency distillate removing devices and water quality monitoring equipment and tanker ship's VOC processing devices, and establishing biological processing facilities operation standards. We plan to invest vigorously in the atmosphere-related environmental sector to reduce greenhouse gas (GHG) or pollutants generated in the process of worksite operation and to measure them cyclically.

Investments in Environment

(as of 2011, KRW in millions)

Air and Climate Protection	Waste Water Management	Waste Management	Protection and Restoration of Oil, Underground Water and Surface Water	Diversity of Species and Natural Landscape Protection	Other Environmental Protection Activities	Total
757	2,138	422	188	1	362	3,867

Environmental Education/Training

To consolidate environment and health and safety management capability, KNOC cyclically offers education/training on various anti-pollution methods, energy savings, and health and safety at worksites. We carry out onsite education/training on environmental management and operational plans and in HSE areas annually under the supervision of the staff in charge of the environment by worksite. We also monitor cyclically our partner firms' environmental management activities to improve environment awareness at construction sites. In the case of the Donghae-1 gas production worksite and a drill ship, we manage the education/training and qualification required for the HSE job as the employee's duty using the HSE education/training matrix and enables the worksite's HSE management to be carried out systematically. Knowledge and information on the environment between stockpiling branches are exchanged to find out and improve risk factors effectively by stockpiling branch.



2012 KNOC HSE Conference

In June 2012, KNOC hosted the 2012 KNOC HSE Conference attended by HSE leaders in the oil development sector at domestic and international worksites. A total of 18 HSE leaders working at domestic and overseas oil developing worksites and KNOC's head office HSE staff attended this conference, which enabled not only the enhancement of understanding of the KNOC HSE system but also the sharing of HSE features, advantages, and operational know-how through the 11 topics presentations selected by worksite. We also formed a sense of unity between HSE experts by organizing the HSE expert network through GCOP within KNOC and shared information and value. Consequently, we promoted the improvement of safety management level across KNOC. The HSE leaders who attended the conference pledged to do their best to pursue safe oil development, shape a safe culture at worksites, and diligently improve safety performance.

**BUSINESS
CASE
STUDY**

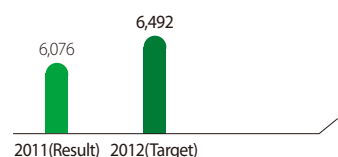
Coping with Climate Change

Through strategies to execute the GHG and energy target system in the public sector and plans for renewable energy development, KNOC actively engages in low carbon, green growth and spearheads efforts to cope with climate change.

GHG and Energy Target Management System in the Public Sector

Under the Framework Act on Low Carbon Green Growth (Apr. 2010) and Administrative Guidelines for the GHG and Energy Target Management System in the Public Sector (Jan. 2011), we vigorously put GHG emissions reduction and energy savings into practice. KNOC was designated as an agency subject to public sector target management system in 2011. We make various efforts including setting annual targets to reduce GHG emissions by more than 20% on the annual average by 2015 compared to the average between 2007 and 2009. We laid the foundation for reducing GHG emission by establishing the GHG inventory in all worksites in Korea including nine stockpiling bases in 2009. By forming a council to cope with climate change, we consistently offer education/training and workshops on the reduction of GHG emissions. Consequently, we achieved a 15% reduction of GHG emissions or 6,076tCO₂ in 2011 compared to the average GHG emissions between 2007 and 2009.

Target and Result of GHG Emissions in 2011



Greenhouse Gas Emissions

						(tCO ₂)
Classification	Unit	2009	2010**	2011		Standard emissions*** (07-09 Average)
				Result	Goal	
Total emission	tCO ₂	6,201	6,626	6,076	6,492	7,139
- Direct emission	tCO ₂	434	440	445	427	481
- Indirect emission	tCO ₂	5,767	6,186	5,631	6,065	6,658

* Data Scope: According to the "Management By Objectives (MBO) in the Public Sector," the data covers GHG emissions from buildings and vehicles of 11 worksites in Korea.

** The increase resulted mainly from the expansion of facilities including the completion of additional stockpiling bases in Ulsan, etc.

*** The standard emissions are adjusted by reflecting the increase or decrease of facilities every year. The above standard emissions are based on the "Implementation Plans in 2012."

Establishment and Implementation of Power Generation by New and Renewable Energy

KNOC established a plan to develop renewable energy actively in line with the government policy of reducing energy consumption by 20% by 2015 and to operate eco-friendly stockpiling bases.

For 2012, we execute GHG emissions reduction and energy efficiency improvement by improving the power-receiving transformer operation method to secure the high efficiency of power facilities. We expect 2,178MWh of power generation and 1,015tCO₂ of GHG emissions reduction annually by implementing wind and solar photovoltaic power generation in four places including the Yeosu Office in 2014.

Expansion of Videoconference

To expand the videoconference system across KNOC in line with the global management environment, KNOC reinforces conference equipment in domestic offices and stockpiling bases and increases the building of infrastructure including videoconference equipment at overseas offices. We carry out GHG emissions reduction through all this and expect to save the business trip related expenses about KRW 92 million (based on 2010) by using videoconference.

Efforts to Save Energy

KNOC conducts activities to cut down energy use including power, city gas, and water resources and maximizes energy savings through savings in the buildings and transport sectors.

Water Source Consumption



(as of 2011)

856,907 tons

Water Resources Use Amount

Water used in stockpiling bases is mainly for firefighting and water curtain injection (common for underground); source water includes waterworks, industrial water, underground water, and dam water. Most of the water consumption occurs in common underground operational bases (Geoje, Yeosu, Pyeongtaek, and Guri). To reduce water consumption, the Guri Office efficiently manages water by using natural water such as valley water as water for water curtain injection and by installing a flowmeter by user groups. Total water consumption in 2011 was 856,907 tons; we will minimize the use of water through the recycling and reuse of the supplied water.

Water Resource Consumption

				(Tons)
Classification	2009	2010	2011	Source of Supply
Stockpiling base including the construction office)	736,112	807,622	827,825	Industrial water, dam water, underground water and waterworks
Ulsan gas Production Office	8,750	10,124	9,991	Industrial water
Head office	12,296	16,375	19,091	Waterworks
Total consumption	757,158	834,121	856,907	

Energy Consumption



(as of 2011)

117.45 TJ

Energy Consumption

In 2011, KNOC managed energy efficiency in buildings and vehicles as the main management targets according to the full-scale operation of the GHG and energy target system in the public sector. Energy consumption in 2011 was 117.45TJ, down 8% compared to the previous year. The new headquarter building construction project obtained the 1st energy efficiency rating and aimed to supply 13% of total energy consumption of the building through new and renewable energy by installing geothermal and solar power generation facilities.

Item	Sub Item	2009		2010		2011	
		Unit	TJ	Unit	TJ	Unit	TJ
Energy	Electricity	11,980MWh	107.82	12,895MWh	116.06	11,814MWh	106.32
	LNG	12,487m ³	0.55	16,572m ³	0.73	18,777m ³	0.83
	LPG	5,525kg	0.28	6,245kg	0.31	6,739kg	0.34
	Steam	4,649GJ	4.65	4,817GJ	4.82	4,400GJ	4.4
	Kerosene (boiler)	19,676 ℓ	0.74	14,655 ℓ	0.55	12,845 ℓ	0.83
	Diesel	10,119 ℓ	0.38	8,870 ℓ	0.34	7,163 ℓ	0.27
	Gasoline (vehicle)	55,955 ℓ	1.87	55,492 ℓ	1.86	56,437 ℓ	1.89
	Diesel (vehicle)	70,558 ℓ	2.67	73,982 ℓ	2.8	95,913 ℓ	2.88
	LPG (vehicle)	153 ℓ	0.01	623 ℓ	0.03	816 ℓ	0.04
Total			118.97		127.50		117.45

* Data Scope: Head office building, 9 stockpiling branches, 1 gas field management office and vehicles

Efforts to Save Energy

Energy Efficiency Improvement

KNOC carries out energy savings through comprehensive energy-saving measures. All our employees make the following a habit in everyday life and participate in government policies: energy keeper activity, selected day operation system of cars, car pool for employees, and installation of parking lot for compact cars and hybrid cars.

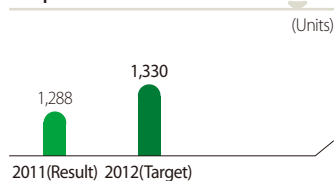
Innovative Activities to Save Power

At KNOC including the head office, 9 stockpiling branches, and gas field management offices, we spearhead energy efficiency improvement by carrying out innovative activities to save power.

By reflecting whether individual coolers and heaters are used and whether the weekday control system of car operation is observed in energy-saving implementation as the internal evaluation index by department, we offer incentives according to the outcomes. To encourage employees' energy savings, we reward excellent departments and energy keepers.

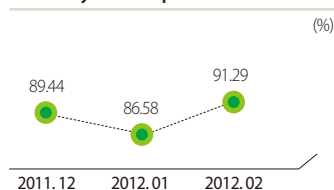
We comply with the Regulations on Public Agency Energy Use Rationalization and maintain proper indoor temperature, prohibit the use of individual heating devices, offer in-house energy-saving education, and inspect the energy-saving status at stockpiling branches and gas field management offices twice a year. As a result, in 2011, we reduced energy consumption by 10% on the average during the peak season in winter compared to the same period in 2010.

Target and Result of LED Lights Adoption



*Total number of lights at the building: 11,786 units

Electricity Consumption Year-on-Year



Eco-Friendly Office

Stockpiling branches and gas field offices had 43 cases of energy-saving improvement activities as of 2011. Through the climate control unit's inverter control in the auditorium, power use was reduced by about 40% compared to the existing method, and 314kWh energy reduction was realized annually through efficient office lighting operation. We replaced 22.7% of the total lights with LED lights as of 2011, and we plan to replace more than 30% of all lights with LED lights by 2012.

By changing the cooling mode from the use of computer room coolers regardless of season to the mode of supplying cold outside air to the computer room in winter, we have saved 292,867kWh of power annually.



Energy-Saving Activities in Winter

To manage power effectively in summer and winter when power consumption is at its highest, we conduct energy-saving activities. To realize 10% energy savings in winter, all our employees participate in the achievement of the target. We maintain appropriate indoor temperature at 18°C or below at the time of heating and use natural lighting instead of turning on 1/2 of the lights at corridors and toilets. In this manner, we conduct power-saving activities. We encourage our employees' energy-saving activities by broadcasting information on power-saving activities and wage a campaign to wear long johns through newsletters. As a result, we achieved a 10% reduction in energy consumption on the average in 2011 compared to the same month in 2010 during the coldest period in winter.

Environmental Management

KNOC adopts an advanced safety management system to prevent water and maritime pollution in major business areas and conduct preventive activities against atmospheric and soil pollution.

Prevention of Water and Maritime Pollution

Wastewater Management

Wastewater generated in the stockpiling bases in 2011 showed good water quality within the in-house standard through treatment in the wastewater treatment facilities. With the improvement of foul water treatment facilities in 2011, we promote foul water quality stabilization. We religiously carry out “comprehensive measures to prevent environmental pollution in stockpiling bases” established in 2009 and stably operate waste treatment facilities through environmental facilities investment and education/training of staff in charge of the environment.

Discharge of Waste Water/Foul Water

					(m ³)
	Classification	2009	2010	2011	Remark (Destination)
Discharge of Waste Water	Ulsan Branch	49,578	130,248	129,390	Sea
	Geoje Branch	476,589	480,621	460,986	Sea
	Yeosu Branch	492,859	466,012	468,365	Sea
	Seosan Branch	7,266	10,174	9,754	Sea
	Guri Branch	107,814	132,312	143,872	Sea
Discharge of Foul Water	Yongin Branch	1,707	2,018	866	
	Gokseong Branch	598	573	566	

Prevention of Water and Maritime Pollution

KNOC's domestic stockpiling branches including construction offices set and manage internal water pollution reduction targets by consolidating standards higher than the legal regulations. KNOC also maximizes maritime pollution prevention abilities through quick response to domestic and international regulations and environmental changes, installation of high-efficiency distillate-removing devices and onsite automatic measuring devices, and adoption of advanced safety management system for maritime terminals.

We plan to block risky ships and prevent serious maritime accidents by evaluating maritime terminal facilities and safety management system in accordance with international standards and execute evaluation on the accident risk of port-incoming ships and chartered ships beginning 2013 on a step-by-step basis. We are planning wharf reinforcement in 2015 by supplementing wharf facilities to prevent accidents in advance according to tide change, which stems from new port development. We expect to prevent environmental pollution accidents and save about KRW 5 billion in costs. At the Donghae-1 gas production facilities and overseas drilling sites, we make all-out efforts to prevent water pollutant discharge through more fortified management than domestic or international regulations on the discharged water pollutants. Consequently, the pollution level of the Donghae-1 gas field and a drill ship, Doo Sung, is lower than the regulated level, continually improving compared to the previous year.

BUSINESS CASE STUDY

Biodiversity

KNOC has been taking various animal protection actions since endangered wild animals were found around the Yeosu and Geoje Stockpiling Bases. Around the Yeosu Stockpiling Base in particular, excretions and footprints of wildcats and otters — designated by the Ministry of Environment as endangered wild animal grade II and grade I, respectively — were found. In the post-environment impact study in 2011, the emergence of kestrel, a natural monument, was additionally confirmed. We took action to move the wild animals to their habitat, provided hideouts, and planted trees for their habitat.

Concerning the Geoje Stockpiling Base, otters' continual food hunting activities were detected. Thus, we installed a path for otters and an artificial drinking water source. Through consistent monitoring, we are taking action to reduce impacts on otters.

Environmental Management

Water Quality Management at Stockpiling Bases

(ppm)											
Classification		Ulsan Branch		Geoje Branch		Yeosu Branch		Seosan Branch		Guri Branch	
		Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result
BOD	2009	60	5.5	30	1.2	10	3.1	10	1.2	10	1
	2010	10	3.9	30	1.2	10	1.1	10	1.3	10	1.2
	2011	10	2	30	1.1	10	1.3	10	1.7	10	1.9
COD	2009	70	8.9	40	2.9	10	7.5	15	5.9	40	3.6
	2010	23	7	40	2.5	10	5.2	15	4.9	40	3.4
	2011	23	5.6	40	3.4	10	6	15	4.4	40	3.2
SS	2009	60	6.7	30	0.3	10	3.8	10	2.6	10	2
	2010	10	2.7	30	0.8	10	1.6	10	2.5	10	2.4
	2011	10	1.7	30	1.5	10	1.4	10	0.9	10	1.8
N-H	2009	15	0.8	1	0.3	1	0.7	1	0.5	1	0.4
	2010	5	1	1	0.4	1	0.6	1	0.3	1	0.4
	2011	5	0.6	1	0.4	1	0.5	1	0.1	1	0.4

* The limits at Ulsan, Geoje, Yeosu and Seosan Offices are the criteria of the environmental impact evaluation agreement. (At Ulsan Office, the limit has been adopted from 2010, and the 2009 data was based on the Marine Environment Management Act.

* The data of Guri Office was based on the Water Quality and Ecosystem Conservation Act. * The performances are average level.

Water Quality Management at Worksites

(ppm)								
Worksite	BOD				SS			
	Legal Limit	2009	2010	2011	Legal Limit	2009	2010	2011
Yongin Office	10	7.3	6.8	6.0	10	2.6	4.4	4.3
Gokseong Office	20	6.1	6.8	6.1	20	7.5	5	7.3
Pyeongtaek Office	20	-	-	0.6 (1.1)	20	-	-	0.9 (1)

* In-house foul water limit of Gokseong Office: BOD 15ppm, SS 15ppm in 2011

Discharge Water Quality Management at Gas Fields and the Rig

(ppm)						
Classification		Limit	Target	Result**		
				2009	2010	2011
Donghae-1 Gas Field	Oil	15	15	3.2	9.8	2.26
	Producing water	40	30*	3.2	8.3	2.26
Drilling Rig (Doo Sung)	Oil	15	15	13	10	10

* As of the environmental impact evaluation agreement

** Annual average

Atmosphere Management

KNOC minimizes atmospheric pollution by installing treatment plant for volatile organic compounds (VOC) polluted air that control the VOC discharged from ships upon crude oil unloading, including pollution prevention devices such as foul odor treatment facilities in wastewater treatment plants. Each of KNOC's stockpiling branches controls NOx, SOx, and fine dust according to features by branch.

	Unit	Yeosu Branch			Pyeongtaek Branch			Geoje Branch			Ulsan Branch***		
		2009	2010	2011	2009	2010	2011	2009	2010	2011	2009	2010	2011
NOx	ppm	0.024	0.015	0.016	0.013	0.019	0.014	0.013	0.014	0.012	-	-	0.024
SOx	ppm	0.008	0.005	0.004	0.004	0.005	0.004	0.003	0.003	0.003	-	-	0.015
Fine dust (PM-10)	μg/m ³	61.4	39.2	43.9	41.2	49	47	27.2	28.7	28.7	-	-	42

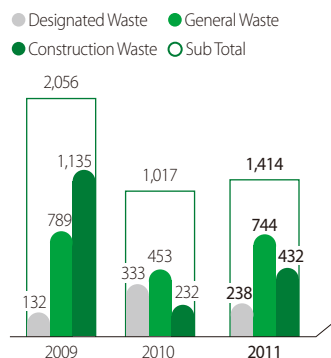
* The performances are average level. ** Source: Post Environmental Impact Assessment at the Operation Stage (2012)

*** The Post Environmental Impact Assessment at Ulsan Branch started in 2011.

Waste Management



(Onshore Sector, Unit: tons)

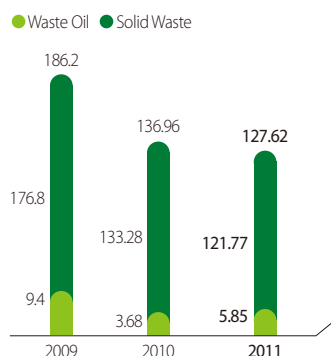


*The construction waste of Ulsan Office and Geoje Office came from the Construction Office.

Waste Management



(Gas Field Management Office, Offshore Platform, Unit: m³)



* Waste treatment is entirely entrusted.

Waste Management

In 2011, the designated, general, and construction wastes generated from KNOC's stockpiling branches, gas field management offices, and construction offices amounted to 1,414 tons; waste oil and solid waste generated by gas field management offices were pegged at 127.62m³. These wastes are systematically treated through appropriate storage and treatment by waste type. The generated wastes are inspected according to the status of hazardous waste and controlled waste stipulated by the Basel Convention. Based on the inspection results, we control the wastes legally pursuant to waste treatment standards and relevant laws and regulations.

Soil Pollution Management

KNOC prevents soil pollution through simple oil retaining wall installation and inspection of tank bottom plates and oil piping. To minimize soil pollution through oil facilities, daily inspections are carried out by standardizing onsite facilities inspection based on work guidelines. In this manner, we have established a review procedure to prevent soil pollution in advance.

Worksite	Inspection Target of Soil Pollution	Inspection Item	Legal Limit	Result (Min-Max)
Ulsan Office	Crude oil tank (18 units)	TPH	2,000 mg/kg	18.58 ~ 63.07
	Neighboring areas	TPH	2,000 mg/kg	37.78
Geoje Office	Crude oil tank (4 units)	TPH	2,000 mg/kg	11.11 ~ 50.70
	Neighboring areas	TPH	2,000 mg/kg	No detection
Yeosu Office	Crude oil tank (3 units)	TPH	2,000 mg/kg	No detection
	Neighboring areas	TPH	2,000 mg/kg	No detection
Seosan Office	Crude oil tank (12 units)	TPH	2,000 mg/kg	10.25 ~ 45.91
	Gasoline tank (2 units)	BTEX	**	No detection
	Kerosene & diesel tank (10 units)	TPH	2,000 mg/kg	17.02 ~ 45.37
	Neighboring areas	TPH, BTEX	**, ***	29.69, No detection
Pyeongtaek Office	Kerosene tank (2 units)	TPH	2,000 mg/kg	13 ~ 21
	Diesel tank (4 units)	TPH	2,000 mg/kg	15 ~ 129
	Slop oil tank (4 units)	TPH	2,000 mg/kg	14 ~ 21
	Neighboring areas	TPH	2,000 mg/kg	19
Guri Office	Gasoline tank (1 unit)	N-H	*	No detection
	Gasoline tank (5 units)	BTEX	**	No detection
	Kerosene tank (2 units)	TPH	2,000 mg/kg	19 ~ 87
Yongin Office	Diesel tank (5 units)	TPH	2,000 mg/kg	23 ~ 195
	Mixed oil tank (2 units)	TPH, BTEX	**, ***	19~22, No detection
	Neighboring areas	TPH, BTEX	**, ***	25, No detection
Gokseong Office	Gasoline tank (2 units)	BTEX	**	No detection
	Kerosene tank (2 units)	TPH	2,000 mg/kg	13.93 ~ 15.54
	Diesel tank (4 units)	TPH	2,000 mg/kg	11.17 ~ 36.57
	Mixed oil tank (3 units)	TPH, BTEX	**, ***	No detection, No detection
	Neighboring areas	TPH, BTEX	**, ***	3.43, No detection
Donghae Office	Kerosene tank (2 units)	TPH	2,000 mg/kg	21 ~ 32
	Diesel tank (3 units)	TPH	2,000 mg/kg	23 ~ 32
	Neighboring areas	TPH	2,000 mg/kg	13
Ulsan Gas Production Office	Condensate tank (1 unit)	TPH, BTEX	**, ***	86 ~ 186, No detection
	Neighboring areas	TPH, BTEX	**, ***	113, No detection

* Guri Office was excluded from the inspection of oil pollution, as it stores products on the bedrock. Meanwhile, the soil pollution level is indirectly monitored by the inspection of water pollution.

** BTEX (Benzene, Toluene, Ethylbenzene, o,m,p-Xylene) are applicable to the third region of the Korean Soil Contamination Warning Standards, and their legal limits are 3mg/kg, 60mg/kg, 340mg/kg and 45mg/kg, respectively.

*** TPH (Total Petroleum Hydrocarbon) is below 2,000mg/kg, and is subject to the standards for BTEX.

**** No detection: TPH < 10,000mg/kg, BTEX < 0.1mg/kg

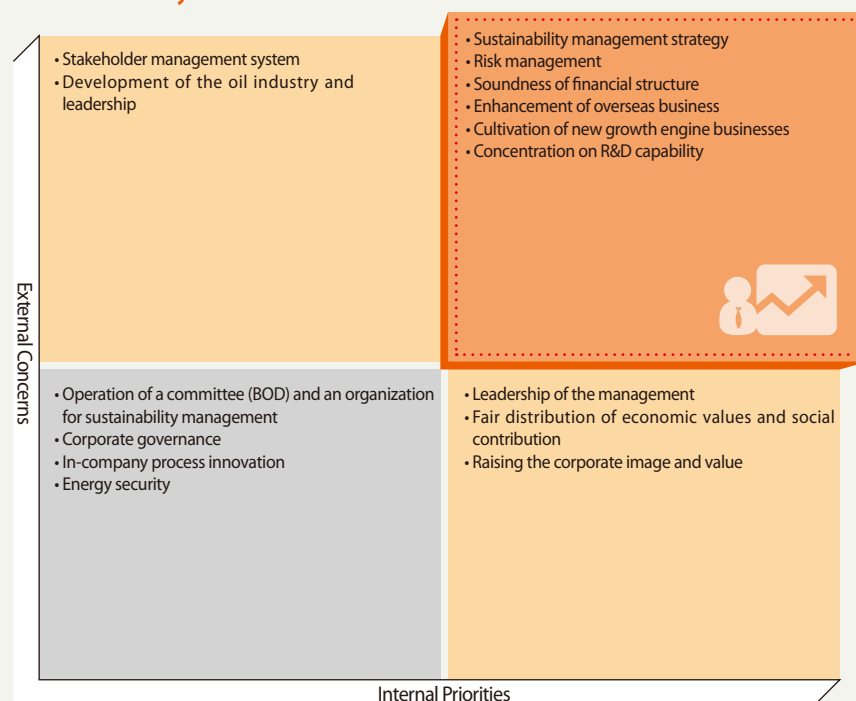


Economic part Disclosure on Management Approach

Management Principle

The major business areas of KNOC are overseas oil development, domestic continental shelf development, stockpiling base construction and operations, drill ship operations, R&D, and oil information offering service. Through the strategy establishment for the sizable growth in 2008 and subsequent active M&As, we acquired Peru's SAVIA Perú, Canada's Harvest Energy, and Kazakhstan's Sumbe in 2009, followed by the successful acquisition of Britain's Dana Petroleum in 2010. With all these, KNOC is beginning to take off as a world-class national oil company.

2012 Materiality Test Result



Economic Performance Summary

Classification	Unit	2007	2008	2009	2010	2011
Credit ratings (S&P/Moody's)	-	A/A2	A/A2	A/A2	A/A1	A/A1
Attendance rate of directors	%	83	97	95	96	98
Dividend propensity	%	13.77	12.56	16.00	16.00	0.00
Sales	KRW in billions	1,069.3	1,747.5	1,800.1	7,167.6	8,948.4
Net income	KRW in billions	166.8	200.2	422.3	5.8	-152.8
Debt-to-equity	%	64.39	73.25	103.21	156.12	193.17
Production (total)	Thousand boe	18,230	16,954	27,633	52,181	72,498
Reserves	Million boe	524	551	881	1,133	1,280
Stockpile	Million boe	107	113	121	127	130
Stockpiling capacity (cumulated)	Million boe	138	138	140	146	146
Stockpiling period	Days	62	70	89	101	199
Rig operation	Days	365	294	330	337	281
Revenue from international joint stockpiling projects	KRW in billions	29.0	65.6	98.9	101.1	112.5
Entrance into	Countries	15	17	17	25	24
Participation in	Projects	32	44	48	191	215
Acquisition of new fields	Places	7	7	15	138	26
R&D investment	KRW in millions	20,276	13,478	12,145	16,466	19,343

* K-GAAP (2007~2009), IFRS (2010~2011)



Interview

Value Realization through Communication with Stakeholders

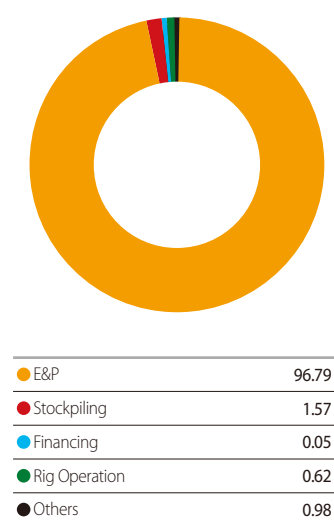
If KNOC wants to take off as a world-class national oil company supported by citizens, I think it needs to do active exploration of overseas promising oil/gas exploration blocks, M&A of resources development firms, specialized personnel fostering of overseas resources development, and joint investment and engagement with domestic and overseas companies to expand markets and secure future growth engines. From a sustainability management viewpoint, active communication with external stakeholders and PR activities are required. KNOC should actively publicize the overseas resources development business carried out on the national competitiveness acquisition dimension not only through currently implemented information disclosure, distribution of press releases, and meetings with community residents but also through PR activities directed at the Korean people and communication with them.

KNOC also needs to fulfill its environmental responsibility actively. Through partnerships with domestic and international companies, KNOC needs to build an eco-friendly business process across all stages of the resources development business including exploration & development while engaging in overseas environmental protection business. The completion of KNOC's mid- and long-term goal, "GREAT KNOC 3020," which has been pursued since 2008, is expected to be realized in 2012. Through vigorous sustainability management, KNOC should foster autonomous strength and solidify capabilities to take off as the world's top national oil company. Lastly, I hope KNOC checks the internal and external sustainability issues and directions with the publication of the sustainability report as cornerstone and actively reflects them on business management and plays a leading role in the development of the oil industry.

Lee Jung-ho, Staff Reporter of the Korea Economic Daily

Sales Breakdown

(as of 2011, Unit: %)



Economic Efficiency

KNOC grows into a world-class national oil company through the continual fostering of growth engines and innovative activities in many business areas including oil development, oil stockpiling, eligible loan from Special Account for Energy and Resources, and drill ship businesses.

Growth Potential

KNOC carries out activities such as consolidation of oil development technological capability, enhancement of oil/gas production area's operation stability, active PMI (Post-Merger Integration) on acquired assets, and maximization of stockpiling base use value. Consequently, our consolidated sales stood at KRW 8.9484 trillion, up 24.8% or KRW 1.7807 trillion in 2011 compared to the previous year. Our main business areas include the following: oil development business (oil resources' exploration, development, refining, and sales), oil stockpiling business (export of crude oil and petroleum products, stockpiling rental, oil stockpiling facilities management, etc.), loan business (loans to corporations engaging in energy and resources-related business), drill ship business (chartering of drill ship), and other businesses. The sales ratio of each business in 2011 is broken down into 96.7% oil development business, 1.57% oil stockpiling business, 0.62% drill ship business, and 0.98% other businesses. Sales of the oil development business were pegged at KRW 8.6609 trillion, up 25.1% compared to the previous year.

Oil output in 2011 increased 39% to 72 million boe compared to 52 million boe in the previous year. This is attributed to the significant operational stability consolidation of oil/gas production blocks. The oil stockpiling business grew 11.7% compared to the previous year, posting KRW 140.7 billion in sales thanks to the expansion of stored oil supply ability and trading capability and marketing activation of crude oil produced overseas. The drill ship business recorded sales of KRW 55.3 billion, down 32.8% compared to the previous year due to the decline in the number of operations stemming from the performance improvement of the Doo Sung. In the case of Dana Petroleum, one of the principal subsidiaries of KNOC, its output and operating income grew 31% and 519%, respectively, compared to the previous year thanks to vigorous management improvement activities. Net income was also a positive figure.

Classification		Unit	2010	2011
Growth and Activity	Sales growth	%	-	25
	Operating income growth	%	-	71
	Net income growth	%	-	Turn to red
	Total assets growth	%	45	21
	Asset turnover	times	0.28	0.28
Sales from Each Business	E&P	KRW in millions	6,922,840	8,660,906
	Stockpiling	KRW in millions	125,943	140,652
	Financing	KRW in millions	4,495	4,059
	Rig Operation	KRW in millions	82,290	55,291
	Others	KRW in millions	32,113	87,470

* Consolidated financial statement based on the IFRS

* Sales growth, operating income growth and net income growth in 2010 were omitted, as there had not been IFRS-based financial statements in 2009.



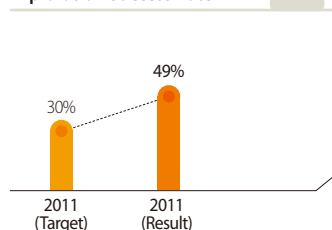
Profitability

The E&P business and oil stockpiling business are being expanded in keeping with the sizable growth strategy, which also contributes to the enhancement of profitability.

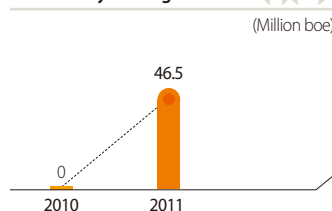
Activation of the Oil Development Business

Based on quantitative growth through M&A and acquisition of promising production assets, we accelerate the oil development business. Through various channels, KNOG expands new business opportunities and strives to secure oil/gas reserves and facilitate the domestic continental shelf development business.

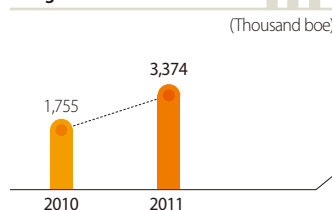
Exploration Success Rate



Reserves by Drilling



Production Volume of Donghae-1 Gas Field



Securing Reserves through Successful Exploration

Through the use of subsidiaries' specialized workers and drilling activity consolidation in the existing/new exploration blocks, we establish efficient drilling activity strategies and carry out intensive exploration/drilling activities in core promising areas. In 2011, KNOG was successful in discovering crude and gas in 28 out of 57 boreholes in Asia, America, Europe, and MENA (Middle East and North Africa). We secured 46.5 million boe of additional oil reserves for a 163% exploration success rate compared to the target.

In addition, we have made a global HR plan actively using subsidiaries' specialized workers — together with improving HR and organizational processes — to enhance our exploration success rate. While bolstering the exploration technology job by dividing the Asia Group into an exploration organization and a business support organization, we have set up a new team (NEP Team: New Exploration Play Team) identifies new business opportunities by generating prospects under the Geology & Geophysics Department to secure preemptive mid- and long-term promising exploration areas.

Domestic Continental Shelf Development Business

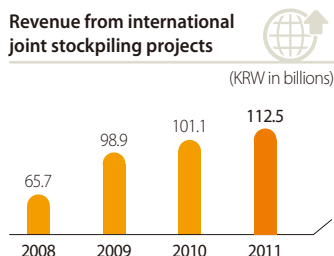
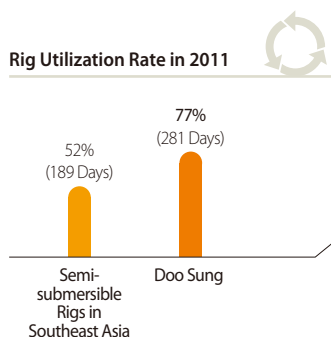
According to the government's First Phase Seabed Mineral Resources Development Scheme (2009~2018), KNOG performs precision exploration in areas with oil and gas reserve possibility in the domestic continental shelf including the deep sea areas of Donghae (East Sea).

By encouraging private companies' participation in continental shelf development and supporting operational experiences and technological prowess for private companies, we lay the foundation for entry into overseas oil development. In October 2011, KNOG acquired new exploration rights in the middle and south of the 6-1 block jointly with Korea's private firms for the first time in Korea. This project is being conducted jointly with STX Energy and Daewoo International in the middle and south of the 6-1 block, respectively. The joint exploration of the continental shelf is being activated to complement technologies with each other and improve profitability. In addition, KNOG and Australian Woodside are engaging in joint evaluation project of the deep sea 8 block of the East Sea and developing gas hydrate, a next-generation energy resource, under the schedule of pilot production in 2014.

To secure stable energy supply source and efficient development of national resources, we implement the development of a gas field discovered in the past. In May 2012, we initiated reassessment on the reserves of Gorae 8 production block, carried out economic efficiency evaluation, and made development plans; we are carrying out development sequentially.



Sustainability Performance
Sustainability Efforts
Appendix



Profitability

Drill Ship Business

KNOC operates a drill ship business — which is emerging as an important business in today's era of high oil prices and maritime oil development — with excellent achievements. The Doo Sung, Korea's only semi-submersible drill ship operated by KNOC, successfully drilled 108 boreholes (as of June 2012) in 9 countries including Alaska, China, Vietnam, Malaysia, Russia, and Myanmar, not to mention Korea. We meet operators' requirements by building a safety management system in line with international standards such as the ISM, ISO9001 certifications acquired in 1998 and ISPS certification obtained in 2004. We recorded USD 50 million charter revenue in 2011, and Doo Sung posts approximately 25% higher operational rate compared to the other semi-submersible drill ships of Southeast Asia.

Oil Stockpiling Business

Enhancement of Oil Demand and Supply Stability and Capability to Cope with Crises Through Stable Oil Supply

The oil stockpiling business prevents instability in the demand and supply of oil by supporting in a timely manner oil stockpile and stockpiling facilities upon the occurrence of an unstable factor by domestic oil refinery. As a public benefit business, the business aims at the stabilization of domestic oil demand and supply and prices. To cope with snags in the world oil supply caused by the Libyan incident, we released 3,465,000 barrels of oil stockpile through negotiation between the government and refineries according to IEA's joint responsiveness.

Actually, we contributed to the stabilization of domestic oil demand and supply and prices. We also expanded the international joint stockpile to 40,500,000 barrels and consolidated cooperation with UAE ADNOC and Iraq's SOMO in the E&P business sector. We improve oil stockpile supply capability by expanding the volume of crude oil produced overseas — and which can be introduced from abroad — from 21,000 barrels per day from 4 oil blocks to 153,000 barrels per day from 9 oil blocks in an emergency by building a system to introduce our crude oil produced abroad to Korea. In this manner, we have enhanced our capability to cope with the oil demand and supply crisis. To expand the oil stockpile supply and enhance the oil industry's competitiveness, we religiously operate the oil hub business through an action plan for building the oil hub and business feasibility analyses starting with a Northeast Asian logistics-hub business plan in 2000. Currently, we are building commercial stockpiling facilities in Yeosu, and we are scheduled to launch commercial operations. We also implement the Ulsan project aiming at commercial operations by 2016, with the North Port project implementation mode confirmed following the recent completion of master plan design.

Business Capability Consolidation through Maximization of Stockpiled Asset Use Value

KNOC maximizes the stockpiled assets use value and fortifies linked businesses. By expanding the international joint stockpile and carrying out strategic marketing, we recorded high revenue of KRW 112.5 billion in 2011. We have actually built a global trading system including the establishment of a trading corporation (KNOC Trading Corp., Huston U.S.), and we aggressively execute our business by greatly expanding stockpiled assets trading and marketing of crude oil produced abroad. Our trading size of 18 million barrels of oil in 2010 rose to 32 million barrels in 2011.



Management Stability

KNOC retains financial stability and soundness together with external finance according to the need to raise a large-scale external fund to ease the financing burden caused by the instability of the world financial market and based on its sizable growth strategy. We have diversified the financing channel to systematize the establishment of financial budget plans and to procure successfully the funds required for our sizable growth. We are improving the financial structure by devising a means of stabilizing debt structure and asset securitization.

Establishment of Mid- and Long-term Financial Budget Plans

We have reestablished our mid- and long-term financial budget plans to attain the "Global 50" strategic goal of 500,000 boe' daily production and 3 billion boe of total reserves. For corporate value enhancement through profitability improvement, KNOC adjusted the operating income to sales ratio from 10.0% to 17.9% and bolstered financial performance monitoring and feedback. We monitor financial performance weekly through an integrated system and provide management accounting and financial information by sector and financial performance analysis information before and after the distribution of the report across KNOC and to each business sector. We use all these to devise measures for areas requiring improvement in the management's strategic meeting. As the need for efficient financial management increases due to the globalization of assets, we monitor the financial performance of overseas subsidiaries by operating a financial analysis unit under the Finance Management Department, HQs.

Classification		2011	2012	2017	Long-term target
Profitability	Operating income margin	11.0%	10.0%	17.9%	29.0%
	EBITDA/Interest costs	7.3 times	5.8 times	6.4 times	14.0 times
Stability	Debt-to-equity	193.2%	225.3%	191.6%	92.0%
	FFO/Debt	21.6%	14.1%	18.8%	72.0%
Growth	Asset turnover	36.2%	32.6%	31.3% 3	39.0%
		<Performance>	<Net year target>	<Mid-term target>	<Independent E&P>

* Excluding stockpiling bases

Stabilization of Debt Structure

Classification	2010	2011	change
Long-term borrowings ratio (%)	63.4	80.6	27.1
Fixed income-based borrowings rate (%)	32.5	70.7	117.5

Stability and Soundness of Financial Structure

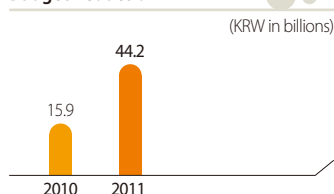
KNOC stably secures foreign currency liquidity through global bond issuance. Since the tight bond market in September 2011, we have succeeded in issuing USD 1 billion international bonds for the first time as an Asian company. For this deal, KNOC was awarded Best Deal of Bonds in Asia by Asia Money in 2011. By raising USD 360 million through Swiss franc-denominated bond issuance in February 2012, we developed a new fund procurement market and contributed to Korean bonds' additional interest rate reduction with record-low additional interest rate as a Korean agency.

We improve the financial structure with the successful sales of global assets in Korea and diversify new financing sources for oil development. For the expansion of resources development investment, we secured USD 308 million by selling minor stakes in the US's ANKOR assets to the private sector. Through all this, we have secured investment financing without additional capital injection from Korean government. We realize debt structure stabilization considering an optimal debt structure by calculating the optimal ratio of long-term borrowings by conversion short term borrowings into long term borrowings and fixed interest rates.



Sustainability Performance
Sustainability Efforts
Appendix

Budget Reduction



Management Stability

Asset Management Improvement and Reasonable Use of Budget

KNOC improves its asset management structure and reasonably executes budget through enhancement of asset management efficiency, budget execution's transparency, and budget cut activation. We analyze portfolio according to the assessment of value and risk of E&P assets, prioritize them, and carry out business successively.

In 2011, we saved KRW 8.9 billion in expenditure by improving the stockpiling base operational method, recorded rate increase of 18% on the average with strategic marketing, and posted revenue of KRW 112.5 billion in the international joint stockpiling sector. With our head office's engagement in Dana's produced crude oil marketing, we laid the foundation for global trading and generated annual revenue of KRW 3.3 billion. We improved the transparency of budget execution through the expansion of entertainment expense disclosure object and fortification of the budget execution standard. Through the amendment of budget operation guidelines including excessive budget execution and specific expenditure execution, we consolidate budget execution management.

Debt and Credit Rating Management

KNOC maintains a stable financial structure through continual debts management. Our debt ratio in 2011 was 193.2%, up 24% compared to the previous year. This can be attributed to the M&A as part of KNOC's efforts for the sizable growth and R&D investment.

To attain our strategic goal of Post-Great KNOC 2020, we set a mid- and long-term financial goal and manage cash flows from operating activities compared to the debt ratio (FFO/Debt), together with adjustment to lower our debt ratio. Concerning the debt ratio, we plan to lower it to 191.6% by 2017 and to 92% from the longer-term perspective compared to the current level. We plan to improve the FFO/Debt ratio to 72% and enhance our ability to repay borrowings. KNOC maintains high credit rating internationally, having received an A1 by Moody's and an A by S&P in 2011.

Classification	Unit	2010	2011
Profitability	Operating income margin	%	8.06
	Net income margin	%	0.08
	Return on assets	%	0.02
	Return on equity	%	0.06
Stability	Current ratio	%	51.44
	Debt ratio	%	156.12
	Reliance on borrowings	%	35
	Interest coverage ratio	%	182
	Credit ratings	S&P	A
		Moody's	A1



Risk Management

KNOC strives to prevent and cope systematically with risks against overall management. Risk management activities play a pivotal role in business management by backing up reasonable decision making to achieve strategic goals.

Risk Management Organizations

KNOC operates a Risk Management Committee to deliberate on and manage major risks caused by management activities as a risk-managing organization. We also operate a risk management department that carries out supervision and support for risks, designate the staff in charge of risks in each department to monitor risks that may arise in the course of performing duties, and promptly respond to such risks.

Enterprise Risk Management (ERM) System

KNOC has been operating the ERM system it built in 2010 for the systematic management of all risks in management and establishment of effective measures to cope with risks. With the building of the ERM system, we manage risks in our activities by integrating the risks and operate risk management resources and capabilities efficiently.

Strategic Risk Management

- **Financial Risk Management:** Through the ERM system, we automatically measure VaR (Value at Risk: Maximum possible loss amount of assets) and EaR (Earning at Risk: Maximum possible loss amount of earnings) according to the fluctuation of exchange rate, oil price, and interest rate. We manage them in an econometric manner by setting the allowed limit. Upon exceeding the allowed limit, we cope with risk by executing hedging.
- **Strategic Risk Management:** Through the ERM system, we frequently measure and manage key management strategic indices, output, reserves, sales, and annual estimated result vs. target in terms of operating income and RAPM (Risk Adjusted Performance Measurement). When a risk signal of non-attainment of target (Red: Serious, Yellow: Alert) is demonstrated, we establish countermeasures immediately and execute them.
- **Operational Risk Management:** Through the ERM system, we automatically extract the violation of regulations, errors in trading from key business process, and take the required action immediately. To enhance safety management ability in each worksite, we monitor key HSE indices (LTIF, oil spill, etc.) at all times. Each department identifies and manages possible risks in the course of performing duties. For risks with great importance, depending on the risk frequency and impact, we select them as KRI (Key Risk Indicator) and monitor them and establish countermeasures at the company-wide level.

Response to Risks

KNOC carries out activities to minimize damage by effectively coping with and recovering from crisis through the establishment of an emergency countermeasure body (Crisis Management Committee, Crisis Countermeasure HQ) in case serious losses occur in KNOC's management activities or value or an imminent situation arises due to risks, together with pre-risk management activities. KNOC divides the crises into four fields (management risk, disaster, PR, conflict management) and devises and operates a manual that sets forth the procedures for coping with crisis stages (interest, caution, alert, serious) by crisis type.



Sustainability Performance
Sustainability Efforts
Appendix

Corporate Tax, Other Taxes and Utility Bills

KRW **74,771** million

Purchase of Products and Services

KRW **125,889** million

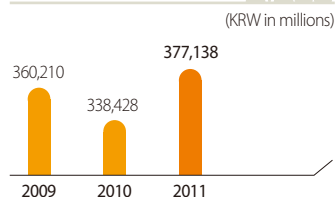
Distribution of Economic Value to Employees

KRW **95,106** million

Investments in Local Communities

KRW **4,718** million

Distribution of Economic Value to Stakeholders



Economic Performance Distribution

Through social contribution, tax payment, and community investment, KNOC distributes the created economic value to various stakeholders related to management activities including employees, partner firms and customers. We create indirect economic values such as job creation in addition to direct economic value. The distributed amount to our stakeholders in 2011 was KRW 377.138 billion.

Government

KNOC shares some of the outcomes of economic activities through taxes including income tax and real estate tax to the government and local governments. In this way, we create economic value, paying KRW 74.771 billion in taxes in 2011.

Partner Firms

The total amount of goods and services purchased from our partner firms was KRW 125.889 billion, down 27.7% compared to the previous year. We made KRW 76.654 billion worth of total purchases from SMEs, accounting for about 61% of the total or 52.5% more compared to 2010.

Employees

KNOC distributes corporate economic value to its employees through wage/salary, fringe benefits, and severance pay. We paid KRW 95.106 billion in 2011, and we plan to expand economic performance distribution through fair performance allocation and various welfare systems.

Local Communities

KNOC conducts various community contribution activities including SUNSHINE, HAPPY TOGETHER, HOPE ENERGY, and KNOC FAMILY projects. We share our economic gains with local communities. The amount invested in local communities in 2011 was KRW 4.718 billion, up 5.4% compared to the previous year. We fulfill our social responsibility through open employment, having hired 43 new employees from the local communities out of 93 or 43% of the total new employees in 2011; thus contributing to the community development.

Through social contribution activities considering the social features and needs, we plan to expand the social contribution amount continually.

Distribution of Economic Value to Stakeholders

(KRW in millions)

Stakeholder	Category	2009	2010	2011
Employees	Wages	71,993	83,290	84,010
	Welfare benefits	4,618	4,428	4,473
	Retirement pay	2,181	2,649	6,623
Partner Firms	Products and services	206,785	174,095	125,889
	Product purchase from SMEs	70,455	69,490	76,654
Government	Corporate tax, other taxes and utility bills	0	0	74,771
Local Communities	Investments in local communities	4,178	4,476	4,718
Total		360,210	338,428	377,138

Economic Data

Consolidated Financial Position

(KRW in millions)

Classification	2011	2010
Total assets	31,567,402	26,036,713
Current assets	3,610,186	2,654,584
Non-current assets	27,957,216	23,382,128
Total liabilities	20,799,958	15,870,984
Current liabilities	5,490,320	5,160,562
Non-current liabilities	15,309,637	10,710,422
Total equity	10,767,444	10,165,728
Paid-in capital	8,965,196	8,130,196
Retained earnings	1,106,034	1,281,489
Other equity accounts	632,286	695,087
Non-controlling interest	63,929	58,957
Total liabilities and equity	31,567,402	26,036,713

Consolidated Comprehensive Income Statement

(KRW in millions)

Classification	2011(A)	2010(B)	Change (A-B)
Sales	8,948,378	7,167,681	1,780,697
Cost of sales	7,346,979	6,288,476	1,058,503
Gross income	1,601,399	879,205	722,194
Other income	191,511	25,547	165,964
Selling and administrative expenses	464,002	284,924	179,078
Other expenses	148,801	94,672	54,128
Other gains (losses)	(195,062)	52,391	(247,453)
Operating income	985,045	577,546	407,499
Finance income	257,921	131,270	126,651
Finance costs	711,312	503,061	208,251
Loss on equity method investments	(31,890)	(43,518)	11,628
Net income before income tax	499,765	162,238	337,527
Income tax	652,517	156,389	496,128
Net income	(152,752)	5,848	(158,601)

* The above financial statements were drawn up based on the K-IFRS.

* The K-IFRS is mandatorily applicable to financial statements from the fiscal year 2011. However, the financial statements in 2010 were also drawn up based on the K-IFRS to make comparisons easier.

SUSTAINABILITY EFFORTS





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KNOC: Fulfilling the Dream of Becoming a Clean and Ample Energy Company

KNOC pursues beautiful life and happiness through management activities that realize harmony between the environment and people. KNOC will position itself as the world's top national oil company that is trusted and supported by the people by putting eco-friendly management into practice including low carbon, green growth implementation.





Business Portfolio

Oil Development Business

Launching its oil development business in 1984, KNOC is carrying out 218 oil development projects in 25 countries as of April 2012. We produce about 220,000 boe of crude oil and gas on daily average from production blocks as of December 2011. The reserves of oil that we have secured reach approximately 1.28 billion boe. Based on technological prowess and business operation ability, we operate 72 oil/gas blocks including Vietnam 11-2, British Dana, and US Ankor offshore and jointly operate 22 oil/gas blocks.

Domestic Continental Shelf Development Business

For the oil exploration of Korean continental shelf, we drilled 48 boreholes including 282,464L-km of geophysical exploration and 4 production wells as of February 2011. We found high-quality natural gas layers in the Donghae-1 gas field in July 1998 and initiated producing gas in July 2004, becoming the 95th oil (gas)-producing country in the world. We also secured contingent resources additionally in 2005 and 2006. The Donghae-1 gas field produced 60 million scf of natural gas on daily average and 1,000 barrels of condensate on daily average as of 2011; we are developing contingent resources as well.

Drilling Business

KNOC operates a drill ship business, which is emerging as a promising business and posting excellent performances in the modern era of high oil prices and maritime oil development. The Doo Sung, Korea's only semi-submersible drill ship, has successfully drilled 108 boreholes in 9 countries including Alaska, China, Vietnam, Malaysia, Indonesia, Russia, and Myanmar, not to mention Korea, as of June 2012 since 1987, when it was built. We respond to the requirements of the operating rights-holders by building a safety management system in line with the international standards such as ISM, ISO9001 certifications obtained in 1998 and ISPS certification acquired in 2004.



Oil Stockpiling Business

KNOG has built stockpiling bases, and it operates the oil stockpiling business according to the phases 1~3 of oil stockpiling plans implemented since 1980. We have also been carrying out international joint stockpiling business wherein oil-producing countries' crude oil is stored in our stockpiling facilities. We use the revenue generated through the efficient use of stockpiled assets including international joint stockpiling business and oil stockpiles trading for the increase of crude-oil stockpiles. To foster as the Northeast Asia's oil logistic stronghold using Korea's geopolitical advantage, i.e., Korea is located at the center of Northeast Asia's oil market, and the favorable port conditions, we undertake international cooperative business with oil-producing countries and major companies worldwide.

Stockpiling Base Construction Business

KNOG safely and efficiently manages all stockpiling bases under standardized regulations. Based on ISO9001 (quality) and ISO14001 (environment) certifications, we carry out all stages ranging from the establishment of planning construction projects to designing, the construction, and the test run with a qualified system that meets international standards. Through comprehensively managing the quality and the safety, we strive to achieve the government's crude-oil stockpiles target by completing the stockpiling facilities in a timely manner.

Oil Information Service

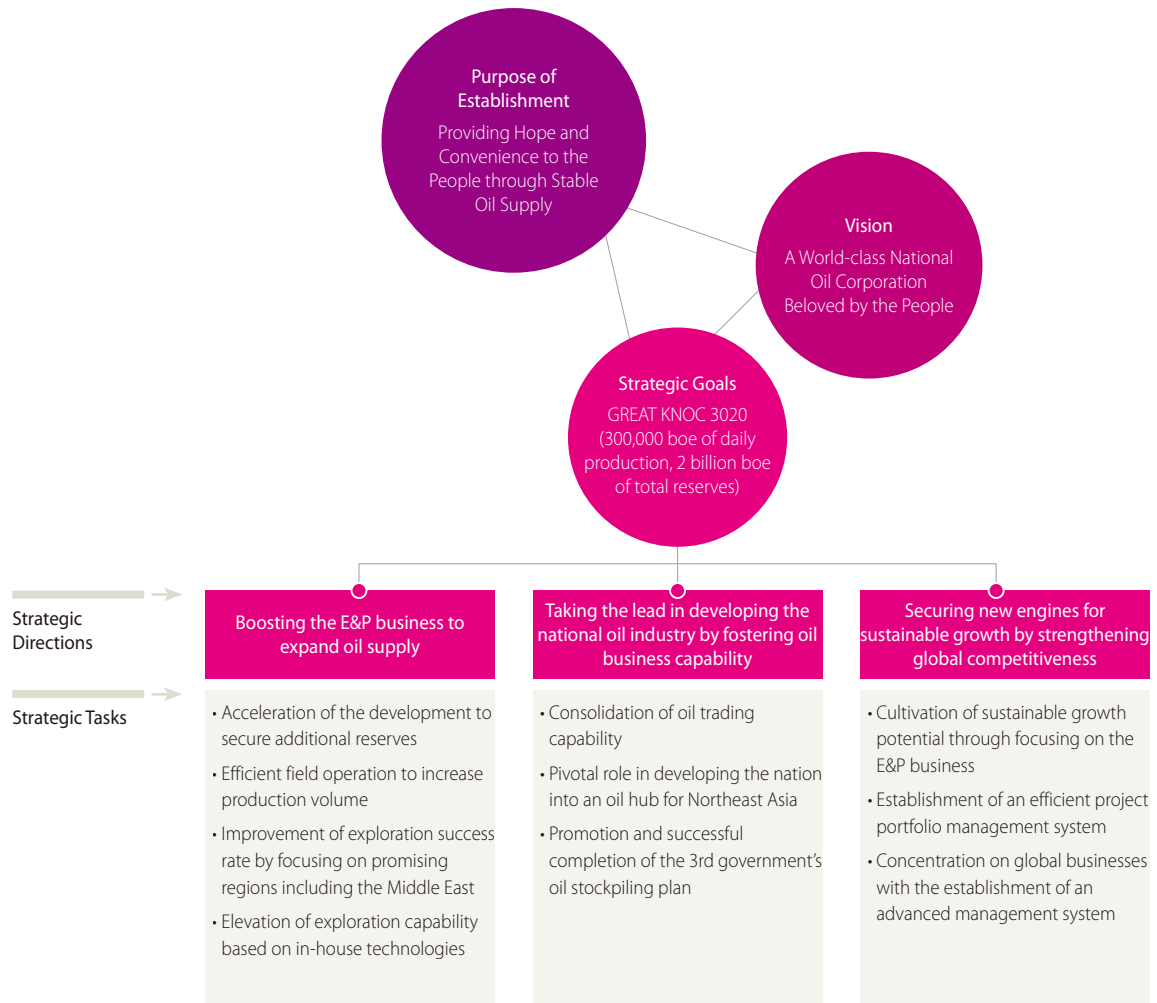
KNOG collects and analyzes specialized information on oil including domestic and the international oil industry, oil markets, oil development, oil stockpiling, and oil prices and offers the information to the government, industries, and consumers to contribute to strengthen the national competitiveness and the domestic oil industry. Through operating the oil information systems such as the state-recognized oil statistical agencies, Petronet, Pedsis, and Opinet, we produce various kinds of domestic and international oil statistical information and offer such information via various types of IT media such as regular publications, books, Websites, and smartphone Apps.

Management and Operation of Special Accounting for Energy and Resources Businesses

The government operates the Special Accounting for Energy and Resources Businesses (EAERB) enacted for the energy demand and supply, price stabilization and efficient implementation of energy and resources businesses. KNOG has been carrying out the receipt of revenues of EAERB, budget spending and closing of accounts, and asset management since entrusted by the Ministry of Knowledge and Economy pursuant to the Act on EAERB.

Vision and Mission

Strategic Goals and System



GREAT KNOC 3020

In 2008, KNOC established its strategic goal of "GREAT KNOC 3020" according to its policy of accomplishing the sizable growth. GREAT KNOC 3020 means KNOC's mid- and long-term goal to achieve 300,000 boe of daily production and 2 billion boe of total reserves by 2020 based on 5 values: "Globalization, Respect, Ethics, Action, and Trust (GREAT)". As of the end of 2011, KNOC recorded 220,000 barrels of daily output and 1.3 billion barrels of reserves.

Post-GREAT KNOC 3020

We aim to secure a sustainable growth foundation that enables independent growth, after laying the foundation for the sizable growth through the seamless achievement of GREAT KNOC 3020. We plan to set a quantitative target to strengthen international competitiveness, consolidate technological capability such as enhancement of the exploration success rate for our organic growth, and improve business management competencies for increased corporate values such as global assets management.

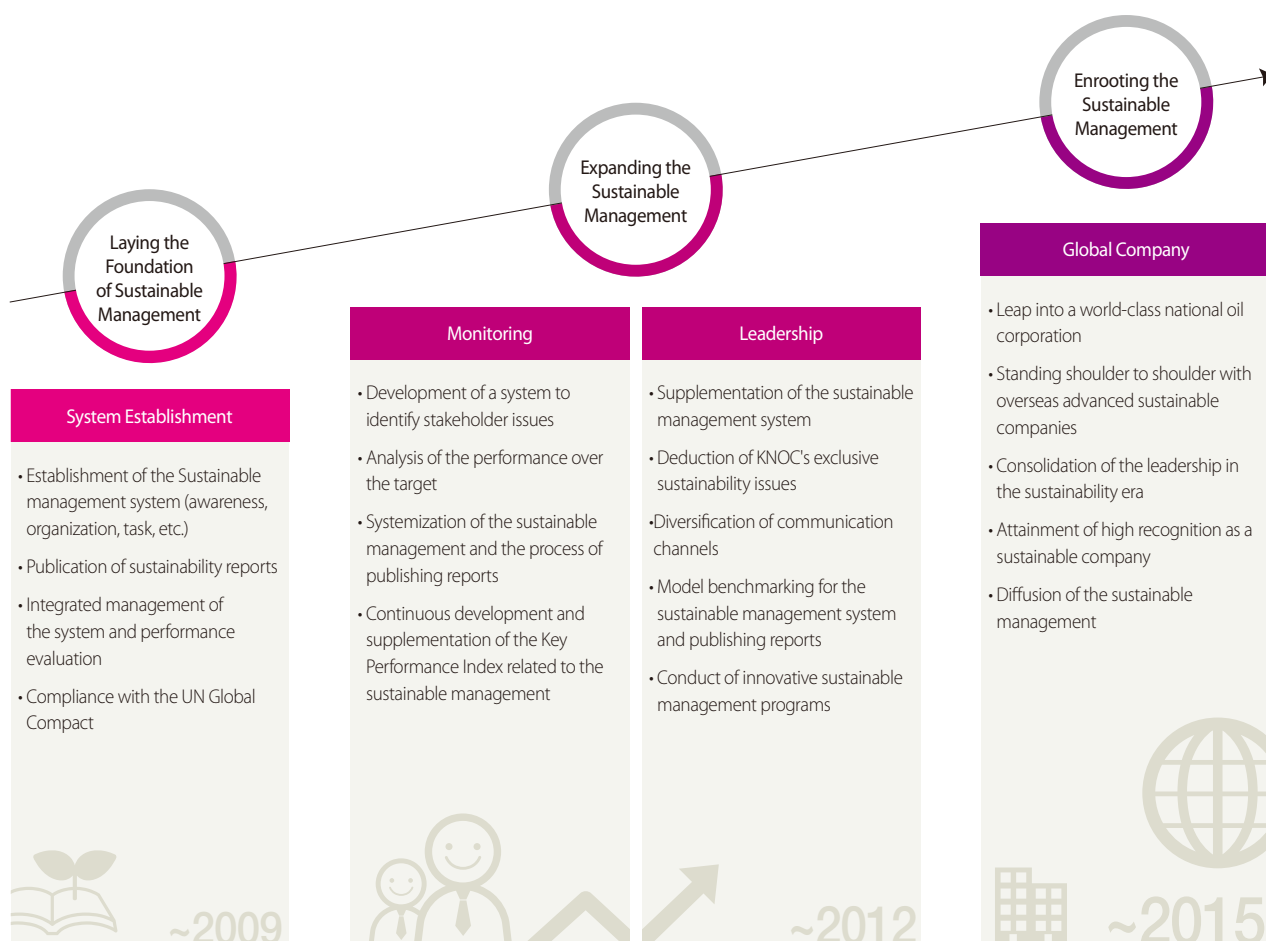
Through additional oil stockpile, we plan to implement the phase 3 of the government's stockpiling plan smoothly. Through all this, KNOC is committed to promoting its growth and development as a people's corporation. We play a leading role in achieving the targeted national self-development rate (28% in 2016 and 30% in 2019) and enhancing national oil development capability and contribute to the improvement of a nation's convenience.

Sustainable Management System

Guided by its mission of “World-Class National Oil Company Supported by the People,” KNOC pursues win-win growth with the people and the stakeholders by carrying out socially and environmentally responsible management activities not to mention creating economic revenue.

We manifested our commitment to social responsibility through publishing the 2007 sustainability report in 2007 and obtaining membership of the UN Global Compact. In this manner, we have been carrying out sustainable activities linked with the existing GREAT KNOC 3020. Through Post-GREAT KNOC 3020 management activities, we will actively fulfill social responsibilities by deducing and executing the challenges for sustainable management to leap into the world's top company. KNOC established the road map for sustainable management and it has been implemented successfully. The four-step roadmap – construction of the sustainable management system, monitoring, leadership, and global sustainable management – is our mid-term strategy to go forward to a world-class national oil company. Through the roadmap, we will establish our reputation as a company that puts sustainable management into practice and will spread the sustainable management system.

Road map for Sustainable Management



Corporate Governance

KNOC has a sound governance system based on the independent audit committee and transparent information disclosure; it has built a fair decision-making system that enables mutual control.

Shareholders

KNOC's capital stock stood at KRW 8.9652 trillion as of December 2011. The Korean government holds 100% stake in KNOC. The dividend of KNOC was KRW 33.824 billion in 2011, down 50% compared to 2010's it.

Board of Directors

KNOC operates the board of directors (BOD)-centered management system, it was established as its prime decision-making body by consolidating BOD's transparency and independence.

Board of Directors

Name	Position
In Chul Kim	Chairman
Moon Kyu Suh	President & CEO
Jai Hyun Yoo	Auditor
Seong Hoon Kim	Director & Senior Executive Vice President
Hum Sam Kwon	Director & Executive Vice President for Planning & Administration Group
Hong Geun Im	Director & Executive Vice President for Asia Group
Jae Ik Park	Director & Executive Vice President for Petroleum Stockpile Group
Jong Kyu Yoon	Member of Board of Directors
Sun Jang Kang	
Joo Heon Park	
Ho Cheul Shin	
Dong Rack Chung	
Jae Hyun Kim	

* as of September 2012

Composition of BOD

KNOC's BOD consists of 6 executive directors (internal directors) and 7 non-executive directors (external directors). The BOD has rights to deliberate and decide on the provisions of laws, regulations, articles of incorporation and other authorities belonging to BOD. The directors have an obligation of confidentiality as well as general responsibilities under the Civil Law (liable for compensation for default and damages from illegal activities), special responsibilities under the Commercial Law (liability to compensate for damages towards KNOC in the case of violation of laws and regulations or negligence of mission, liability towards a third party), and responsibilities under the Criminal Law (taking bribes in advance, taking bribes for the arrangement of something).

The CEO, auditor, and non-executive directors are appointed through procedures specified in the Act on the Public Agencies' Operation along with the recommendation of the Executives Recommendation Committee to enhance the management's qualification and professionalism and secure fairness of the appointment procedure. An external director should perform duties focusing on KNOC's sound management at an independent, neutral position as a KNOC's appointee. Therefore, the strict, detailed screening criteria including innovative mindset, expertise, and will to practice ethical management are applied to the external director. KNOC currently has 7 non-executive directors consisting of financial, legal, and press/media experts. They strive to make careful and reasonable decisions based on sound corporate ethics and expertise.

Affiliated Committees' Activities

KNOC has four affiliated committees: The Business Management Committee, The Investment Deliberation Committee, The Audit Committee, and The Executives Recommendation Committee. For the support to make decisions and the efficient operation of the affiliated committees, we set up the Business Management Committee and the Investment Deliberation Committee in 2011. Each committee consists of a chairman and three non-executive directors, and each committee's roles are as follows: The Investment Deliberation Committee plays the role of reviewing the E&P business plans and the status of engagement in the projects. The committee handled two items in 2011: the report on the progress and economic efficiency evaluation of the Abu Dhabi project, and the report on standards for decisions to invest.

The Business Management Committee debates on budget/closing accounts, management goals, international oil prices outlook/domestic and international oil industry trends, stockpiling bases management/oil trading status, and R&D plans. The committee handled three items — the report on the status of Northeast Asian oil hub project, on economic efficiency evaluation, and on the standards for decisions to invest.



BOD Operation

BOD meetings are divided into the regular and temporary BOD meetings. The regular meeting is held every fourth Thursday of the month in principle. The temporary meeting is convened by the BOD Chairman when an imminent item on the agenda arises. The BOD meeting can be convened by the request of the Chairman or, 1/3 or more of the directors registered; items on the agenda are decided by the approval of the majority of the directors registered. The BOD Chairman can re-deliberate on the items on the agenda through a supplement of data while holding off the decision, if he/she decides that there is a serious problem in executing the decided matters.

Pursuant to the Act on the Public Agencies' Operation, the director whose participation in the BOD is restricted is not included in the count of directors registered. A director can exercise voting rights through the forms of communication, which all directors can send and receive moving images and voice even without attending the BOD meeting in person. KNOC promotes the activation of BOD through the establishment of a regular BOD meeting. Through this, we have enhanced the directors' participation in management and raised the attendance rate according through increasing the number of items on the agenda of the BOD meeting and the number of meetings. The ratio of utterance between the non-executive directors and the executive directors rose 2.08% in 2011 compared to the previous year's it. KNOC held 18 BOD meetings and deliberated on 62 items on the agenda, with 9 out of the 53 decided items handled by resolutions through corrections. The minutes of BOD meetings are posted on our main website (www.knoc.co.kr) and Alio (www.alio.go.kr).

BOD Meetings

Classification	2009	2010	2011
Number of BOD meetings	16	14	18
Number of agenda items discussed	46	55	62
Attendance rate of non-executive directors	95%	96%	98%

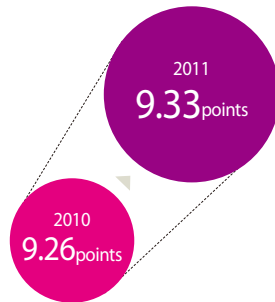
Performance Evaluation

KNOC operates a system for annual salaries based on performances to consolidate the linkage between the management's remuneration and management performance. An executive director's remuneration consists of the basic pay, the performance-based pay, and the severance pay, whereas an external director's remuneration is made up of service allowances. Concerning the executive director, the performance-based pay is depending on the annual performances or the job performance evaluation results. The payment rate of the agency head's performance-based pay is decided by according to the management performance evaluation result, but the ceiling of performance-based pay and the payment rate comply with those set forth by the government.

For the non-executive directors, service allowances for items on the agenda of BOD meetings the research on business development of KNOC and attendance allowances when attending BOD meetings are paid. The service allowances are paid as conforming to the stipulations set forth by the Executives' Remuneration Regulations, and the attendance allowances are paid by the standard set forth by the CEO of KNOC.

Subcommittees

Classification	Member	Authority	Responsibility
Business Management Committee	Chairperson and 3 non-executive directors	Deliberation of budgets, balancing accounts, management goals, outlook on the international oil prices, etc.	Improvement of management environment and efficiency by providing proposals and consultations
Investment Deliberation Committee	Chairperson and 3 non-executive directors	Deliberation of E&P project promotion, etc.	
Audit Committee	Chairperson (non-executive director), non-executive directors and audit members	Report on operating and accounting audit results, and independent regular and extraordinary audit results to the BOD	Contribution to the improvement of ethical and transparent management activities
Nomination Committee	5~10 Members	Determination of the method to nominate candidates for a director, and detailed screening criteria	Nomination of candidates for a director who's suitable for the company's business environment with representativeness and transparency

KNOC's Integrity Monitored by the Anti-Corruption and Civil Rights Commission

Ethical Management Roadmap	
2010 ~ 2011	Response to the global level ethical management Cultivation of ethical talents on a global level
2012 ~ 2013	Expansion of the ethical management on a global level Operation of the advanced ethical management system
2014 ~ 2015	Maintenance of the global level ethical management Establishment of a corporate culture centered on ethical management

Ethical Management

KNOC has set Global Best Practice as the strategic goal for ethical management, realizing the need for securing legitimate profitability and systematic ethical risk management to become a world-class oil company. Based on such a strategic goal, in 2011, we improved various ethical systems and consolidated employees' ethical education to put world-class ethical management into practice.

Ethical Management Implementing System

KNOC set up the Ethical Management Committee, which reports directly to the CEO. It deliberates and decides on important issues and matters to implement effective ethical management. The implementing organizations include the supervision department of ethical management, Legal Team, and officers in charge of integrity and ethics in each department's practice of ethical management. As a result of employees' efforts to put ethical management into practice, KNOC earned the highest grade, AAA, for five consecutive years in MKE's Sustainability Management Evaluation (KoBEXSM). We also garnered 9.33 points in 2011, which is an improvement from the 9.26 points we got in 2010 in the external integrity assessment by the Anti-Corruption & Civil Rights Commission of Korea.



Ethical Management Monitoring and Reporting System

Internal Control System

KNOC reinforces the internal control system by building the e-Audit system that is an integrated management system for audits in keeping with the expansion of its businesses and work process computerization. We actually established advanced audit foundation by integrating and managing audit progress through the e-audit system and by realizing the following: establishment of the risk-based system for audit and quality evaluation, building of an inspection system for lax management/management guidelines, frequent monitoring and early warning, and audit statistics and knowledge & information management. We also established the two-way inspection system of the audit department and general departments and the autonomous internal control inspection system centered on the field.

Reporting and Rewarding System for Public Interest

KNOC operates a reporting system for public interest wherein employees can report other employees' unethical behaviors on its website or via telephone and mail.

We pay up to KRW 2 billion as reward in accordance with our regulations and strive for the protection of the reporting employee or informant by imposing stringent disciplinary punishment on the employee who discloses information on the reporting employee or informant.



http://www.knoc.co.kr/sub02/sub02_1_5.jsp



http://www.knoc.co.kr/sub02/sub02_1_4_3_r.jsp



Integrity Ombudsman System

To enhance the effectiveness of the reporting on ethical management and the management suggestion system, we have bolstered reporting channels by introducing an integrity ombudsman system. We commissioned three external experts as integrity ombudsmen, and we operate an irrationality reporting center. The integrity ombudsman system discovered KNOG's ethical risks from an independent organization's standpoint by suggesting management issues for 6 times in 2011.

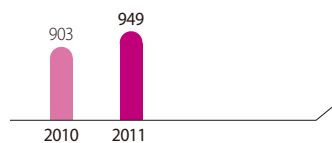
Ethical Norm Amendment and Strengthening Monitoring

KNOG strives to enhance the executive ability of ethical norms by frequently amending its code of conduct and regularly inspecting employees' understanding of the amended details. In 2011, we made an executives' anti-corruption integrity pledge and the completion of integrity education mandatory by amending the code of conduct. We also expressly specified the tenure of the staffs in charge of work wherein arrangement and solicitation are highly likely to be made — such as supervising construction — so that corruption can be avoided in advance. KNOG also increased the inspections of employees' understanding about the code of conduct from twice a year in 2010 to four times in 2011 and simultaneously carried out ethical education and counseling as well upon the inspections of understanding. We aim at employees' precise understanding and practice of the code of conduct and the ethical management system by fortifying the feedback of the inspection results.

Integrity and Ethics Mileage System

KNOG operates the integrity and ethics mileage system it has adopted, wherein mileage is awarded to employees and departments who/that actively put ethical management into practice. In 2011, we consolidated activities to induce ethical management practice by awarding mileage and rewarding excellent contestants with the hosting of a Quiz Contest to Know the Code of Conduct Better and the Contest on Autonomous System Improvement Challenges in 2011.

Number of Employees Completed the Cyber Trainings



Ethical Management Education

Overseas Ethical Education

In line with continuous expansion of the overseas business, KNOG has been bolstering the ethical education for employees working at overseas offices. A standing audit committee member visited all overseas offices in 2011 and offered special lectures on integrity and ethics. The Legal Team visited offices in Kazakhstan and Vietnam and provided guidance on ethics-related norms to be observed in the offices including British and American bribe-related laws and regulations. This way, we have focused on broadening understanding of employees' ethical management. Through consistent ethical education for overseas branches, we will enhance understanding and the will to practice ethical management for employees at overseas offices.

Development of Educational Contents on Ethical Management

KNOG endeavors to diversify ethical education contents including the customized ethical educational contents linked with KNOG's work. In 2011, we maximized educational effects through the development of ethical educational contents, and educational satisfaction rose 14% compared to the previous year's it.

Customized Ethical Management Education

We offer ethical management customized to the education target. We conduct cyber ethical education that targets all our employees, code of conduct education targeting our new employees, and integrity education targeting our executives each year. We also hold ethical management workshops for the in-depth education of the officers in charge of integrity and ethics in each department.

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Awards / Membership in Associations

Awards (2010 ~ 2012)

Year	Awards	Held by
2010	Commissioner's Prize of the Statistics Korea for the best institution in the national statistics sector	Statistics Korea
2010	Safety Award for Excellences (Ankor Energy, a subsidiary of KNOC)	Minerals Management Service, USA
2010	Excellent Institution Award for the Performance Sharing System	Ministry of Knowledge Economy
2011	Commissioner's Prize of the Statistics Korea for the best institution in the national statistics sector	Statistics Korea
2011	Excellent Labor-Management Culture Award	Ministry of Labor
2011	Governance Award at the National Volunteer Festival	Jungang Ilbo
2011	Merit Award for Eco-friendly Industry Development and Low Carbon Green Growth	Ministry of Environment
2012	President's Prize for Stockpile Product Management	Ministry of Public Administration and Security
2012	Prime Minister's Prize for Excellence in Equal Employment Opportunity	Ministry of Labor

Membership in Associations

Korea Petroleum Association	Korea Electric Engineers Association	Korean Geotechnical Society
Korea Plant Industries Association	Federation of Korean Industries	Korean Dietetic Association
Korean Society Of Civil Engineers	Energy & Mineral Resource Development Association of Korea	Environment Preservation Association
Korea Fire Safety Association	Korea Society Of Innovation	Korean Library Association
Korea Industrial Safety Association	Korea Productivity Center	Public Institution Transparent Society Convention Implementation Council
Advancement Audit Forum	Korea Fire Safety Association	The Institute of Internal Auditors
Korean Association for Organizational Studies	Emergency Planners Association of MKE	Korea Customs Logistics Association
Korean Committee for WPC	Korea Association of Middle East Studies	Workplace Reserve Forces Commanders Association
International Association of Drilling Contractors (IADC)	Korea Electric Engineers Association	Korean Resource Economics Association
Korea Association of Chief Financial Officers	Korea Society of Economic and Environmental Geology	Korean Society of Earth and Exploration Geophysicists
The Korea Society of Energy Engineering	Korean Resource Engineering Association	The Geological Society Of Korea
Korean Society of Soil and Groundwater Environment	Korean Institute of Chemical Engineers	Korean Fire Protection Association
KEF (Korean Member Committee of the WEC)	Korea International Trade Association	Council for Energy Industry Overseas Advance
Korea Accounting Association	The Korean Society for Geosystem Engineering	Korean Society of Earth and Exploration Geophysicists
Korea Industrial Technology Association	Climate Change Business Forum	The Korean Society of Petroleum Geology
Yongyeong Forum	International Contractors Association of Korea	Korea Carbon Capture & Storage Association (KCCSA)
Korean Petroleum Association	Korea Management Association Corporation	CEO Club of public energy institutions

Assurance Statement

INTRODUCTION

Det Norske Veritas Certification Ltd. (hereinafter referred to as 'DNV') has been commissioned to carry out assurance engagement on Sustainability Report 2012 (hereinafter referred to as 'the Report') of Korea National Oil Corporation (hereinafter referred to as 'KNOC'). This engagement focused on the information provided in the Report and the underlying management and reporting processes.

This Assurance Statement is intended for the readers of the Report. KNOC is responsible for the collection, analysis, aggregation and presentation of all information within the Report. DNV's responsibility regarding this Assurance engagement is to the management of KNOC only, in accordance with terms of reference and the scope of work agreed. DNV disclaims any liability or responsibility to a third-party for any decisions, whether investment or otherwise, based upon this Assurance Statement.

SCOPE OF ASSURANCE

This Assurance Engagement covered data from calendar year 2010-2011. The scope of DNV's Assurance Engagement, as agreed with KNOC included the verification of:

- Sustainability policy, goals, initiatives, practices and performance, as described in the Report. These were verified at the company level.
- Health & Safety, Social and Environmental data management systems, and associated processes and tools for collecting, analysing, aggregating and reporting quantitative and qualitative information provided in the Report.
- Processes for defining the boundaries, focus and content of the Report.
- Review of the extent to which the principles and requirements of the Global Reporting Initiative (GRI) Guidelines for Sustainability Reporting (GRI G3.1) are reflected in the Report.
- The extent to which the principles of Materiality, Inclusivity and Responsiveness are adopted. The reliability of the information within the Report was verified to a Moderate level of assurance.

KNOC's reporting boundaries include all operations in Korea over which KNOC's management exercises significant control.

LIMITATIONS

The engagement excluded the sustainability management, performance and reporting practices of KNOC's suppliers, contractors and any third-parties mentioned in the Report. DNV did not interview external stakeholders as part of this Assurance Engagement. Economic performances including financial data were cross-checked at head-office with internal documents and the financial statements audited by another 3rd party.

STATEMENT OF COMPETENCE AND INDEPENDENCE

DNV provides sustainability risk management services through specialists worldwide. This engagement was undertaken by a multi-disciplinary team of suitably qualified and experienced professionals about sustainability. DNV was not involved in the preparation of any information presented in the Report. DNV did not provide any services to KNOC in 2012 that could compromise the independence or impartiality of our work.

VERIFICATION METHODOLOGY

This Assurance Engagement was carried out in August 2012, and in accordance with the DNV Protocol for Verification of Sustainability Reporting (VeriSustain™).

In reaching our conclusion, we have undertaken the following work;

- Interviewed the KNOC's executives;
- Visited the KNOC's office in Anyang, Republic of Korea;
- Examined relevant documents, data and other information requested by DNV and made available by KNOC;
- Reviewed the mechanisms implemented by KNOC to promote and oversee its sustainability-related policies as described in the Report;
- Reviewed a selection of internal communication and external media reports relating to KNOC's sustainability management approach, performance and adherence to its policies;
- Analyzed sustainability data management systems, assessed the specific data and information reported.
- Assessed reliability of the data and information based on explicit assertions regarding sustainability performances on material issues.
- Checked that the Report fulfilled the requirement of GRI Application Level.

CONCLUSIONS

In the DNV's opinion, and based on the scope of this Assurance Engagement, the Report provides a reliable and fair representation of the KNOC's sustainability strategy, policy, practices and performance in 2010-2011.

Based on the work undertaken as part of this Assurance Engagement, DNV believes that the Report generally meets the requirements of GRI G3.1 about the principles, content and quality. The Report meets the requirement of GRI about the Application Level 'A+'. Further conclusions and observations on the adoption of reporting principles and specific performance information are made below;

Inclusivity: KNOC has engaged with a wide range of stakeholders regarding sustainability issues via surveys and interviews. Stakeholder engagement process is disclosed in the Report. 6 Stakeholder groups which are, Employees, Suppliers, Customers, Local community/NGOs, and Academia, Government/National assembly are identified. Why these stakeholders are selected and how the communication processes for respective groups go are stated in the report. Since many E&P operations and drilling ship operations which are parts of the major business areas of KNOC are progressing abroad, there are various stakeholders who have been involved in those projects and operations. It is recommended that the engagement be expanded with the international stakeholders so that the concerns and expectations of these stakeholders are reflected into the sustainability strategy of KNOC.

Responsiveness: Stakeholders' views, interests and expectations sought from the survey are considered in the preparation of the Report and in the formulation of KNOC's sustainability management approach. KNOC is recommended to establish quantitative objectives corresponding to respective material issues and regularly monitor and measure the performance. These needs to be reported in the sustainability report.

Materiality: The Report generally provides an account of performance on the issues that are most significant to KNOC's activities and which are most relevant to its stakeholders. The material issues were identified and prioritised based upon the stakeholders' opinion sought by survey.

Reliability: Data and information presented in the report are generally reliable. However, internal assessment of data management and data checks need to be implemented. The Report is referred to GRI G3.1 for preparation so that the readers can compare the performance and changes over time. The control of the data and information about the sustainability performance should be improved. Some data in the report are found inconsistent with the source data during the verification and subsequently corrected.

Completeness: The scope and the boundary of the Report cover the issues and activities that are of the most significant to KNOC and relevant to its stakeholders. No material omissions were identified in data or information verified. More efforts to improve reporting on the performance from international business operations needed to be made.

Neutrality: The information in the Report is generally presented in balanced manner. However more proactive actions needed to be taken against stakeholders' negative views on its performance and disclosure of factual information needs to be provided.

OPPORTUNITIES FOR IMPROVEMENT

The following is an excerpt from the observations and opportunities reported to KNOC's management in addition to the recommendations above. However, these do not affect our conclusions on the Report and are provided to encourage continual improvement.

- Adopt more structured and systematic processes for data gathering, analysis and reporting as part of the existing internal audit program to ensure the accuracy and reliability of reported information;
- Progressively extend the scope of the sustainability strategy and Report to operations and projects overseas;
- As for GRI indicators, address the reason for omission or partially reported according to GRI Application Level Check Methodology.



Seoul, Korea
August 2012

Seung Hyun Kwak
Lead Verifier



In Kyoon Ahn
Country Manager



Note: Assurance engagement was conducted based on the Report written in Korean. In the event of ambiguity or contradiction in the Report between English version and Korean version, Korean one shall be given precedent.

Reporting Standards

● Reported ◐ Partly Reported ○ Not Reported N/A Not Applicable

GRI G3.1	Indicators		ISO 26000 Clause	Page	Reported
Profile					
Strategy and Analysis	1.1	Statement from the most senior decision maker of the organization (e.g., CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy.	6.2	2, 3	●
	1.2	Description of key impacts, risks, and opportunities.	6.2	2, 3	●
Organizational Profile	2.1	Name of the organization.		4, 5	●
	2.2	Primary brands, products, and/or services.		72, 73	●
	2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	6.2	4, 5	●
	2.4	Location of organization's headquarters.		4, 5	●
	2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.		4, 5	●
	2.6	Nature of ownership and legal form.		76	●
	2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).		4, 5	●
	2.8	Scale of the reporting organization.		4, 5	●
	2.9	Significant changes during the reporting period regarding size, structure, or ownership.		4, 5	●
	2.10	Awards received in the reporting period.		81	●
Report Parameters	3.1	Reporting period		0	●
	3.2	Date of most recent report		0	●
	3.3	Reporting cycle		0	●
	3.4	Contact point for questions regarding the report or its contents.		0	●
	3.5	Process for defining report content.		7-9	●
	3.6	Boundary of the report		0	●
	3.7	State any specific limitations on the scope or boundary of the report.		0	●
	3.8	Basis for reporting that can significantly affect comparability between organizations. (Joint ventures, subsidiaries)		0	●
	3.9	Assumption of data collection process and data measurement techniques and the bases of calculations.		0	●
	3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement.		0, 51, 69	●
	3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.		0, 5, 69	●
	3.12	GRI checklist		84-87	●
	3.13	Policy and current practice with regard to seeking external assurance for the report.	7.5.3	82, 83	●
Governance, Commitments, and Engagement Governance	4.1	Governance structure of the organization		76, 77	●
	4.2	Indicate whether the Chair of the board is also an executive officer		76, 77	●
	4.3	For organizations that have a unitary board structure, state the number of independent and/or non-executive members.		76, 77	●
	4.4	Mechanisms for shareholders and employees to provide recommendations to board of directors		36, 76, 77, 2010 SM Report p.21	●
	4.5	Linkage between compensation for board of directors and organization performance		76, 77	●
	4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.		76, 77	●
	4.7	Process for determining the qualifications, and expertise of the director to support economic, social and environmental strategy		76, 77	●
	4.8	Statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance		74, 75	●
	4.9	Procedures of the board of directors for overseeing the organization's identification and management of economic, environmental, and social performance.	6.2	76, 77	●
	4.10	Processes for evaluating the board of director's performance, particularly with respect to economic, environmental, and social performance.		76, 77	●
	4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.		67	●
	4.12	Externally economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.		25-27	●
	4.13	Acquisition of membership for international policy organization such as industry associations		81	●
	4.14	List of stakeholder groups engaged by the organization		6, 7	●
	4.15	Basis for identification and selection of stakeholders who will participate		6, 7	●
	4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group		6, 7	●
	4.17	Key topics and concerns that have been raised through stakeholder engagement, and how to respond		6-9	●

● Reported ◐ Partly Reported ○ Not Reported N/A Not Applicable

GRI G3.1	Indicators	ISO 26000 Clause	IPIECA/API/OGP oil and gas industry guidance(2010)	Page	
Economic	Disclosure on Management Approach	6.2, 6.8		60, 61	●
Economic	EC1 Direct economic value generated and distributed	6.8, 6.8.3, 6.8.7, 6.8.9	SE4, SE13	62, 66, 68, 69	●
	EC2 Financial implications of climate change	6.5.5		54	●
	EC3 Coverage of pension			35	●
	EC4 Significant financial assistance received from government.			16	●
Market Presence	EC5 Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.	6.4.4, 6.8		34	◐
	EC6 Policy, practices, and proportion of spending on local purchase at major locations of operation.	6.6.6, 6.8, 6.8.5, 6.8.7	SE5, SE7	42, 44, 45	●
	EC7 Procedures for local hiring and proportion of senior management hired from the local community at major locations of operation.	6.8, 6.8.5, 6.8.7	SE5, SE6	31, 32	●
Indirect Economic Impacts	EC8 Impact of infrastructure investments and services provided primarily for public benefit. (Type of benefit included)	6.3.9, 6.8, 6.8.3, 6.8.4, 6.8.5, 6.8.6, 6.8.7, 6.8.9	SE4	24-27, 47-49	●
	EC9 Understanding and describing significant indirect economic impact	6.3.9, 6.6.6, 6.6.7, 6.7.8, 6.8, 6.8.5, 6.8.6, 6.8.7, 6.8.9	SE6	68	●
Environmental	Disclosure on Management Approach	6.2, 6.5		50, 51	
Materials	EN1 Weight or volume of raw materials used			N/A	
	EN2 Percentage of materials used that are recycled input materials.			N/A	
Energy	EN3 Direct energy consumption by primary energy source.		E2	55	●
	EN4 Indirect energy consumption by primary source.		E2	55	●
	EN5 Energy saved due to conservation and efficiency improvements.		E2	55, 56	●
	EN6 Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.		E3	54-56	●
	EN7 Initiatives to reduce indirect energy consumption and reductions achieved.		E2	54-56	●
	EN8 Total water withdrawal by source.		E6	55	●
Water	EN9 Water sources significantly affected by withdrawal of water.	6.5, 6.5.4	E6	55	●
	EN10 Percentage and total volume of water recycled and reused.		E6	Not Reported	○
	EN11 Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.		E5	58	●
	EN12 Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.		E5	58	●
	EN13 Habitats protected or restored.		E5	N/A	
	EN14 Strategies, current actions, and future plans for managing impacts on biodiversity.		E5	N/A	
	EN15 Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.			N/A	
Emissions, Effluents, and Waste	EN16 Total direct and indirect greenhouse gas emissions		E1, E4	54	●
	EN17 Other relevant indirect greenhouse gas emissions	6.5, 6.5.5	E1	54	●
	EN18 Initiatives to reduce greenhouse gas emissions and reductions achieved.		E1	54	●
	EN19 Emissions of ozone-depleting substances		E7	58	●
	EN20 NOx, SOx, and other significant air emissions by type and volume		E7	58	●
	EN21 Total water discharge by quality and destination.		E9	57, 58	●
	EN22 Total weight of waste by type and disposal method.	6.5, 6.5.3	E10	59	●
	EN23 Total number and volume of major toxic substance		E8	59	●
	EN24 Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.			59	●
	EN25 Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of waste water	6.5, 6.5.4, 6.5.6		57, 58	●
Products and Services	EN26 Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	6.5, 6.5.4, 6.6.6, 6.7.5		52, 53	●
	EN27 Percentage of products sold and their packaging materials	6.5, 6.5.4, 6.7.5		N/A	
	EN28 Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations.	6.5		None	●
Transport	EN29 Significant environmental impacts of transporting products and raw materials, and employees	6.5, 6.5.4, 6.6.6		54, 57, 58	●
Overall	EN30 Total environmental protection expenditures and investments	6.5		53	●

Reporting Standards

● Reported ● Partly Reported ○ Not Reported N/A Not Applicable

GRI G3.1		Indicators	ISO 26000 Clause	IPIECA/API/OGP oil and gas industry guidance(2010)	Page	Reported
Labor		Disclosure on Management Approach	6.2, 6.4, 6.3.10		30, 31	
Employment	LA1	Total workforce by employment type, employment contract, and region	6.4, 6.4.3		31	●
	LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region.			31	●
	LA3	Benefits provided to full-time employees that are not provided to temporary or part-time (By workplace)	6.4, 6.4.3, 6.4.4		35	●
Labor/ Management Relations	LA4	Percentage of employees covered by collective bargaining agreements.	6.4, 6.4.3, 6.4.4, 6.4.5, 6.3.10		37	●
	LA5	Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements.	6.4, 6.4.3, 6.4.4, 6.4.5		37	●
Occupational Health and Safety	LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees.	6.4, 6.4.6	HS1, SE16	35	●
	LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender.		HS3	20, 23, 51	●
	LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	6.4, 6.4.6, 6.8, 6.8.3, 6.8.4, 6.8.8	HS2	35	●
	LA9	Health and safety topics covered in formal negotiation with trade unions.	6.4, 6.4.6	SE16	35	●
Training and Education	LA10	Average hours of training per year per employee by gender, and by employee category.	6.4, 6.4.7	SE17	33	●
	LA11	Programs for skills management and lifelong learning that support the continued employability of employees.	6.4, 6.4.7, 6.8.5	SE17	35	●
	LA12	Percentage of employees receiving regular performance and career development reviews.	6.4, 6.4.7	SE17	34	●
Diversity and Equal Opportunity	LA13	Composition of board of directors and breakdown of employees per employee according to gender, age group, minority group membership, and other indicators of diversity.	6.3.7, 6.3.10, 6.4, 6.4.3	SE15	31, 76	●
	LA14	Ratio of base salary and remuneration of women to men by employee category.	6.3.7, 6.3.10, 6.4, 6.4.3, 6.4.4	SE15	34	●
	LA15	Return to work and retention rates after parental leave, by gender.			35	●
Human Rights		Disclosure on Management Approach	6.2, 6.3		30, 31	
Investment and Procurement Practices	HR1	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening.	6.3, 6.3.3, 6.3.5, 6.6.6	SE8	43	●
	HR2	Percentage of major suppliers, contractors, rate of human rights screening.	6.3, 6.3.3, 6.3.5, 6.4.3, 6.6.6	SE9	43	●
	HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	6.3, 6.3.5	SE8	37, 79	●
Non-discrimination	HR4	Total number of incidents of discrimination and corrective actions taken.	6.3, 6.3.6, 6.3.7, 6.3.10, 6.4.3	SE18	None, 32	●
Freedom of Association and Collective Bargaining Core	HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.	6.3, 6.3.3, 6.3.4, 6.3.5, 6.3.8, 6.3.10, 6.4.3, 6.4.5		37	●
Child Labor	HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination effective abolition of child labor.	6.3, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.10		37	●
Forced and Compulsory Labor	HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination.			37	●
Security Practices	HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	6.3, 6.3.5, 6.4.3, 6.6.6	SE10	n/a	●
Indigenous Rights	HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.	6.3, 6.3.6, 6.3.7, 6.3.8, 6.6.7	SE2	48	●
Assessment	HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.		SE8	79	●
Remediation	HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.		SE18	78, 79	●
Society		Disclosure on Management Approach	6.2, 6.6, 6.8		30, 31	
Local Communities	SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	6.3.9, 6.8, 6.8.5, 6.8.7, 6.6.7	SE1, SE2, SE3, SE4, SE5	24-27, 47, 48, 57-59	●
	SO2	Percentage and total number of business units analyzed for risks related to corruption.	6.6, 6.6.3	SE11, SE12	78, 79	●
Corruption	SO3	Percentage of employees trained in organization's anti-corruption policies and procedures.		SE11	79	●
	SO4	Actions taken in response to incidents of corruption.		SE11	1 case	●
Public Policy	SO5	Public policy positions and participation in public policy development and lobbying.	6.6, 6.6.4, 6.8.3	SE14	n/a	●
	SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.		SE14	n/a	●

● Reported ◐ Partly Reported ○ Not Reported N/A Not Applicable

GRI G3.1		Indicators	ISO 26000 Clause	IPIECA/API/OGP oil and gas industry guidance(2010)	Page	Reported
Anti-Competitive Behavior	SO7	Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes.	6.6, 6.6.5, 6.6.7		42, 43	●
	SO8	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations.	6.6, 6.6.7, 6.8.7		None	●
Compliance	SO9	Operations with significant potential or actual negative impacts on local communities.		SE1	46-48	●
	SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.		SE1	46-48	●
Product Responsibility		Disclosure on Management Approach	6.2, 6.6, 6.7		30, 31	
Customer Health and Safety	PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	6.3.9, 6.6.6, 6.7, 6.7.4, 6.7.5	HS4	N/A	
	PR2	Total number of incidents of non-compliance with life cycle of products and services		HS4	N/A	
	PR3	Type of product and service labeling	6.7, 6.7.3, 6.7.4, 6.7.5, 6.7.6, 6.7.9	HS4	72, 73	●
Product and Service Labeling	PR4	Total number of incidents of non-compliance with labeling regulations		HS4	None	●
	PR5	Practices related to customer satisfaction, based on results of surveys measuring customer satisfaction.	6.7, 6.7.4, 6.7.5, 6.7.6, 6.7.8, 6.7.9		40	●
	PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications.		HS4	Complying with regulations in accordance with the Governmental Code of Advertising Practice	●
Marketing Communications	PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications	6.7, 6.7.3, 6.7.6, 6.7.9			●
Customer Privacy	PR8	Total number of complaints regarding breaches of customer privacy and losses of customer data.	6.7, 6.7.7		41	●
Compliance	PR9	Amount of fines for noncompliance with laws and regulations concerning the provision of products and services.	6.7, 6.7.6		None	●

KNOC publicly announces that this Sustainability Report has been created for the purpose of demonstrating that KNOC achieved an A+ rating based on the GRI G3.1 report application level indicators. The third-party organization that reviewed this report confirmed that it should be categorized as "A+" according to the G3.1 Guideline application levels.

		C	C+	B	B+	A	A+
Standard Disclosures	G3.1 Profile Disclosures	Report on: 1.1, 2.1-2.10, 3.1-3.8, 3.10-3.12, 4.1-4.4, 4.14-4.15	Report Externally Assured	Report on all criteria listed for Level C plus: 1.2, 3.9, 3.13, 4.5-4.13, 4.16-4.17	Report Externally Assured	Same as requirement for Level B	Report Externally Assured
	G3.1 Management Approach Disclosures	Not Required		Management Approach Disclosures for each Indicator Category		Management Approach disclosed for each Indicator Category	
	G3.1 Performance Indicators & Sector Supplement Performance Indicators	Report on a minimum of 10 Performance Indicators, including at least one from each of: Economic, Social and Environment.		Report on a minimum of 20 Performance Indicators, at least one from each of Economic, Environmental, Human rights, Labor, Society, Product Responsibility.		Respond on each core G3 and Sector Supplement Indicator with due regard to the Materiality Principle by either: a) reporting on the Indicator or b) explaining the reason for its omission.	

Glossary

Term	Description
API (American Petroleum Institute)	Abbreviation of American Petroleum Institute
bpd (barrels per day)	Daily output
COP (Communication on Progress)	Report on the implementation of 10 principles in the human rights, labor, environment, and anti-corruption areas as presented by the UN Global Compact
CoP (Community of Practice)	Knowledge community, execution community
Gas Hydrates	Solid energy source generated by a combination of natural gas and water; the appearance of gas hydrate is similar to dry ice. Gas hydrate is a next-generation energy source called "Burning ice" due to its property of burning when lit.
GRI (Global Reporting Initiative)	As an international organization presenting guidelines on a firm's sustainability report, GRI offers standardized reporting indices of sustainability management. The G3.1 version is currently being developed.
GTL (Gas to Liquid)	GTL means converting natural gas into synthetic oil. Actually, German chemists Franz Fischer and Hans Tropsch manufactured synthetic fiber in 1923 through the catalyst reaction of syngas (carbon monoxide and hydrogen) generated from the partial oxidation of coal (CTL: Coal-To-Liquid). In the 1950s, the GTL technology was developed and commercialized by using natural gas in South Africa through the adoption of the German technology.
LTI (Lost Time Incident)	Number of accident cases involving death or requiring 4 or more days of recuperation
IPIECA (International Petroleum Industry Environmental Conservation Association)	Abbreviation of International Petroleum Industry Environmental Conservation Association
ISM Code (International Ship Management Code)	International ship management code; a standard enacted to apply to all kinds of ships by IMO (International Maritime Organization) to prevent environmental pollution
ISO 26000	As an international standard on corporate social responsibility enacted by the International Standardization Organization, ISO 26000 defines 7 items -- governance, human rights, labor practices, environment, fair trade, consumer issues, community engagement, and development -- as social responsibility issues targeting 7 economic players including industry, government, consumer, labor sector, and NGO. ISO 26000 contains guidelines for implementing those items and recommendations.
ISPS (International Ship and Port Facility Security)	Abbreviation of International Ship and Port Facility Security
KOSHA 18001	Management system established in 1999 by the Korea Occupational and Safety Agency (KOSHA); KOSHA systematized all activities including the health and safety of customers and workers to build an autonomous health and safety management system
MDGs (Millennium Development Goals)	Agenda adopted by the UN in 2000; MDGs represent the global promise to reduce poverty by half by 2015
OGP (International Association of Oil and Gas Producers)	International Association of Oil and Gas Producers
Opinet	Comprehensive information offering system of gas stations, providing domestic oil information including real-time selling prices at gas stations nationwide
PCT (Patent Cooperation Treaty)	Patent Cooperation Treaty; a multipartite treaty effectuated to unify and simplify overseas applications of patents or utility models
PDCA	Technique used to attain goals by repeatedly implementing PDCA (Plan-Do-Check-Act)
Petronet (Korea Petroleum Information Network)	Petroleum information service system providing all domestic and international petroleum-related information to users on the Internet by building a systematic database; launched in January 1999, the service offers 238 types of information in 18 petroleum-related areas including domestic and international petroleum industry, development, and distribution
PSM (Process Safety Management)	The PSM system is one of the autonomous safety management systems adopted by the US law to prevent accidents caused by fire, explosion, and toxic materials leak in a petrochemical factory. The system was adopted under the name of Process Management System by Korea's Labor Ministry in 1995.
PMI (Post-Merger Integration)	Term referring to the integration process after the merger; activity to manage systematically different organizations in various environments including job execution mode and organizational culture after acquiring them to create synergy effects on a short-term basis
UNDP (United Nations Development Programme)	Agency to coordinate development aid plans for all organizations of the United Nations
UNGC (UN Global Compact)	Specialized organization affiliated with the UN, which was initiated to encourage companies' engagement in sustainable balanced development and improve international social ethics and international environment implemented by the UN through cooperation between the UN and companies
VOC (Voice of Customer)	Customer management system wherein customers' complaints are managed in real time from receipt to completion of handling; the handled results are managed and evaluated by making the results into indices to improve customer services
Process Safety Management	System of building and executing a systematic management system for accident prevention, risk reduction, and consequence mitigation in worksites having hazardous and risky facilities that are highly likely to cause serious industrial accidents
Volunteer Service Mileage System	System of rewarding systematic, efficient performance management and granting incentives to outstanding volunteer service workers by offering mileage points according to volunteer service hours for employees' volunteer service activation
Unconventional Energy	Unlike the conventional type of oil energy, unconventional energy means an energy source whose economic development and production can be carried out using new technologies such as oil sand and oil shale.



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