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KNOC Sustainability Report 2022

KNOC KOREA NATIONAL OIL CORPORATION

# Better Energy for Us & Earth

KNOC Sustainability Report 2022




KNOC KOREA NATIONAL OIL CORPORATION

# About this report

## Report Overview

The Korea National Oil Corporation(KNOC) has issued our first sustainability report in 2012 to inform internal and external stakeholders about our corporate sustainability, and to listen to the expectations and demands from wider stakeholders. This report aims to disclose our ESG activities and performance in a transparent manner by integrating non-financial performance and financial performance, including ESG management. Furthermore, the report was planned for KNOC's management status and corporate values for achieving our vision to become 'a leading global energy corporation in energy security and carbon neutrality' to be identified more clearly.

## Reporting Period & Scope

The reporting period is from January 1, 2020 to December 31, 2021. The performance up to the first half of 2022 was included based on information that was identified as important for stakeholders. The report has included the data for the last 3 years to show trends for quantitative metrics. For data with annual changes, its reference point was set as the fiscal year ended Dec. 31, and in the case of requiring information disclosure on a separate data collection period, this fact has been specified. This report focuses on the environment, society and governance performance of the head office and our business sites, with some of the disclosed data containing details of overseas businesses.

## Reporting Principles

This report conforms to the Core Options of the Global Reporting Initiative(GRI) Standards, an international sustainable management reporting guideline, to disclose the sustainable management performance more clearly. The report has been prepared by reflecting the UN Global Compact Principles, major agendas of ISO 26000, SASB, and TCFD. The financial performance was reported in accordance with K-IFRS (Korean International Financial Reporting Standards). Moreover, the report has been verified by an independent third-party assurer to ensure the reliability and fairness of the contents, and the result of the audit is included in the assurance opinion statement.

## Report Inquiries

The corporate sustainable management report of KNOC can be viewed and downloaded from the company website. For more details or inquiries, please contact the following.


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Homepage

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Blog




This report presents the KNOC's current petroleum business and future low-carbon new energy business for national energy security.

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# KNOC OVERVIEW


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# CEO Message

"KNOC hopes to be a trusted partner for the people as a leading global energy corporation in energy security and carbon neutrality."



*Better energy for us & earth*

We would like to express our appreciation to all stakeholders and people for their unsparing, heartfelt support and encouragement for KNOC and those who have contributed to us during various interactions with our company.

For the past two years, the global economy has faced many difficulties due to the COVID-19 pandemic and geopolitical issues. On top of this, people all over the world are increasingly concerned about 'energy security' due to the frequent outbreak of natural disasters caused by climate change, and are taking heed of the importance of 'carbon neutrality'. Accordingly, KNOC has set up a new vision to become "a leading global energy corporation in energy security and carbon neutrality" in response to the ever-changing economic and environmental conditions, as we actively engage with ESG management.

**First, we make every effort to safeguard our energy security in case of crisis and lead the carbon neutrality movement.**

In response to the international community's call for energy transition due to climate change, our company is taking a major role in contributing to national energy security through our main energy businesses. That include E&P, oil stockpiling, and distribution as well as renewable energy development such as floating offshore wind power, CCUS (Carbon Capture, Utilization & Storage) and ammonia-hydrogen. Through these businesses, we are on track to contribute to reducing 4 million tons of greenhouse gas emissions every year from 2030. We have been also acclaimed by the Ministry of Environment for our efforts to use new & renewable energy and save on energy. By engaging in eco-friendly management, our company has been well-regarded as an organization that has achieved the greenhouse gas reduction targets for 10 consecutive years. KNOC will continue to expand the eco-friendly management to become a company leading energy security and carbon neutrality.

**Secondly, we will be at the forefront in delivering various social values as a public corporation.**

Our company has achieved the record of "ZERO" major disasters for five consecutive years as of 2021 by establishing the health and safety management system and spreading a safety-first culture. We are exemplary corporation of accident-free safety management as eight out of ten business sites have acquired the top grade (P) in process safety management (PSM). In addition, we are leading the way in building a country of greater value through collaboration with small and medium businesses by creating jobs and localizing components through the eco-friendly energy business. Furthermore, the company is proactively engaged in various social contribution activities, focusing on three key areas of 'Energy,' 'Safety & Environmental Protection,' and 'the Disabled & Multinational Cultures' to create a warm local community, better image as a public enterprise as we support the growth of the local communities where Ulsan head office and nine oil stockpiling bases are located.

**Thirdly, we will manage the company in a fair manner and transparently disclose information to all of our stakeholders.**

The company has newly instituted the ESG Committee under the Board of Directors to strengthen ESG management, and built a foundation for introducing the labor director system in the future by operating a system where laborers attend and observe the management committee and department-head meetings. What's more, we have set up our mid-to-long-term ethical management strategy for more transparent corporate management. The company is the only first-tier public corporation that has been awarded the commendation for 'an advanced self-inspecting organization' by the Board of Audit and Inspection, and we have achieved grade rating of 'excellent or higher' in the evaluation of the actual operational state of information disclosure by the Ministry of the Interior and Safety for three consecutive years owing to preemptive information disclosure to meet the people's right to know. We will stay proactively engaged in transparent and clean management, while sharing more information with all of our stakeholders.

KNOC look forward for all our stakeholders to continue their unsparing support and interest in our company and encourage us, as we work to create a better world of energy through innovation and ESG management.

Thank you.

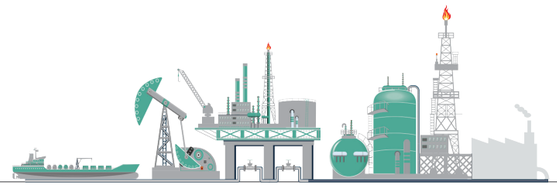
Sept. 2022
**Kim Dong-sub,**
President & CEO of Korea National Oil Corporation

2021~2022 KNOC

# ESG Highlights



## E






### KNOC contributes to policy on carbon neutrality by paving the way for low carbon/new energy businesses

The company has established a sustainable system by using its assets, technologies, and experiences national policy on carbon neutrality. KNOC is pushing ahead the underground storage of $CO_2$ for the first time in the country using the Donghae Gas Field, and has been sponsoring and participating in the government's multi-administrative joint research project financed with a total research cost of KRW 32.9 billion. In addition, the company has forged ahead with the floating offshore wind power project, and established cooperative relations with UAE's state-owned oil companies and domestic private enterprises for the hydrogen·ammonia business.



### KNOC, selected as an excellent organization in greenhouse gas emission management system in public sector.

The company is making every effort to carry out ESG management from various angles, especially focusing on eco-friendly management. As a result of such efforts, we have achieved 108% of the GHG ~~target~~, and we have been selected as an excellent organization in greenhouse gas emission target management in the public sector (37 organizations) out of a total of 830 organizations, including central government offices, local governments, and public institutions.



### KNOC achieves ZERO environmental accidents by actively undertaking site-focused preventive measures

KNOC has built a VOCs reduction and permanent safety management system through the air pollution management system of its oil stockpiling bases. Furthermore, KNOC has achieved "ZERO" oil spills by establishing a plan for ramping up the safety of offshore facility operations and inspections of major equipment for loading and unloading. The company also achieved a clean record of environmental accidents as to soil pollution by managing soil and underground water through sampling inspections and on-land oil spill prevention training.



### KNOC aims to stabilize the public economy by providing oil price and information

Due to rising oil prices in the recently unstable domestic & overseas environment, the financial burden to all people is also increasing. As such, KNOC is providing domestic & overseas oil price information using Opinet (web/app). The company aims to promote market competition and stabilize oil prices by promoting government policies such as reducing oil taxes and encouraging gas station owners to lower their oil prices.



### KNOC, selected as an 'excellent' organization in disaster management evaluation of national key infrastructure

KNOC achieved the highest level in on-site safety and disaster management by advancing ICT-based disaster safety management system. Anti-drone comprehensive protection system enhanced safety of oil stockpiling bases, and enhanced the offshore system for loading and unloading oil reserves by installing GPS-equipped marine buoys, Automatic ship identification equipment at the jetty, and collision warning system.



### KNOC engages in social contribution activities focusing on 3 key areas

The company has selected 'Energy,' 'Safety & Environmental Protection,' and 'the Physically Challenged & Multiple Cultures' as the 3 key areas of social contribution, and participates in these activities as a member of the local community. In the area of energy, KNOC is supporting the energy-vulnerable social groups, while regarding the area of safety and environmental protection, the company is hard at work to create a safe and pleasant environment by passing on its know-how in safety management. In addition, in the areas of people with disabilities and cultural diversity, KNOC is supporting underprivileged residents such as multicultural families and running a sports team for people with disabilities.



## S

## G



### KNOC operates ESG Committee within the Board of Directors

The company has established the ESG Committee within the Board of Directors to use non-executive directors' objective perspective and expertise, and requests for recommendations from non-executive directors focusing on ESG. In 2022, KNOC has enacted the ESG Committee Operating Regulations, and is gearing up company-wide ESG management by discovering a total of 23 ESG projects and applying them to the corporate agenda.



### KNOC adopts a system where laborers attend and observe meetings

The company has held transparent and balanced board meetings and expanded laborers' participation in management. Labor and management representatives are forming a consensus by adopting a policy/ system where laborers attend and observe meetings, which is a stage before introducing the labor director system. With this system, the transparency of the KNOC organization with win-win labor and management collaboration is further enhanced.



### KNOC achieves an 'excellent grade or higher' for 3 consecutive years in information disclosure evaluation conducted by the Ministry of the Interior and Safety

The company has significantly improved the information disclosure system for people to use by improving the convenience of prior disclosure of information. As a result of such efforts, KNOC has achieved an original text disclosure rate that is 15.6% higher than the average of public enterprises group 1. Even the disclosure rate upon request for information disclosure was drastically improved from 75.9% in 2020 to 85.2% in 2021. Hence, the company has achieved an 'excellent grade or higher' for 3 consecutive years.

# KNOC Introduction

## KNOC Overview

Established on Mar. 3, 1979 based on the Korea National Oil Corporation Act, KNOC is a public organization launched to pursue the stabilization of oil supply and demand and contribute to national economic growth by efficiently carrying out projects for improving the development, stockpiling, and distribution of oil resources. We are producing 136,400 barrels to secure oil resources through 31 projects in 17 countries as of the end of December 2021. Furthermore, KNOC has domestic oil stockpiling facilities with a capacity of 146 million barrels in reserves to prepare for an oil supply and demand crisis and is hard at work to improve the convenience for the Korean people by improving the domestic oil distribution structure.

## General Overview

(As of 2021)

| | | | |
|---|---|---|---|
| Company name | Korea National Oil Corporation | Head office address | 305, Jongga-ro, Jung-gu, Ulsan |
| CEO | Kim Dong-sub | Legal basis | Korea National Oil Corporation Act |
| Date of foundation | March 3, 1979 | Total capital | - KRW 1,552 bil |

| Total assets | Sales | Operating income | Employees |
|---|---|---|---|
| KRW 18,411 bil. | KRW 2,154 bil. | KRW ~~447.4~~ bil. | 1,322 persons |

## Major Business

### Oil E&P

- **31** projects in **17** countries
- Daily production **136,400** BOE
- Reserves **1.058** billion BOE

### Oil Stockpiling

- **9** regions
- Stockpiling capacity of **146** million barrels;
- Oil reserves of **98** million barrels

### Distribution Structure Improvement

- **Economical gas stations**
  1,266 (431 independent gas station, 186 EX, 649 NH gas stations)
- **Oil information service (Oil info network)**
  Opinet users of 138 million persons/ year

### New & Renewable Energy

- **Establishment and consolidation of business basis through domestic and overseas collaboration.**
- **CCUS business**
  Promotion of CCUS pilot project for the first time in Korea
- **Floating offshore wind power project**
  Wind farm development & power generation project



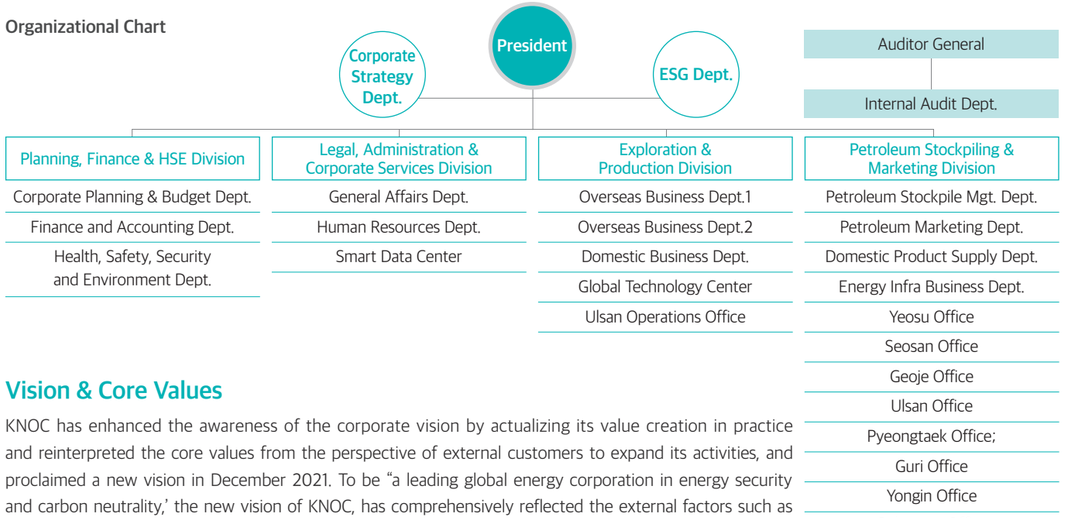





## Organizational Structure

Korea National Oil Corporation consists of a total of four divisions, namely the Planning, Finance & HSE Division, Legal, Administration & Corporate Services Division, Exploration & Production Division, Petroleum Stockpiling & Marketing Division, along with 17 departments, centers, and offices in addition to ten branch offices.

**Organizational Chart**




## Vision & Core Values

KNOC has enhanced the awareness of the corporate vision by actualizing its value creation in practice and reinterpreted the core values from the perspective of external customers to expand its activities, and proclaimed a new vision in December 2021. To be "a leading global energy corporation in energy security and carbon neutrality,' the new vision of KNOC, has comprehensively reflected the external factors such as carbon neutrality, heightened expectations of the people, changes in industrial environment; and internal conditions including new leadership, competitiveness improvement, and business line concentration.

**KNOC Vision & Core Values**

| | | | | |
|---|---|---|---|---|
| Mission | Improve people's quality of livelihood by stabilizing the sustainable energy supply | | | |
| Vision | To be a leading global energy corporation in energy security and carbon neutrality (Slogan: Better Energy for Us & Earth) | | | |
| Core values | Passion & Challenge, Safety & Trust, Innovation & Growth | | | |
| Management goals ('26) | Oil security volume (162mm bbl) | $CO_2$ reduction (730,000 tons/year) | Operating income (KRW 806.8 bil) | Social value (KRW 172.5 bil) |
| Strategic direction | Securing oil security volume | Leading the carbon neutral new energy industry | Strengthening competitiveness with innovation | Early establishment of ESG management (creation of social value & profit) |
| Strategic tasks | Strengthen strategic area exploration & development | Expand floating offshore wind business | Business innovation | Safe & environmental-friendly management |
| | Increase oil reserve and build energy hub | Build hydrogen·ammonia supply system | Technology & Digital innovation | Management volunteering for the country & local community |
| | Maximize response to oil crisis | Phased expansion of CCUS business | Process innovation | Ethical management & transparent governance |
| Execution tasks | 36 tasks such as continuous exploration of domestic continental shelf/ deep sea, successful implementation of floating offshore wind farm project, etc. | | | |

## History

### 1970's

**1978.** **Dec.** the Korea Petroleum Development Corporation Act officially enacted

**1979.** **Mar.** Launched Korea Petroleum Development Corporation (PEDCO) (Founded in Mar. 3)

**1982.** **Apr.** Founded and invested in Korea Drilling Company (KDC)

**1986.** **Aug.** Founded Korea Pipeline Corporation (KPC) with an investment

**1987.** **Dec.** Discovered Korea's first natural gas on its continental shelf

**1989.** **Dec.** Completed the first oil stockpiling plan (Opened offices in Guri, Ulsan, Geoje, Pyeongtaek with total stockpiling capacity of 43.6 million barrels)

**1994.** **Oct.** Merged Korea Drilling Company (KDC)

**1995.** **Jul.** Completed Pyeongchon company building & relocated head office (Seoul → Anyang, Gyeonggi province)

**1998.** **Jul.** Discovered gas field on Korea's continental shelf (Block 6-1)

**1999.** **Jan.** Changed corporate name from (PEDCO → KNOC (Korea National Oil Corporation)); increased statutory capital from (KRW 3 → 5 tril), Launched the comprehensive oil info. service, 'Petronet'

**2000.** **Feb.** Announced development of Donghae-1 gas field (block 6-1)

**2002.** **Nov.** Completed second oil stockpiling plan (Opened offices in Yongin, Yeosu, Gokseong, Donghae, total stockpiling capacity of 95.5 million barrels)

**2003.** **Oct.** Began oil production in Block 15-1, Vietnam

**2004.** **May.** Began oil production in Elephant field, Libya
**Sept.** Began gas production in Donghae-1 gas field

**2005.** **Aug.** Opened Office in Seosan

**2006.** **Dec.** Began gas production in Block 11-2, Vietnam

**2007.** **Aug.** The Korea National Oil Corporation Act amended (Increased statutory capital from KRW 5 → 10 tril)

**2008.** **Jan.** Acquired Taylor Energy assets (Founded U.S. branch (ANKOR Energy))
**Apr.** Launched the oil price information service 'Opinet'

**2009.** **Feb.** Acquired Petro-Tech of Peru (currently, Savia Peru)
**Oct.** Acquired Harvest Energy of Canada
**Dec.** Acquired Sumbe in Kazakhstan (currently, KNOC Caspian)

**2010.** **Apr.** Completed the third oil stockpiling plan (Opened office in Seosan with total stockpiling capacity of 146 million barrels)
**Sept.** Acquired UK-based Dana

**2011.** **Mar.** Acquired Altius of Kazakhstan
**Apr.** Acquired Anadarko assets in the U.S. (Founded & invested in KNOC Eagle Ford Corporation)
**Dec.** Launched the 'Economical gas Station' business (Opened first station)

**2012.** **Jun.** acquired EP Energy assets in the U.S.
**Dec.** The Korea National Oil Corporation Act amended (Increased statutory capital from KRW 10 → 13 tril)

**2013.** **Jun.** Completed storage facilities in Yeosu for the Northeast Asia Oil Hub Project (Founded & invested in OKYC)

### 2020's

**2014.** **Jan.** Launched a joint venture called Korea Energy Terminal for the Northeast Asia Oil Hub Ulsan North Port Project (currently, KET)
**Nov.** Completed the Ulsan office building and relocated the head office (Anyang, Gyeonggi province → Ulsan city); began the fourth (2014~2025) oil stockpiling plan

**2016.** **Jul.** Began gas production in Donghae-2 gas field

**2018.** **Sept.** Began oil production from Canada's Black Gold Project (Oil sand)

**2019.** **Jul.** Began oil production in UAE Haliba field (Al Dhafra project)

**2020.** **Apr.** Participated in the UAE ADNOC Onshore oil production block

**2021.** **Oct.** Completed construction of an underground stockpiling base in Ulsan

## E&P Business

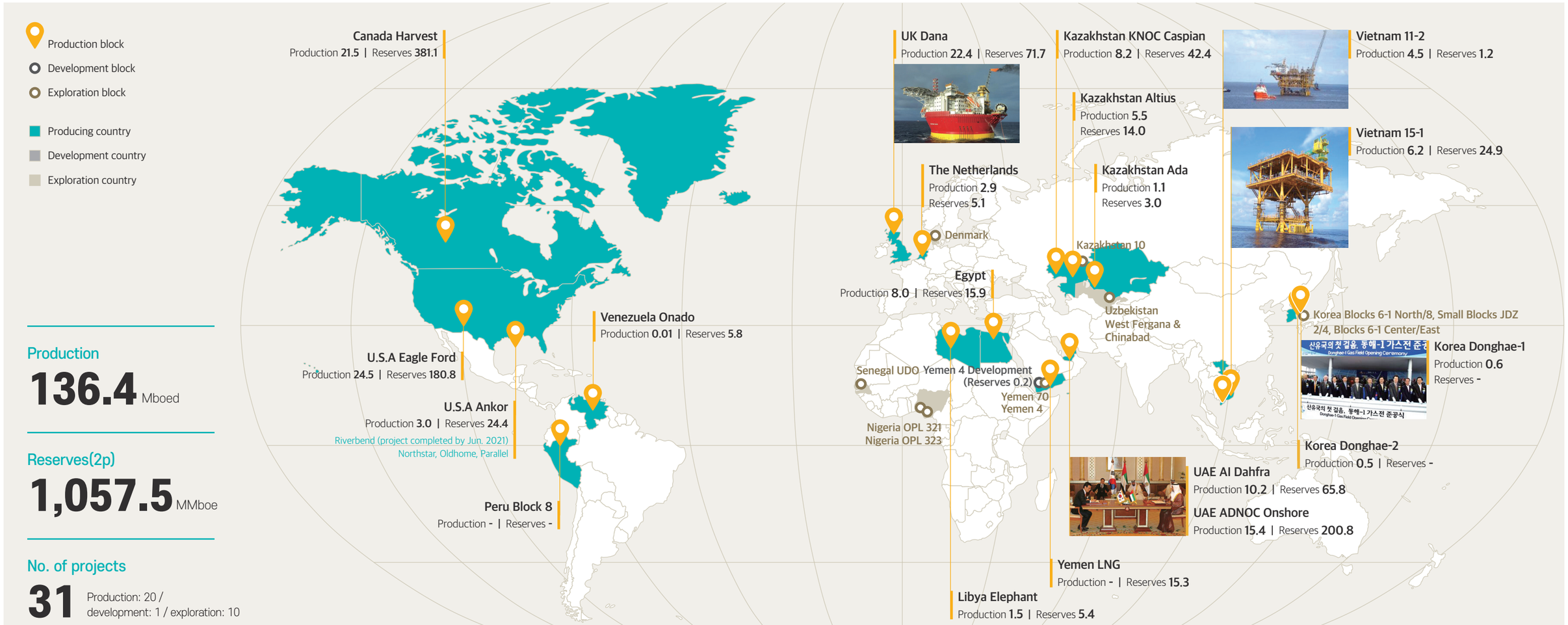
### Domestic E&P

In 1998, KNOC discovered economical gas reservoir in the offshore Ulsan and finally won the title as 'an oil-producing company' by successfully developing the Donghae gas field. Since then, the company has acquired the exploration rights to central and eastern blocks 6-1 in 2020 and performed the exploration drilling in 2021. KNOC is striving to become a world-renowned state oil company by continuously expanding in the global market based on the trust of the people.

### Overseas E&P

KNOC has been actively participating in overseas oil field development to provide a stable supply of oil to Korea. As of the end of 2021, we have secured oil reserves of 1.6 billion barrels by participating in 31 (including 5 in the country) E&P projects in 17 countries and are producing an average volume of approximately 136,000 barrels. We have expanded our oil reserves and oil production through successful exploration and acquisition of overseas assets for several years and established a long-term foundation for growth by securing bases in the Middle East, North America, Europe, and Central Asia. KNOC has also advanced into major regions by enhancing international recognition and expanding our cooperation with global players. Based on numerous success cases starting from the discovery of large-scale crude oil in Block 15-1(Vietnam) in 2000 to the discovery of a gas field in 'Tolmount' in the UK's North Sea, and the commencement of crude oil production in the UAE Haliba oil field, we are striving to expand our global footprints in overseas with a sense of mission to guard the security of the national stockpile reserves.

**KNOC E&P Business Status** (Share of the KNOC as of the end of 2021)




**Production**
**136.4** Mboed

**Reserves(2p)**
**1,057.5** MMboe

**No. of projects**
**31** Production: 20 / development: 1 / exploration: 10

## Oil stockfiling business

### Oil stockpiling

Since its foundation in 1979, KNOC has implemented the national oil stockpiling project and secured oil reserves of 98 million barrels at stockpiling facilities with a capacity of 146 million barrels as of the end of 2021. Moreover, in the event when supply-chain disruption occurs in domestic oil refinery companies, we provide pivotal support at the right time and contributes to stabilizing domestic oil supply and to prices. Notably, during the Gulf War in 1991, Hurricane Katrina in 2005, and the Libya Crisis in 2011, KNOC released its oil reserves. And in recent times, we released our oil reserves to ease the high oil prices and instability of supply and demand due to the Russia-Urkraine war, contributing to the balance of domestic oil supply and demand as well as improving Korea's international balance of payments.

**Oil stockpiling status**

(As of the end of 2021, Unit: mil barrels)

Stockpiling bases

**9** bases

Facility capacity

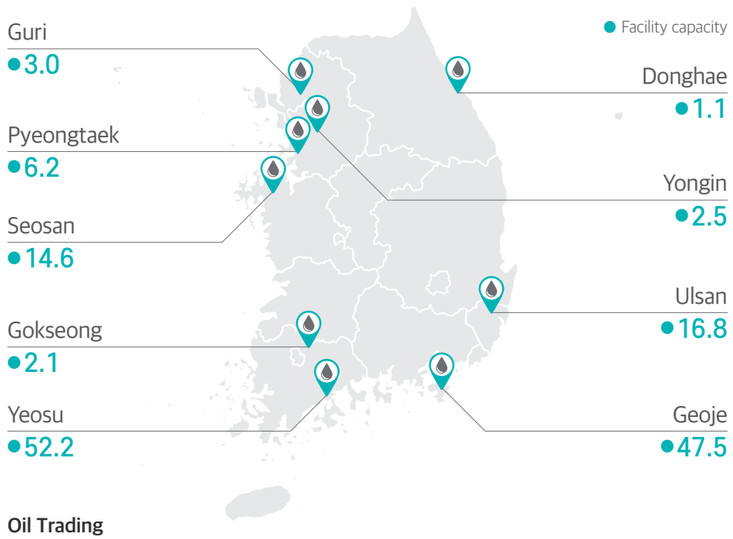
**146** mil barrels

Stockpiling capacity

**98** mil barrels

International Energy Agency (IEA) basis

Oil reserve equivalent to net imports that can last for **107** days




### Oil Trading

KNOC is actively engaging in the oil trading business using oil reserves. We are trading crude oil, oil products, and LPG utilizing the price volatility in the international oil market. Also, KNOC is utilizing the profits from these transactions as financial resources for increasing oil reserves, and operating an international joint stockpiling business by leasing available spaces to oil-producing countries or trading companies storing their crude oil and products. We are also leasing oil reserves and facilities by providing timely support to private enterprises including domestic refiners to prevent imbalances in domestic oil supply and demand.

### Energy Hub

KNOC is playing a leading role in the Northeast Asia Energy Hub project, so that Korea can become the hub of oil & gas logistics & trading and financial transactions. In Yeosu, we are operating facilities at a scale of 8.2 million barrels, and in Ulsan, the north port project is well-underway to build a commercial tank terminal at a scale of a total of 4.4 million barrels. For the south port project, KNOC plans to set the agenda of a new business and set up business models after conducting feasibility surveys. Once the energy hub is created, it is forecasted that numerous jobs will be created by not only attracting new businesses such as trading, logistics services, and financial businesses, but also developing the oil and LPG related industries and stabilizing oil supply and demand.





## Improvement of oil distribution structure

### Economical Gas Station

KNOC is supplying oil products at a more affordable price to consumers by improving the oil product distribution system, and is contributing to stabilizing the domestic oil prices and lowering the cost of energy for the Korean public. Economical gas stations were rolled out with the first gas station in 2011, with 1,266 stations being currently operated as of the end of 2021. These gas stations are supplying oil products at a price of KRW 30 ~~WON~~ cheaper per liter than nationwide gas stations (compared to the average price of typical domestic gas stations).





### Opinet (www.opinet.co.kr)

KNOC has been enhancing the convenience of the people by operating Opinet, a real-time oil price information service, which discloses the oil price information of approximately 11,000 gas stations and over 1,900 LPG charging stations nationwide. By providing oil price information through various media such as internet portals and automotive GPS in partnership with private enterprises, a daily average of 380,000 people are using the oil price information we provide.

### Petronet (www.petronet.co.kr)

KNOC has operated Petronet, the only comprehensive oil information network in Korea. Petronet provides domestic and overseas oil prices, domestic oil supply and demand statistics and trend, E&P trend, and oil market analysis reports to the Korean public, government agencies, research institutions, and private enterprises. With this service, the government's oil policy, academic research activities, and improvement of convenience to the Korean public is advanced even further.






## Low-carbon new energy business

### Hydrogen energy business

KNOC intends to consolidate the foundation of the hydrogen economy through the establishment of hydrogen·ammonia supply chain & infrastructure and lead the promotion of the hydrogen industry. In order to achieve the goal, KNOC is scheduled to establish a stable supply chain by securing overseas suppliers and production base through the active use of a petroleum network. Furthermore, KNOC plans to construct domestic hydrogen·ammonia infrastructure (terminal and stockpiling base, etc.) by making the best use of the capabilities in petroleum stockpiling·distribution.

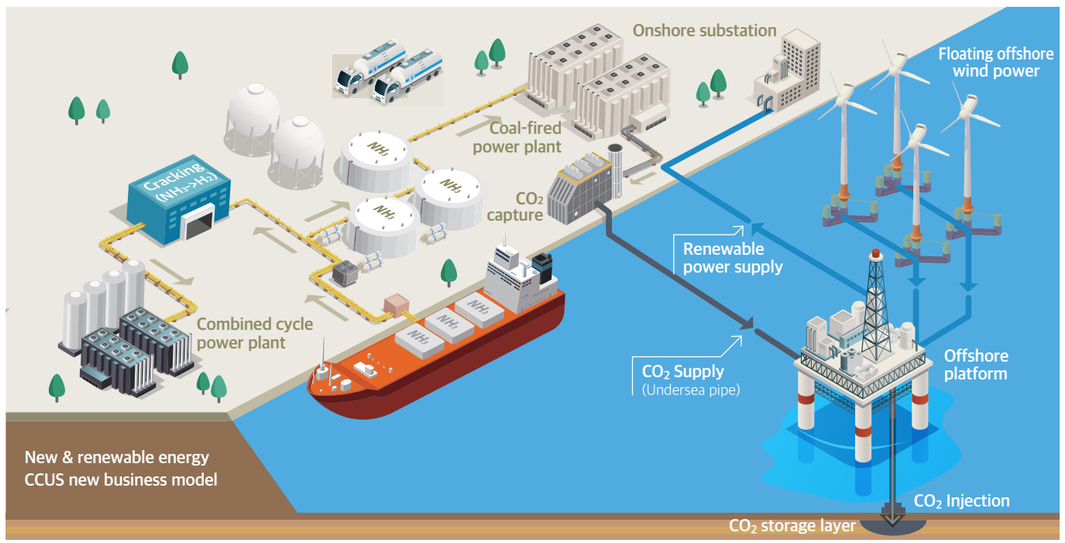
### CCUS business

KNOC aims to lead the construction and operation of domestic carbon storage facilities. While carrying out the CCUS* business, which captures and stores carbon dioxide, the main culprit of climate change, the company will reuse the production fields and offshore facilities of the Donghae gas field that has ended its production as of the end of 2021. KNOC is planning to build a mid-size injection demonstration facility in 2023-2025 after going through a feasibility study and inject 400,000 tons of $CO_2$ per year from 2026. And the company will push ahead with the expansion and commercialization of storage facilities to conduct a large-scale phase 1 demonstration of $CO_2$ injection in 2029.

* CCUS : Carbon Capture Utilization and Storage

### Floating offshore wind farm project

KNOC is leading the way with the first-ever floating offshore wind farm project in Korea to generate power by 2026. This is a project to generate eco-friendly energy by reusing the platform of the Donghae gas field which ceased production in 2021. It is expected to also reap the effect of vitalizing the marine-related industry such as domestic shipbuilding, equipment manufacturing, etc. This project passed the government's preliminary feasibility study in May 2021. Thus, KNOC is planning to create a 200MW floating offshore wind farm by 2025 and commence commercial operation in 2026.








# ESG Management Strategy

## Global Initiative Support & Business Agreement

KNOC has been complying with the ten major principles regarding human rights, labor, environment, and anti-corruption after joining the UN Global Compact. Furthermore, we are taking steps in leaps and bounds toward major goals in various areas such as health care, education, women, social system, poverty, environment, resources, economic growth, and mutual partnerships by actively reflecting the major issues of the 17 SDGs in its management activities, focusing on the balanced pursuit of the economy, society, and environment. Moreover, KNOC is actively gearing up ESG management by entering into business agreements with other organizations such as the Korea Environment Corporation.

### KNOC's declaration in support of SDGs




## Declaration in Support of TCFD Guidelines

With climate change emerging as a global issue, the Financial Stability Board (FSB), an international finance organization, has established the Task Force on Climate-Related Financial Disclosure (TCFD) that can reflect a company's climate-related risks into the economic decision-making process of financial investors and stakeholders upon request by the G20. TCFD has presented the global standard for disclosing climate-related financial information. As such, KNOC has prepared the foundation for carbon neutrality by participating as a member of the TCFD to lead the ESG management system and adopting the recommendations of the TCFD.

### Major details of KNOC's response to TCFD Guidelines

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

| Governance | Strategy | Risk Management | Quantitative Indexes & Reduction Goals |
|---|---|---|---|
| Organization's governance structure regarding climate change-related risks & opportunities | Effect of climate-related risks & opportunities on an organization's business, strategy, & financial plan | Method of identifying, assessing, and managing climate change-related risks | Indexes & reduction goals used in assessing and managing climate change-related risks & opportunities |
| **ESG organization & division of roles** | **Establishment of ESG management implementation system** | **Climate change risk management** | **Establishment of KNOC's environmental preservation plan** |
| Introduction of ESG management; establishment of ESG Committee in Nov. 2021 | Practice of "Challenge Green 7" Tasks by ESG area & performance management | Setting of 3 major strategic agendas Promotion of 8 tasks | Fostering of new carbon neutral businesses<br>Pushing ahead with CCS project using oil exploration technologies |

## KNOC Challenge Green 7

KNOC is growing robustly into a company establishing and implementing our ESG management system to create shared values and fulfill our social responsibilities in tandem. Especially, to take steps in leaps and bounds through ESG management at a company-wide level, we have applied a budget of 4.7 trillion KRW, selected detailed tasks by selecting 'Challenge Green 7" areas, improving the awareness of stakeholders, and encouraging participation in practicing ESG management in every area.

**Challenge Green 7**

| | E | | | S | | | G |
|---|---|---|---|---|---|---|---|
| | Green Again | | | Green Together | | | Green Lens |
| Areas | Green Business | Green Activity | Green Building | Green Job | Green Education | Green Support | Green Governance |
| Detailed tasks | Offshore wind farm project<br>CCUS project<br>Ammonia business | Environmental cleanup activities<br>Using environmental products<br>Low-pollution activities | Expanding eco-friendly energy<br>Operating eco-friendly stairs<br>Improvement of air quality | Using the local environment<br>Using idle sites<br>Recycling of waste resources | HR development support<br>Safe tour of business sites<br>Eco-friendly education support | Support energy efficiency<br>Supporting green companies<br>Discovering eco-friendly businesses<br>Safe management of business sites<br>Sharing of safety know-how | Expand participation in management<br>Transparency of Board of Directors<br>Integrity & Ethics campaign |
| Competent dept. | ESG Dept.<br>Petroleum Stockpile Management Dept.<br>Stockpile | General Affairs Dept.<br>Domestic Product Supply Dept.<br>Health, Safety, Security and Environment Dept. | General Affairs Dept.<br>Stockpile Site | General Affairs Dept.<br>Stockpile Site | Human Resources Dept.<br>General Affairs Dept.<br>Stockpile Site, etc | General Affairs Dept.<br>Energy Infra Business Dept<br>Stockpile Site, etc. | Corporate Planning and Budget Dept.<br>Internal Audit Dept,<br>Legal Team, etc. |

## Strengthened Disclosure of ESG Management

KNOC is focusing on transparent information disclosure to fulfill the expectations of the people as a public corporation. To become a public corporation that people trust, we strengthened our information disclosure of ESG management through the ALIO, website and sustainability report, KNOC will be revitalized as a substantial public corporation by improving communication strategy, expanding the direct participation of the people, strengthening policy cooperation in new growth, ESG, etc., and diversifying direct and indirect communication channels.

**Expansion of ALIO ESG Management Disclosure Items**

| Area | Item | Detailed item | Disclosure frequency | Importance |
|---|---|---|---|---|
| E | 12. Environmental protection | 12-1. Greenhouse gas reduction | Annual | Periodic(other) |
| | | 12-2. Energy consumption | Annual | Periodic(other) |
| | | 12-3. Waste amount | Annual | Periodic(other) |
| | | 12-4. Water usage | Annual | Periodic(other) |
| | | 12-5. Environmental regulation violation | Frequent | Frequent |
| | | 12-6. Low emission vehicle status | Annual | Periodic(other) |
| | | 12-7. Green product purchase | Annual | Periodic(other) |
| S | 14. Human Rights Management | 14. Human Rights Management | Annual | Periodic(other) |
| | 36. Partnership growth evaluation | 36. Partnership growth evaluation | Annual | Periodic(other) |
| G | 37. Integrity evaluation | 37. Integrity evaluation ~~result~~ | Annual | Periodic(other) |





# Communication with Stakeholders

## Definition of Stakeholders & Communication Channels

KNOC is making every effort to share values and grow together with our stakeholders by encouraging them to participate in overall management of business. In 2021, the company has newly defined stakeholders in line with changes in mid-to-long term management strategies in response to the carbon neutrality era, and strengthened communication channels according to strategies for each stakeholder. We will become a leading global energy corporation in energy security and carbon neutrality to meet the expectations of our stakeholders.

**KNOC's Definition of Stakeholders & Communication Channels**

| Classification | Public participation type | Policy(business) cooperative type | CEO led type |
|---|---|---|---|
| Stakeholders | • People, local community | • Government, local government, related organizations | • Employees, labor union |
| Characteristic | • Expects coexistence with local community & public institution's realization of social values<br>• Interested in issues relevant to everyday life | • Holds administrative power, technical skills for realizing policy(project)<br>• Expects innovative growth of public institutions & improvement of economic vitality | • Expects unity of organization by communicating and sharing visions:<br>• Diversification of employees age & class |
| Communication direction | • Expand results that people can feel;<br>• Expansion of participant's role;<br>• Contribution to local community | • Operate permanent consultative group for each business;<br>• Form consensus on business innovation;<br>• Create social values & expand shared growth | • Genuine communication and forming of consensus;<br>• Gather various opinions by social class;<br>• Efficient spread of management philosophy & vision |
| Major channels | • Surveys, voting, social media, contests | • Policy forums, seminars, consultative group, meetings | • Campaign, online & offline communication program |

## Stakeholder Communication Strategy & Major Details

KNOC has classified the communication strategy for each stakeholder into 'expansion of people's direct participation,' 'strengthening policy cooperation in new growth, ESG, etc.', and 'diversification of direct/ indirect communication channels,' and communicated them accordingly. The company improved the existing 14 communication methods, and actively reflected stakeholders' opinions by adopting 12 new communication methods.

**Stakeholder communication strategy & outcome (2021)**

| Classification | | Public participation type | Policy(business) cooperative type | CEO led type |
|---|---|---|---|---|
| Communication strategy | | Expansion of people's direct participation | Strengthening policy cooperation in new growth, ESG, etc. | Diversification of direct/indirect communication channels |
| Communication result | New | • Held ESG corporate advertisement poster contest for the people<br>• Operated integrity event for the public (Recommended & donated children's book on integrity)<br>• Held contest for idea using oil data for the public | • Cooperation for floating offshore wind farm project(Norway Equinor)<br>• Joint study and cooperation on low-carbon hydrogen·ammonia value chain with UAE ADNOC and SK Gas<br>• Cooperated for CCUS project (with SK Innovation)<br>• Launched K-CCUS promotion group for public-private activities<br>• Entered into cooperation and joint participation for K-Testbed | • Opened 'Sympathy & Communication,' an anonymous bulletin board for all employees<br>• Opened 'Voice of KNOC,' a discussion room for each position<br>• Shared CEO philosophy & vision (Report to members)<br>• Program for communication & encouragement between top management-employees (Encourage Day, Casual Tea Time) |
| | Continuance & improvement | • Extended arrangement & operation of advisory group<br>• Held community meeting of fishermen regarding floating offshore wind farm project<br>• Fostered local talent(College student internship, high school open school)<br>• UCC contest for Economical gas station<br>• Operated KNOC SNS channels including Youtube, blog, and citizen supporters | • Operated corporate growth response center and win-win cooperation hall for SMBs(Free support of e-learning education, support of smart factory construction cost)<br>• Operated integrity workshop in association with Ulsan public institution and Ulsan private-public integrity consultative group(year-round)<br>• Jointly hosted public forum for social values of Ulsan public institution<br>• Integrity civil auditor meeting (year-round) | • Shared CEO philosophy & vision (Listening to the CEO, town hall meeting, reader's message, Issue & Interview)<br>• Communication & encouragement program between top management and employees (Encouragement Day)<br>• Contest for practical item of ESG management<br>• Integrity campaign & pledge of integrity<br>• Corporate culture campaign for work innovation (year-round) |

# Interview with Stakeholders



"The company will need the strong resolve and commitment of the internal organization and the earnest efforts of the top management to plan and forge ahead with a long-term plan that never falters due to national policy and political influence for the sustainable growth of the organization."

#Carbon neutrality
#New & renewable energy



Equinor South Korea
Director **Kim Seong-eun**

I think KNOC needs to develop a business for carbon neutrality more actively as a leading public corporation in Korea's energy industry. We are currently carrying out joint development of the Donghae-1 floating offshore wind farm in association with KNOC and in discussion to prepare the licensing of the wind farm by recently signing an agreement of cooperative development. I believe the offshore wind farm development we are currently participating in will be the stepping stone that can express our commitment to Korea's carbon neutrality to the entire world as changes are sought in phase with the shift in energy paradigm by heeding the importance of the oil and gas business environment and confronting environmental issues. As the transition to new & renewable energy for carbon neutrality is a growing major issue for each country and company, changing the energy policy will be essential for our survival. For KNOC, expanding its portfolio from its existing oil and gas E&P to new & renewable energy is now a top priority. Even though the development of businesses for carbon neutrality such as offshore wind power and CCUS through long-term investments in renewable business development is important, KNOC is in a vulnerable position from a political sense unlike public organizations in other countries. Due to this, I think it tends to emphasize a political stance to its business approach rather than financial soundness or business integrity. I think there is a need for the company to maintain a distance from a political stance by securing financial soundness based on profit generation. The future of KNOC seems bright as it aims to affirm and actively improve ESG for environmental and social responsibilities as a public energy development corporation representing South Korea. However, I think there needs to be a strong will of internal organizations and efforts from top management that plans and forges ahead with a long-term plan uncompromised by national policies and political influence.

"KNOC is contributing oil supply and demand stabilization and price stability through oil distribution business. If it shows more openness during the period of energy transition like today as a public energy corporation with tradition, I think it will give a more positive image about the corporation to the people."

#Energy transition
#Role expansion



KEEI
(Korea Energy Economics Institute)
Energy Industry Research Group
Director **Jeong Jun-hwan**

The most important issue raised in recent times is that KNOC is expanding and transitioning its role from a management structure centered around the oil business in the past to new businesses as South Korea establishes and promotes an energy transitioning policy. The new businesses KNOC needs to be in charge of seem to be areas conforming to ESG management which is in place as a new trend of business management. I believe the company is exerting efforts to set goals and prepare promotion methods for the new businesses. Among the roles of KNOC, I think the corporation has a competitive edge in enhancing social values for stabilizing the everyday life of the people by contributing to the stabilization of the oil supply and demand and gas prices through its oil stockpiling and distribution. However, due to its nature as a public corporation controlled by the government, I think the fact that its management decisions are made under greater influence from the government's policy agenda than from conforming to ESG is a drawback. I am aware that KNOC is conducting research on various new businesses and hard at work to diversify its business portfolio to enhance its corporate and social values for the long term. I think the company should adjust its existing business areas and secure human resources and material resources to be used in preparing a new growth engine in order to pioneer a new business area. I hope KNOC will grow into Korea's representative public corporation leading our energy industry by selecting necessary areas and engaging in efforts to concentrate its resources with a long-term outlook.





"I believe the level of completion of ESG management will be enhanced when KNOC's vision and values are shared by introducing new & renewable energy, thus forming the foundation of carbon neutrality and engaging in social contribution activities at the local level."

#Eco-friendly
#Social contributions



Ulsan City Community
Rehabilitation Center
Director **In Sang-hyeon**

In early 2021, the person in charge of the company's social contribution paid us a visit and said, "We want to ask you for your suggestion on how our corporation should plan and carry out social contribution activities this year." The person in-charge sincerely asked about business details and methods corresponding to the company's vision and business direction, and stated the commitment that the company planned to execute a budget with an appropriate business. Normally, social welfare organizations receiving corporate support must usually unilaterally adapt to a company's support plan, but it was very impressive to see that the person acknowledged the expertise of the social welfare organization with a genuine attitude and thought hard about the company's business together. KNOC is a public corporation responsible for stabilizing the life of the people and the industry as a whole by producing and securing a stable supply of energy. I hope it becomes a leading company assuming the pivotal role of providing the energy source of the local community worthy of its mission of being in charge of energy, which is at the core of our everyday life. In particular, I wish it provides an energy source needed by vulnerable social classes still suffering hardship due to a lack of social infrastructure, despite the fact that it is time to take the next step to usher in a future society.

"To become a company practicing ESG management, I think it is important to cement the employment stability of the company's employees, respect their diversity, and guarantee equal opportunity for participation."

#Win-win cooperation
#Labor-management culture



KNOC Labor Union
18th union president
**Park Dong-sub**

KNOC is a specialized oil company that conducts oil stockpiling and oil distribution business in Korea and E&P business abroad. Having both domestic and overseas business make it conservative yet dynamic in nature. Recently, we are cooperating with domestic and foreign companies in the field of CCUS, wind power, hydrogen and ammonia, etc. to discover new growth engines along with activities to achieve 2050 carbon neutrality goal. I think the most important factor that KNOC should consider to enhance the long-term corporate values and realize social values as a company practicing ESG management is to continuously create a harmonious labor-management culture. The labor director system of the new government is a system needed for the continuous growth and existence of the company. These directors can not only check and monitor the top management including the CEO and support reasonable decision-making but also serve as advisors for win-win cooperation. To become a company proactively adopting ESG management, I think establishing harmonious labor & management relations is very important, and it will be evident from the work performance of each member. Therefore, the top management must continuously explain why the members must work to practice ESG management and exert earnest efforts into labor and management relations.

"It will be important for the company to share ESG management details with major economical gas station owners and play a role to be helpful for the people."

#Customer satisfaction
#Fair trade



Economical gas station
association Vice-chair
**Lee Deok-gyu**

I am currently receiving oil products through a contract with KNOC as a independent gas station business owner of an economical gas station. The government is making every effort to stabilize prices as high oil prices are maintained in recent times. As a business owner of an economical gas station, what I remember the most about KNOC was when it actively participated in the government's policy to cut down on oil taxes. I think the company encouraging economical gas stations to install vapor recovery systems as a part of the recent eco-friendly business policy is very meaningful. Although KNOC is a public corporation, it has a young and smart vibe to it. And for instance, it is showing its positive aspect in pursuing public interest, such as trying to stabilize commodity prices for ordinary people. If possible, I think it would be nice if the company can invest more and allocate a greater budget in eco-friendly policies and energy transition, while carrying out new & renewable energy projects and maintaining close communication with gas station owners. Of course, it is important for economical gas station owners to understand ESG management the corporation is forging ahead with. Our union promises to continue to share ESG management details of the company with individual economical gas station owners and work hard to help the people.

# Materiality Assessment

KNOC is pursuing sustainable growth by extensively reflecting issues from the aspect of the environment, society, and governance in all operations of the company. KNOC has selected the key issues of ESG management according to the materiality assessment method recommended by GRI and ISO 26000 to select more important issues, focus on managing and reporting them to its stakeholders.

## Materiality Assessment Process

KNOC has conducted internal and external factor analysis and materiality assessment based on sustainability context, materiality, integrity principles, and stakeholder participation presented in the GRI, an international reporting standard, so as to identify material issues in ESG management.

### STEP1
Identification

**Sustainability Context** | Benchmarking | Media data analysis

- Derive perspectives having an effect on the organization's management activities & the stakeholders' decision-making in accordance with sustainability context and stakeholder participation;
- Identify impacts occurring in & outside the boundaries of the organization as well as other related issues

### STEP2
Prioritization

**Materiality** | Materiality assessment (relevance assessment, significance assessment)

- Assess the priority on how important the perspective and related issues are in accordance with materiality principle & stakeholders' participation;
- Significance assessment in terms of the environment, society, governance, & economy

### STEP3
Validation

**Completeness** | Verification of suitability of scope, boundary, period

- Apply important perspective to report content in accordance with the completeness principle & stakeholders' participation.
  - Organize important perspectives to standard disclosure. (MA & performance indexes)

REPORT

### STEP4
Review

**Sustainability Context** | **Stakeholders' participation**

- Review the report published in accordance with sustainability context and stakeholders' participation;
- Apply review results when future reports are published.

### Benchmarking

KNOC has analyzed the sustainable performance based on GRI reporting principles and the sustainability reports of companies having an excellent track record in ESG management among domestic and overseas companies. Through this analysis, KNOC identified additional issues that must be responded to and carried out.

### Media analysis

KNOC identified related issues by analyzing news articles from January 2020 to December 2021 to objectively identify the public perception and opinion on the major issues of the company's ESG management.

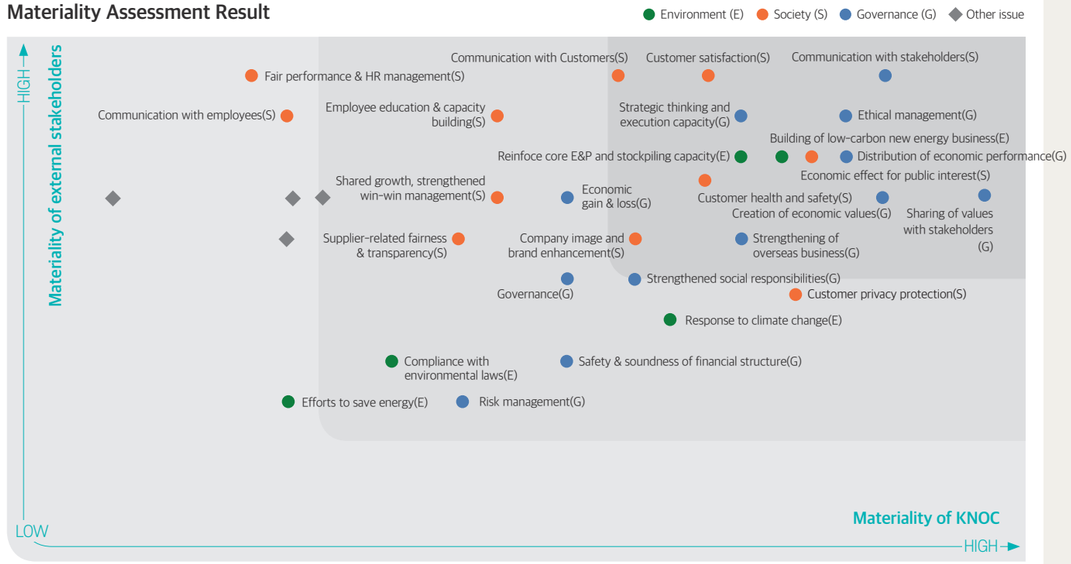
### Interview with Major Stakeholders

KNOC has conducted interviews on the company's major stakeholder group defined according to the flow of value creation. Interviewees consisted of internal and external stakeholders that represent the relevant group. And their recommendations and shared values were identified more closely and reflected on key issues.

### Survey on Stakeholders

Surveys were conducted on a group of stakeholders, comprising employees, customers, suppliers, and the local community by considering the legal, financial, and operational responsibilities and effects on KNOC's business management. KNOC's ESG management issues viewed by these stakeholders were derived and reflected in the materiality assessment.

### Materiality Assessment Result




| Material issues | Material issues | Material issues | Material issues |
|---|---|---|---|
| 1 Communication with stakeholders(S) | 8 Communication with Customers(S) | 15 Employee education & capacity building(S) | 22 Supplier-related fairness & transparency(S) |
| 2 Ethical management(G) | 9 Building of low-carbon new energy business(E) | 16 Communication with employees(S) | 23 Governance(G) |
| 3 Distribution of economic performance(G) | 10 Reinfoce core E&P and stockpiling capacity(E) | 17 Fair performance & HR management(S) | 24 Compliance with environmental laws(E) |
| 4 Sharing of values with stakeholders(G) | 11 Customer health and safety(S) | 18 Company image and brand enhancement(S) | 25 Risk management(G) |
| 5 Creation of economic values(G) | 12 Customer privacy protection(S) | 19 Strengthening of overseas business(G) | 26 Safety & soundness of financial structure(G) |
| 6 Strategic thinking and execution capacity(G) | 13 Shared growth, strengthened win-win management(S) | 20 Strengthened social responsibilities(G) | 27 Efforts to save energy(E) |
| 7 Customer satisfaction(S) | 14 Economic effect for public interest(S) | 21 Response to climate change(E) | 28 Economic gain & loss(G) |

# BETTER ENERGY

We will secure energy security and new growth engines.

**28**
Stable E&P

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Improvement of Transparent Oil Distribution Structure

# Stable E&P

## E&P Business Promotion System

The goal of the E&P business is to strengthen national energy security through the strategic oil development and new energy businesses. It is classified into the oil development & production business and the business for securing future growth engines: The former aims to maximize the value of the production business, strengthen new business technologies, and secure oil resources at home and abroad to as to ensure resource security. Meanwhile, the business for securing future growth engines aims to create growth engines by pushing ahead with new business areas such as offshore wind power, hydrogen·ammonia, and CCUS that can contribute to carbon neutrality.

**Oil Development Business Promotion System**

| | | |
|---|---|---|
| Goal | Strengthen national energy security via the strategic development of oil and carbon neutral new energy business | |
| Resource Distribution | Manpower 382(43.5%) / Cost KRW 1,780.6 bil.(83%) | Policy priority 50% / Social value 30% |
| Target business | E&P business | Future growth engine securing project (ESG) |
| Execution tasks | • Maximize profitability by enhancing operational efficiency and production.<br>• Enhance the portfolio via optimum business decision-making.<br>• Strengthen technology to carry out the oil development business & new businesses.<br>• Strengthen resource security by increasing domestic crude oil introduction rate in the event of an emergency, and by securing new blocks. | • Actively execute the carbon neutrality policy by pushing ahead with CCUS business.<br>• Secure future growth engines by promoting new wind power & ammonia (hydrogen) businesses.<br>• Strengthen social role by private-public sector cooperation and safety management.<br>• ESG internalization with governance improvement |

**Process for enhancing operational efficiency by business**

Review subject

- Review areas for improvement of 11 domestic/overseas business subjects.

Set up profit increasing & cost saving plan

| Profit ⇧ | Cost ⇩ |
|---|---|
| Apply production increasing technology, Strengthen marketing, etc. **4 businesses** | Contract improvement, Work process optimization, etc. **3 companies** |

Implementation, Monitoring, Sharing

- Total profit & expense results.
- Share excellent results in company.

## Improving competitiveness by enhancing operational efficiency and increasing production

KNOC is reviewing such measures as applying techniques aimed at increasing production in order to increase profits, minimizing suspensions of production, extending the production of oil wells about to be shut down and resuming the production of suspended oil wells, strengthening marketing activities, and improving sales conditions. The company is strengthening the profitability of each business, including cost savings by reducing the commission fees on existing contracts, blanket contract-price discount negotiations, discovery of maintenance cost-saving elements, etc. In addition, as the profitability of oil production and sales declined when oil prices dropped due to COVID-19, the company increased surplus funds by enhancing the operational efficiency of each overseas subsidiary, and increased the retrieval of head office investments with other additional retrievals. In addition to these efforts, KNOC has maximized business values by increasing the production of the Su Tu Trang 2A gas field of block 15-1 (Vietnam), and increased production with the development in connection to customized technology designed to increase the production of each block.

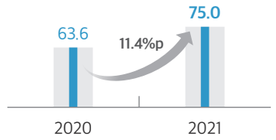
## Enhancing the quality of the portfolio via optimal decision-making at each business stage

KNOC is improving management conditions by establishing and applying a reasonable decision-making process by business stage. The company has enhanced the quality of its business portfolio by analyzing the status of each business stage, such as adding new businesses, strengthening the profitability of owned businesses, and selling non-core assets, as well as deriving and applying decision-making measures. In particular, KNOC has enhanced the operability of business management funds by selecting the target of a new business, and is working hard to improve business management by preventing additional losses by clarifying the criteria for selecting a sales target and selling targeted sector.





**Importable Oil percentage of total production in an emergency** (Unit: %)




**Direction of technology strategy & major tasks**

| | | | | |
|---|---|---|---|---|
| Technology strategy direction | Secure oil (and gas) security volume | Maximize corporate value | Establish a sustainable portfolio | Realize carbon neutrality |
| Technology strategy tasks | • Secure additional domestically introducible exploration/ development assets | • Strengthen business value of owned blocks<br>• Process innovation | • Secure additional reserves<br>• Discover new growth engines | • CCUS<br>• Eco-friendly energy |

## Strengthening technology & resource security

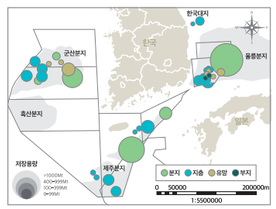
KNOC has prepared measures to strengthen its technology by establishing an E&P and new business technology roadmap. The company has enhanced its corporate value by securing competitive technologies and developing a future growth engine, and presented the direction for securing a technical edge through carbon neutral core technology at the same time. Furthermore, as oil price fluctuations are occurring more frequently and the supply and demand of stable energy is becoming increasingly important due to the international situation and economic conditions, the company has improved the domestic crude oil introduction rate and is contributing to securing national energy security by strengthening the foundation for crude oil introduction.



Cooperation for techonology development of offshore wind power facilty transportation and installation.



UAE-KOREA Joint Study Agreement on hydrogen·ammonia value chain




Size of domestic $CO_2$ marine reserves

## Execution of the carbon neutrality policy

KNOC is striving to contribute to achieving the goal of 40% NDC* and securing future growth engines by 2030 through the development of CCUS technology, floating offshore wind power, and new hydrogen·ammonia business. In particular, the company has prepared the $CO_2$ storage capacity assessment, developed the business model, and acquired the infrastructure needed to execute its business by pushing ahead with CCUS integrated demonstration project, utilizing the Donghae gas field, which ceased production in 2021. Moreover, KNOC has prepared the starting point for regional win-win cooperation by constantly communicating with local governments and fishermen in a bid to push forward the floating offshore wind farm project, and is actively participating in the government's policy for vitalizing the hydrogen economy.

* NDC (Nationally Determined Contributions): Refers to the GHG reduction target of a country which aims to reduce its GHG emissions by 40% compared to 2018.

## Strengthening of social roles and improvement of oil development business governance

The E&P business is experiencing difficulties due to a slump in private company investment in the development of overseas resources. The new eco-friendly business is still in its infancy, making it urgently necessary to foster the related technology. As such, KNOC has established a private-public win-win cooperation system to share business information and discover private-public cooperation models, and is also preparing a technology support system. Furthermore, the company is steadily improving the efficiency and transparency of the business by applying systematic asset management and applying it to each business stage to improve the overall governance of business entry, business management, and asset disposal.

# Reliable Oil Reserve Security

## Oil Stockpiling Business Promotion System

The uncertainty of the oil market is intensifying due to the recent hike of international oil prices and the domestic supply and demand crisis, and the response to changes in the energy market, such as “2050 carbon neutrality”, is also changing rapidly. As the importance of safety is growing from the social aspect, KNOC is strengthening its ESG management by reinforcing its crisis response capabilities regarding the operation of stockpiling bases and establishing an integrated oil security system. In addition, the company aims to lay solid foundations for continuous growth by easing the people’s burden and improving the profitability of the stockpiling business by securing financial independence in the oil stockpiling sector.

**Oil Stockpiling Business Promotion System**

| | | | | |
|---|---|---|---|---|
| Goal | Realize the safety of the national economy and the sustainable stockpiling business by responding to the oil supply and demand crisis | | | |
| Resource Distribution | Manpower 421(48%) | Cost KRW 339.1 bil.(16%) | Policy priority 35% | Social value 50% |
| Target business | Reliable Oil Stockpiling | | Sustainable oil utilization business | |
| Execution tasks | • Strengthen crisis response ability & establish an integrated oil security system.<br>• Ensure the fast and efficient release of oil reserves.<br>• Ensure a timely response to changes in the energy market and environment.<br>• Strengthen ESG management in the stockpiling sector. | | • Vitalize oil reserve trading and enhance its utilization.<br>• Realize efficient utilization of oil storage facilities.<br>• Discover new businesses & diversify existing businesses.<br>• Make the operation of stockpile sites and stockpiling business more cost efficient. | |

## Establishment of an integrated oil security system

KNOC is economically securing oil reserves despite this era of increasing oil prices by completing the Ulsan underground storage facility and flexibly operating the oil reserve purchasing method. The company has not only prepared for an oil supply and demand emergency by securing 107days’ worth of oil reserves based on the IEA standard by investing its financial resources and analyzing the market, but has also purchased oil at a price that is 1.68 dollars cheaper than that of annual average domestic introduction. Furthermore, KNOC is diversifying the stockpiling concept to strengthen energy security and increase the introducible oil volume in the event of an emergency. The company is actively pushing ahead with the Ulsan North Port Project to develop the Northeast Asia Energy Hub by expanding the stockpiling concept

**Expansion of the stockpiling concept**

| Direct stockpiling | | | Indirect stockpiling | | | Increase of transported volume | | |
|---|---|---|---|---|---|---|---|---|
| Possession of oil reserves | | | Securing preferential purchasing rights | | | Construction of an energy hub | | |
| High<br>Response capability | High<br>Invested cost | Low<br>Flexibility | Medium<br>Response capability | Low<br>Invested cost | High<br>Flexibility | Low<br>Response capability | Low<br>Invested cost | High<br>Flexibility |




International cooperation for releasing oil reserves

## Efficient release of oil reserves and strengthened ESG management in the stockpiling sector

KNOC is participating in international cooperation, such as international energy cooperation, and strengthening Korea-US economic security by playing an active role in the response to the global request to release oil reserves. In addition, the company has adjusted the supply and demand of essential commodities by preventing disruptions in the supply of domestic oil products due to COVID-19, and has also contributed to stabilizing energy prices for ordinary people. Moreover, to actively respond to the changes in the energy market and environment, the company has secured





sustainability by operating an ammonia strategic stockpiling task force, adjusting the stockpiling target in consideration of consumption characteristics, and strengthening ESG management in the stockpiling sector. In particular, the company is exerting every effort to strengthen the safety management system, such as preparing for drone-based terror attacks by building smart stockpile sites to realize oil stockpiling that will relieve the Korean people.

## Efficient utilization of stockpiling facilities and operation of stockpile sites

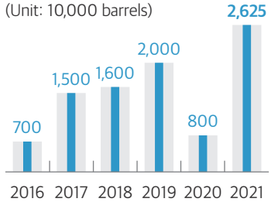
KNOC has attracted new contracts to build storage facilities by ‘promoting businesses customized for overseas customers’, and is strengthening national energy security by pushing ahead with a new joint stockpiling project with Middle Eastern oil-producing countries. Furthermore, the company has enhanced profitability by attracting 5.4 million barrels, the highest contracted volume in the history of the oil utilization business, by relocating oil reserves to secure the business area of the Seosan site. In addition to this, KNOC is improving the operational efficiency of its stockpile sites by substantializing the maintenance of stockpile sites, including improvement of the repair management system of the underground stockpile sites and visualization of the preventive inspection system (EMAS).

**Utilization of project space based on mutual cooperation**

| KNOC | Oil Refinery | Government |
|---|---|---|
| Secured both public benefit and economic feasibility<br>**Public benefit** | Supplemented the shortage of oil reserves.<br>**Economic feasibility** \| Secured profits of KRW 26.2 billion. | Stable operation of inventory<br>Reduced logistics costs through the continued use of KNOC oil tanks. | Contributed to stabilization of crude oil supply & demand<br>Stored crude oil of actual consumers (refineries). |

**Volume of contracted crude oil trading by year for the past 5 years**

(Unit: 10,000 barrels)




## Vitalization of oil reserve trading & enhancement of its utilization

KNOC has actively engaged in trading by identifying a period of rising oil prices after a period of low oil prices due to COVID-19 as an opportunity for increasing trade, and has worked hard to maintain its ability to respond to the supply and demand crisis. As a result, the company has eased the people’s burden by contributing to financial independence in the stockpiling sector, while achieving the highest crude oil trading volume in history (26.3 million barrels) since commencing the trading business. Moreover, the company has exchanged stockpiled crude oil which had previously been stored for a long time (Dubai oil) with a type of oil preferred by the oil refinery industry via the sales and purchasing method, by strengthening the company’s stockpiling ability in line with the changing business environment of the refinery industry.

## Discovery of new businesses and business diversification

Due to the growing need to respond to changes in the oil trading environment in the Asian-Pacific region and develop a trading business less vulnerable to market conditions, KNOC pushed ahead with a new business ~~using~~ utilizing “WTI crude oil.” Furthermore, as a result of actively engaging in overseas trading the company successfully signed a trading agreement for 530,000 barrels. Furthermore, KNOC is contributing to the vitalization of Northeast Asian logistics, and is even cooperating with small and medium businesses, utilizing the Yeosu office which is equipped with ideal port conditions as a leading hub of crude oil distribution.

# Improvement of the Oil Distribution Structure

## System for Distribution Structure Improvement Project

As the uncertainty in the oil market has increased significantly by disruptions in international oil supply and demand and sharp fluctuations in oil prices due to the recent events such as Russo-Ukraine war, stabilizing domestic oil supply and price has become more essential than ever before. Accordingly, KNOC is improving the transparency of the oil distribution market by carrying out the economical gas station business, which aims to stabilize the domestic oil distribution market, and is pushing ahead with the oil information business to alleviate the asymmetry of information.

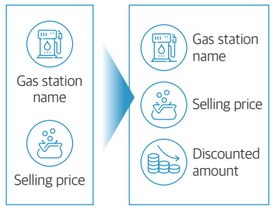



Opinet



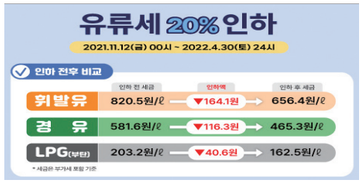

Petronet

**Inducement for early reflection of the oil tax reduction (Service improvement)**




## Enhanced Convenience of Economical Gas Stations

KNOC is making every effort to stabilize the life of ordinary citizens by enabling them to purchase cheap, economical oil by preemptively responding to oil tax reductions. Especially on the day of the oil tax reduction, the corporation made sure that economical gas stations immediately reflected the reduced amount of oil tax. This, in turn, achieved a high discount rate compared to existing oil refinery companies. Furthermore, KNOC is increasing the number of economical gas stations in large cities and making efforts to substantialize them by lowering oil prices and growing with the domestic oil distribution industry.




Information & PR on oil tax reduction




Oil market inspection meeting related to oil tax reduction

## Introduction of ESG Management in Economical Gas Stations

KNOC is expanding the electric car charging station business by using the economical gas station platform to practice eco-friendly management. The company has also launched the economic combined energy station business, starting with the Cheongju Gwanmun and Anseong Nokbakjae gas stations. Based on the price competitiveness of its economical gas stations, KNOC is striving to supply reliable energy to ensure the mobility of future transport modes such as electric cars and to provide a differentiated service to the public.



Oil & Electricity combined energy station




Business agreement for strengthening ESG management

## Stabilization of the market by disclosing oil information and promoting competition

As high oil prices are maintained, the Korean government has temporarily lowered the oil tax to the lowest level in history, while KNOC has supported the government policy using Opinet so that the tax reduction can be reflected in the consumer price. The company has provided details of the oil tax reduction to the public via Opinet pop-up announcements, and has induced business owners to lower prices by displaying the discounted amount with oil prices at their gas stations. By providing policy support, such as checking and reporting the market reflection rate of the tax reduction by monitoring and analyzing daily oil prices since the tax oil reduction took effect, KNOC has contributed to stabilizing domestic commodity prices and improving the everyday life of the general public, as 100% of the oil tax reduction was reflected in stations in just one month.

## Consolidation of the foundation of National Resource Security

As concerns over global resources and unstable energy supply networks are exacerbating, the importance of national resource security is growing. KNOC supports the government's establishment of policies and crisis response activities by monitoring and analyzing domestic and overseas oil prices and supply & demand. Moreover, the company has cemented the foundation for responding to a national oil crisis by developing a manual for responding to crises over the resource security supply network, and it is working hard to improve awareness of energy security by conducting an in-depth analysis of issues.







In-depth analysis of global energy market issues




National resource security supply chain, Crisis response manual

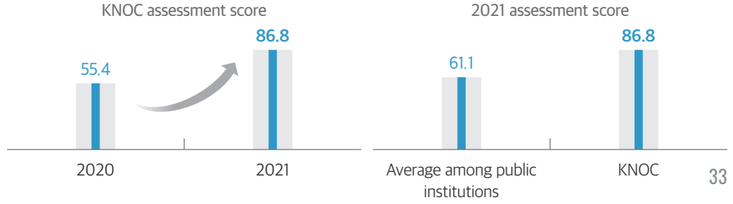



Ideas contest for data utilization

## Improvement of Service Environment and Strengthened Data-based Work System

As the number of Opinet users suddenly increased due to high oil prices and the reduction of oil taxes, a stable platform for running services was required. Thus, KNOC improved the service environment by adding access control solution licenses in preparation for a flood of users, along with measures for monitoring and improving service performance. In addition, the company has reinforced data management and utilization by stepping up announcements of illegal acts, building a data-based work system, and hosting an ideas contest. As a result of these efforts, KNOC has achieved the highest quality grade in national oil statistics for three consecutive years and acquired the highest level of "public data quality control assessment results" among all public institutions.

**Public data quality control assessment results** (Unit: points)



# ENVIRONMENTAL

We will lead the new carbon neutral energy industry.

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Eco-friendly Management System

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New low-carbon energy for the Future

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Eco-friendly Management Thinking about the Earth

## KNOC'S APPROACH

As climate change is intensifying, KNOC is actively practicing carbon neutral activities with a focus on eco-friendly management for sustainable growth. Notably, the company is leading carbon neutrality in the energy sector through CCUS and low-carbon renewable energy. Furthermore, KNOC will continue making concerted efforts to maintain a "sustainable earth" by responding to climate change and minimizing environmental impacts through exploration and stockpiling using Industry 4.0 technologies.



# Eco-friendly Management System

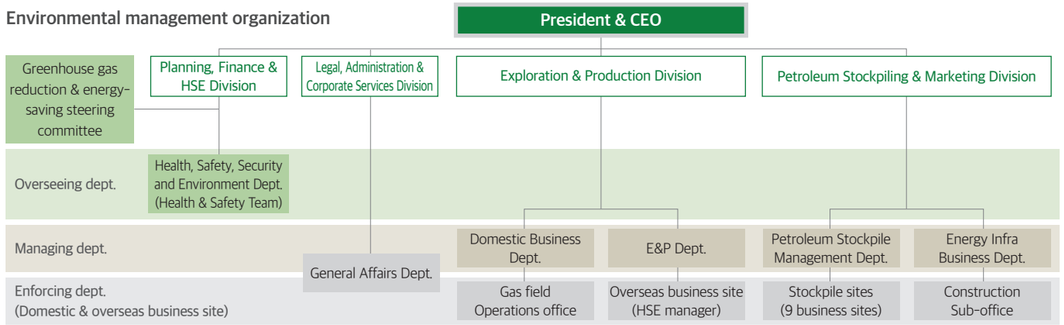
## Eco-friendly Management Strategy

KNOC is managing the environmental management system at all its business sites and exerting efforts to preserve the environment of the surrounding areas through continuous improvement activities. In addition, to minimize the environmental impacts of its management activities, the company conducts an environmental impact assessment in order to predict and analyze negative impacts on the natural environment and local communities when carrying out domestic and overseas E&P businesses and even oil stockpiling construction projects. Accordingly, the company is working tirelessly to reduce environmental hazards.

### Eco-friendly management strategy

| | | | |
|---|---|---|---|
| Goals of the environmental strategy | Implementation of social responsibility through sustainable environmental preservation | | |
| Direction of the environmental strategy | Enhance prevention-centered environmental treatment | Respond flexibly to new climate systems | Improve the environmental management system continuously |
| Tasks of the environmental strategy | • Achieve zero environmental accidents.<br>• Comply with the regulations and strengthen the response.<br>• Enhance on-site environmental management capabilities and level. | • Push ahead with greenhouse gas & energy target management in the public sector.<br>• Implement countermeasures to adapt to climate change.<br>• Develop new & renewable energy. | • Consolidate the eco-friendly system by maintaining the ISO14001:2015 certification of the environmental management system.<br>• Improve environmental performance on a continuous basis |

### Environmental management organization







KNOC has been selected as an "excellent organization in greenhouse gas target management system" for ten consecutive years.

## Response to Climate Change

KNOC was selected as an organization subject to the target management system in the public sector according to the 'Framework Act on Low Carbon, Green Growth' and the 'Guidelines on greenhouse gas & energy target management and operation in the public sector.' The company is actively implementing greenhouse gas reduction and energy-saving measures, has set an annual target to reduce its GHG emissions and is making concerted efforts to achieve the target. The company ensures that the implementation plan is set up so as to achieve its GHG reduction target 100% in all its domestic business sites including the stockpiling bases. Performance - from implementing the reduction target - is analyzed and reported every quarter. KNOC also engages continuously in training programs and workshops on GHG reduction through its climate change response council.

### Climate Change Response System

| | | | |
|---|---|---|---|
| Goal | Live up to the government's eco-friendly policies by making efforts to reduce carbon emissions | | |
| Tasks | Utilize oil assets & technologies | Achieve greenhouse gas reduction | Eco-friendly management |
| | • Utilize the Donghae gas field offshore platform. → Floating offshore wind farm, CCUS | • Reduce carbon emissions constantly. | • Strengthen the preventive environmental management system. |
| | • Utilize oil exploration technologies. | • Implement the greenhouse gas target management system. | • Achieve zero environmental impact of the stockpiling bases. |








KNOC's Environment, Health and Safety Policy



Signing of offshore facility safety management agreement with 3 oil refinery companies

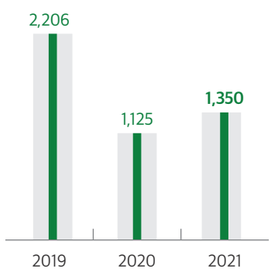
## Environment, Health and Safety Policy

KNOC is pursuing eco-friendly management using natural resources and the environment, while carrying out development that "fulfills the needs of the current generation without hindering the future generation's ability to satisfy their own needs" as a basic principle. The company aims to meet its social responsibilities in the field of environmental sustainability, and is actively taking part in efforts to tackle climate change at home and abroad. KNOC has especially strengthened its efforts to cooperate in preventing offshore accidents by signing a business agreement for 'establishing a cooperative system for the safe management of offshore facilities' with Korea's top 3 refinery companies (SK Energy, S-Oil, Hyundai Oilbank). Furthermore, the company complies with all domestic and overseas legal requirements by continuously improving the HSE management system, creates a safe and pleasant work environment, and endeavors to protect the environment with prevention-oriented environmental management. KNOC has established and is operating the environmental management system (ISO14001:2015) certified by an international accredited certification body. It is also making efforts to preserve the environment of the surrounding area by improving its environmental management on a continuous basis.

## Strengthening Environmental Management Capabilities

KNOC periodically conducts training for its employees on pollution prevention techniques, energy saving, and on-site environmental preservation in order to enhance its environmental management capabilities. KNOC is raising awareness of the importance of environmental management within the company by providing training on environmental capacity and safety under the initiative of the CEO. Moreover, the company is conducting on-site training sessions on annual environmental management, operation plans, and areas of interest in environmental management. KNOC also monitors its suppliers' environmental management activities on a regular basis to enhance their environmental awareness at construction sites. Furthermore, its stockpile sites exchange environmental knowledge and information with each other in order to discover and improve environmental management risk factors more effectively.

### Environmental investment by item (Unit: KRW 1 mil.)




## Environmental Investment

KNOC practices eco-friendly management by making the facilities and equipment at all its business sites eco-friendly, and minimizing pollutants generated within the business sites by continuously increasing its environmental investments. Its environmental investments in air quality improvement in 2020 and 2021 amounted to KRW 1.125 billion and KRW 1.35 billion, respectively. In addition, to operate eco-friendly stockpiling bases, the company has invested in various environmental facilities, such as installing a VCU* treatment facility, expanding oil-retaining walls, securing the integrity of buried pipes, installing oil removal devices and water quality monitoring equipment, and preparing operating standards for the VOCs* treatment units of crude oil carriers and biological treatment facilities. KNOC is also actively investing in environmental areas related to air quality so that the greenhouse gases and pollutants generated by its business sites can be reduced and periodically measured.

* VCU(Vapor Combustion Unit)
* VOCs(Volatile Organic Compounds)

# New low-carbon energy for the Future

## Growing into a comprehensive eco-friendly energy corporation

KNOC has established a new & renewable energy development plan to actively respond to the government's policy for achieving the target of reducing GHG emissions by 50% in the public sector by 2030, and to operate eco-friendly oil stockpiling bases. The company raised the GHG reduction target of the "New Vision 2030" to 33% by reflecting the request for public corporations to make significant reductions according to the stepped-up national NDC. At the ceremony commemorating KNOC's foundation in 2022, the company promised to be reborn as a leading eco-friendly energy corporation in the era of global energy conversion, and declared its mission of establishing energy security at the KNOC New Vision 2030 declaration ceremony.




Proclamation of
'Global Energy Company Vision 2030'

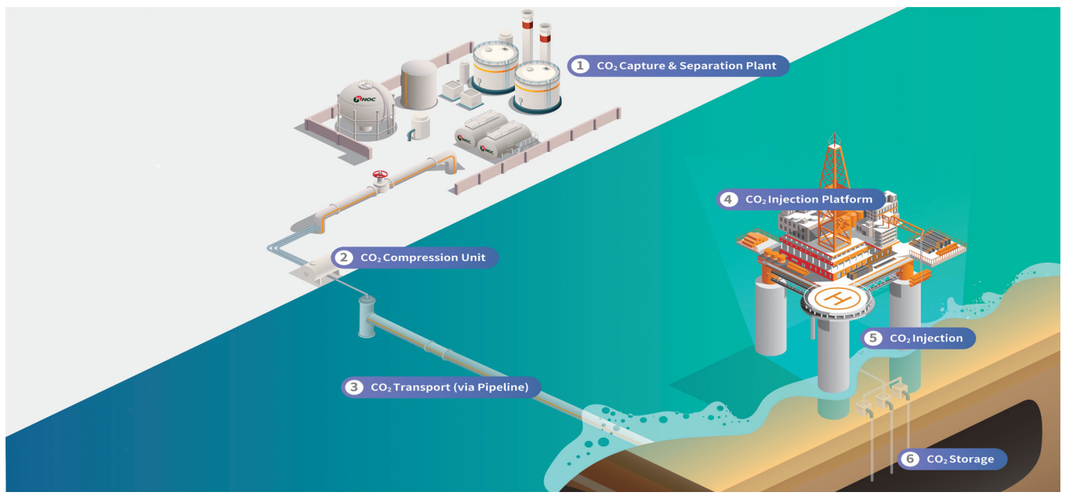
## Leading the domestic underground carbon storage project

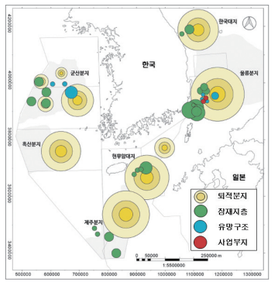
KNOC is currently carrying out the CCUS project to capture, store, and use carbon dioxide, the main cause of climate change, and is aiming to secure a new growth engine by reusing the production wells and offshore facilities of the Donghae gas field, which actually ceased production at the end of 2021. KNOC plans to build a medium-size injection demonstration facility in 2023-2025 after conducting a feasibility study, and to inject 400,000 tons of CO2 per year from 2025. Furthermore, the company will push ahead with the expansion and commercialization of storage facilities to conduct a large-scale phase 1 demonstration of CO2 injection in 2029. Since key E&P technologies, such as large-scale storage through offshore exploration drilling, will be applied to the CCUS project, KNOC is the ideal company to execute this project in Korea.

**KNOC's CCUS technology by project stage**

| | Project Entry Stage | Initial Mgmt. Stage | Full Mgmt. Stage | Project Closure Stage |
|---|---|---|---|---|
| Oil field project | Oil & gas field exploration | Oil & gas field development | Oil & gas field production, operation | Oil & gas field closure |
| Oil biz technology transfer to CCUS biz | Select $CO_2$ storage<br>• Derive promising storage areas.<br>• Drill exploration wells.<br>• Evaluate $CO_2$ storage capacity. | Develop $CO_2$ storage<br>• Drill evaluation wells.<br>• Carry out modeling/simulations.<br>• Design $CO_2$ storage facilities. | $CO_2$ injection, storage operation<br>• Optimize the $CO_2$ injection volume.<br>• Optimize the operation of $CO_2$ storage facilities. | $CO_2$ storage monitoring<br>• Abandon production/injection wells.<br>• Remove facilities.<br>• conduct follow-up monitoring. |

**Medium-scale CCUS demonstration model for Donghae gas field**




Promising area for $CO_2$ offshore storage derived by KNOC.




Business agreement between KNOC & Hyundai Heavy Industries.




UAE-KOREA Business Roundtable on Hydrogen Partnership

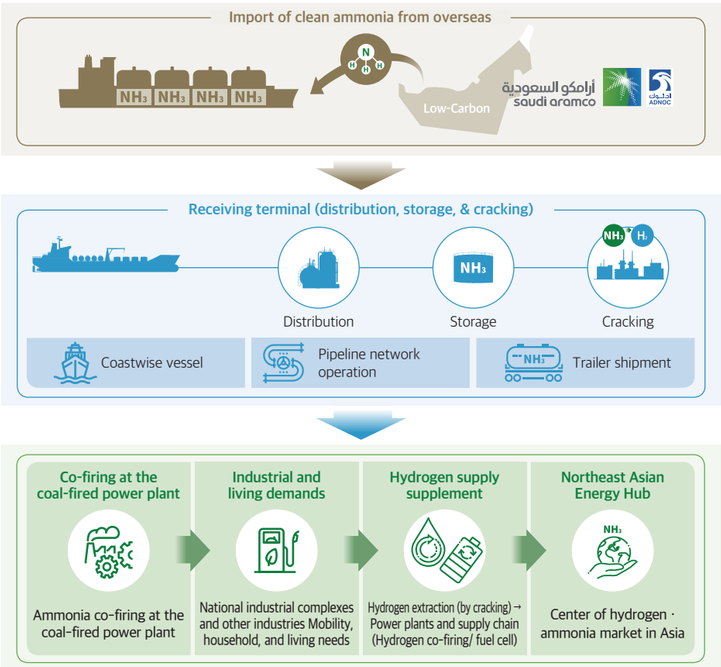
## Building the groundworks for CCUS business expansion with storage capacity assessment and internal reinforcement of CCUS technology

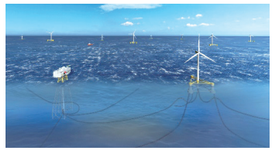
Storage 10 times the size of the Donghae Gas Field is required to achieve the government's goal of injecting 4 million tons of CO2 annually by 2030. Therefore, KNOC has conducted a comprehensive assessment of domestic CO2 offshore storage using our experience in oil exploration to identify additional potential CO2 offshore storage. As a result, our efforts to secure CO2 storage have identified three additional potential areas in the Ulleung Basin in the East Sea. KNOC plans to conduct a systematic storage assessment by dividing the domestic waters into five regions through a comprehensive physical exploration. In addition, we developed the platform for offshore carbon dioxide injection jointly with Hyundai Heavy Industries and Korea Shipbuilding & Marine Engineering, and acquired the approval in principle from DNV in Norway as part of our plan to expand into related businesses such as large-scale CCUS and blue hydrogen-linked CCUS projects.

## At the forefront of domestic clean hydrogen industry

Hydrogen and ammonia have emerged as leading clean energy that can replace existing fossil fuels and serve as a key energy source for achieving carbon neutrality. KNOC aims to build an overseas hydrogen·ammonia supply chain and domestic infrastructure by actively utilizing available networks and capabilities. Capitalizing on this, we strive in earnest to lead nationwide greenhouse gas reduction and the energy transition and to further secure energy security by stabilizing the eco-friendly energy supply /demand and price.

**hydrogen·ammonia Roadmap**



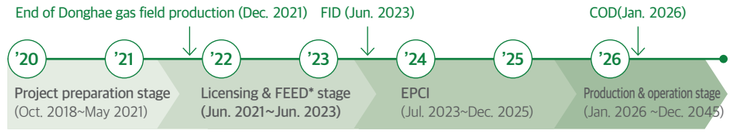


Floating offshore wind farm project

## Floating offshore wind farm project shared with the local community

KNOC is pushing ahead with the country's first floating offshore wind farm project to produce power by 2026. This project aims to produce eco-friendly energy by reusing the platform of the Donghae gas field, which ceased production in 2021. It is also expected to reap the effects of shared growth with related industries such as shipbuilding, equipment manufacturing, etc. As this project passed the government's preliminary feasibility study in 2021, KNOC is now planning to create a 200MW floating offshore wind farm by 2025 and to commence its commercial operation in 2026.

### Floating offshore wind farm project roadmap




* FID: Final investment decision * COD: Commercial Operation Date * FEED: Front End Engineering and Design
* EPCI: Engineering, Procurement, Construction and Installation

### Project Status

**Passed the KDI's preliminary feasibility study**

- Completed and passed the KDI's preliminary feasibility study.
  - Emphasized the positive ripple effects to domestic industries like job creation, etc.

**Primary integrity of platform substructure judged to be satisfactory**

- In-depth analysis of the platform substructure's integrity (Jul. 2021~Mar. 2022)
- On-site inspection of the undersea platform substructure.

**Acquired electricity business license**

- Application for a electricity business license passed the review of the Electricity Regulatory Committee.
  - Received the resident's consent to application for the permit.
  - The Ulsan Fishermen's Cooperative supported the signing of a win-win agreement.

**Prepared the foothold for expanding the mid-long term project**

- Signed an MOU for a project (800MW) with Equinor.
- Joint use of equipment available near the 200MW project.
  - Established the basis for expanding the mid-long term project.

### Support signing of an agreement for win-win growth and partnership by Ulsan City - Fishermen's Committee - National federation of fisheries cooperatives

When carrying out an offshore wind farm project, cooperation with the local community is very important. KNOC is making sincere efforts to obtain the approval of residents through continuous consultations, such as holding presentations for fishermen's organizations. Notably, by signing a win-win agreement with a group that opposed the project, the company passed the final review for the electricity business license by the Electricity Regulatory Committee in November 2021. Since the offshore wind farm project can reuse gas production facilities as offshore power generation facilities, if the industrial ecosystem for offshore wind power is vitalized by reducing the decommissioning costs and preventing marine pollution, the company expects to create about 16,823 job openings during the construction period.

### Efforts to overcome residents' opposition

| Obstacle (conflict with fishermen) | Efforts to overcome | Promotion results |
|---|---|---|
| • Increased anxiety among fishermen's group opposing offshore wind power due to predicted loss of their fishing grounds, intensifying group action.<br>• Ongoing conflicts due to the launch of a new opposition group in connection with National Federation of Fisheries Cooperatives Ulsan branch. | • Strengthening of communication with all fishermen in the Ulsan region in active cooperation with Ulsan city (Total 13 sessions).<br>– Proceed with ongoing dialogues with fishermen groups (9 sessions with fishermen's committee, 4 sessions with committee of opposing fishermen). | • Obtain local residents' consent (mandatory) to apply for the electricity business license.<br>• Sign a win-win agreement<br>– Ulsan city ↔ Opposing Fishermen's Committee ↔ National Federation of Fisheries Cooperatives Ulsan branch |

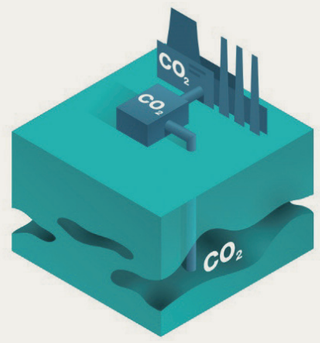




# KNOC leading carbon neutrality

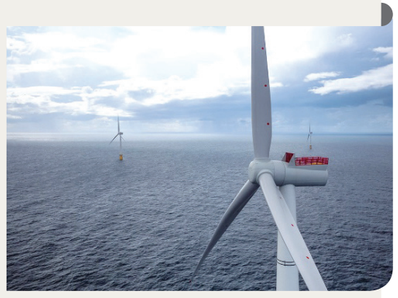
Oil, as a representative fossil fuel along with coal and natural gas, is an essential resource and energy source for the nation's key industries as well as almost every aspect of our daily life. Even today, it is widely developed and used all over the world. In the past, every country competed to develop oil fields and secure oil, and even entered into armed conflicts to obtain oil. However, global warming has become an increasingly serious issue with the passage of time, and the global de-carbonization movement is demanding fundamental changes of oil companies. No longer able to cling on to traditional business methods, oil companies have turned their eyes to carbon neutral and eco-friendly energy.



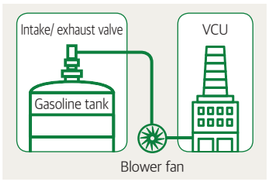



Currently, eco-friendly energy businesses and oil companies are keeping a close eye on CCUS and offshore wind power. CCUS is a technology that captures carbon dioxide in the air and stores it separately. There is relatively less competition over CCUS than solar power or wind power, where China is dominant. This business has the advantage of being less risky when entering it. Special attention should be paid to the fact that CCUS technology will play a vital role in extending the life of fossil fuels like oil and gas. Furthermore, for those oil companies with the advantage of having an abundance of marine resources, offshore wind power is also an attractive development. This is because oil companies can significantly reduce trials and errors when installing structures like undersea support fixtures for offshore wind power due to their rich experience in drilling for oil and gas.

KNOC is planning to inject and store 400,000 tons of carbon every year from 2026 by using the know-how and technological capabilities it has accumulated while operating the Donghae gas field for over 20 years. For this purpose, KNOC is carrying out tasks in conjunction with companies that possess specialized skills, such as SK Innovation, Korea Shipbuilding & Offshore Engineering, and the Korea Institute of Geoscience and Mineral Resources. In addition, the Ulsan Donghae 1 Floating Offshore Wind Farm Project is also raising expectations. This project, conducted in cooperation with Equinor, a leading global floating offshore wind power company, and Korea East-West Power based in Ulsan, is being carried out smoothly thanks to the active administrative support of Ulsan city and the advanced capabilities of the participating companies. KNOC will actively push ahead with oil development and stockpiling, the unique duties of a state-run oil corporation, as well as eco-friendly energy projects that can utilize the capabilities of an oil company.



# Eco-friendly Management, Thinking about the Earth




Gasoline tank remodeling+VOCs collection & incineration equipment

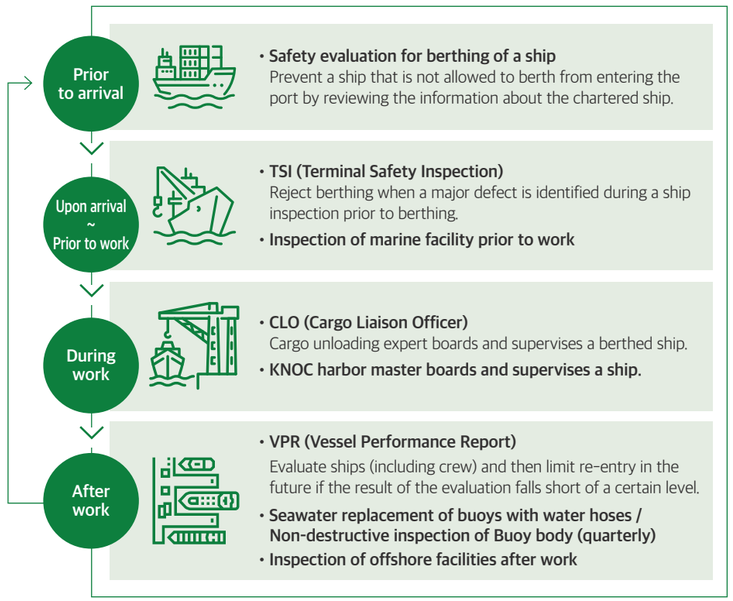
## Improving the air environment

Since KNOC owns 23 large gasoline tanks, the risk of fire and explosion still exists, and there are concerns that a national crisis could occur in the event of an accident. Therefore, since 2019, the company has been striving to prevent outbreaks of fires and explosions originating from gasoline tanks so as to ensure public safety, and has contributed to national health by installing VOC air emission prevention systems designed to block the emission of VOCs (air pollutants and inflammable gases) into the atmospheric environment. This has had the effect of reducing VOCs by 460 tons and fine dust by 11 tons. The VOCs air emission prevention system is a system that installs and operates facilities that collect and incinerate VOCs generated from gasoline tanks. 15 units were installed from 2019 to 2021, 2 units are being installed in 2022, and supplementation for facilities of 6 units is scheduled from 2023 to 2025.

## Preventing water & marine pollution

The danger of marine accidents has increased due to a significant increase in the loading and unloading of oil reserves since the government set up the third oil stockpiling plan. To eliminate this danger, KNOC has turned the existing buoy-type loading and unloading docks floating on the ocean into jetty-type docks fixed with a stake. With this measure, the company has ensured safety when oil tankers are berthed, and has operated the marine loading and unloading facility safely until the present without any large-scale marine pollution accidents. Moreover, since KNOC operates marine facilities at seaside stockpiling bases (Yeosu, Seosan, Geoje, Ulsan, and Pyeongtaek), there are potential risks of ship collisions when loading and unloading oil reserves and oil spill accidents. To minimize these risks, KNOC has established and is operating an accident prevention system for its marine facilities, thereby enabling it to achieve “zero” oil spills for four consecutive years.

Preventive measures upon loading and unloading




## Prevention of Soil and Underground Water Pollution

KNOC has improved the water quality of effluents by upgrading the wastewater treatment facility of underground storages. The company has also operated a groundwater observation system and conducted flow analysis to ensure airtightness and safety, and enhanced its emergency response capabilities by improving the method of operating control valves. The company is concentrating its efforts on preventing soil and underground water contamination by conducting periodic preventive inspections of leakage accidents and providing training on preventing oil spills, checking leak detectors, and strengthening the inspection cycle of soil contamination. Furthermore, KNOC conducts routine inspections by standardizing on-site facility inspection as work guidelines in order to minimize soil contamination by oil facilities, and has set up and is operating preliminary review procedures to prevent soil contamination.

## Waste Management

The total volume of designated, general and construction wastes generated by the head office, stockpile sites, gas field management offices, and construction offices amounted to 843 tons, while the volume of recycled general wastes amounted to 142 tons. These wastes are systematically managed according to the appropriate type of storage and treatment. Moreover, the generated wastes are inspected according to whether they are hazardous wastes or wastes subject to control as stipulated by the Basel Convention. These wastes are legitimately managed according to the prevailing waste treatment standards and the related regulations.

Waste amount

| Classification | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|
| Designated wastes | ton | 100 | 189 | 229 |
| General wastes | ton | 409 | 540 | 449 |
| Construction wastes | ton | 26 | 166 | 165 |
| Total | ton | 535 | 895 | 843 |

## Operation of eco-friendly stockpile sites

KNOC is preparing for the era of carbon neutrality by establishing zero carbon stockpile sites, and transforming its stockpile sites into eco-friendly facilities. The company is strengthening environmental monitoring to protect public health rights by expanding contaminant control items and pollution prevention measures and running regional offices in an eco-friendly way. As a part of the relevant policy, KNOC plans to make the Donghae office an example of a Net Zero stockpiling base.



Expansion of solar power facilities using idle sites



Intoduction of high-efficiency equipment (transformer, etc.)

# SOCIAL

We will be a warm partner for our stakeholders!

## KNOC'S APPROACH

KNOC is fully aware of its social responsibilities as a public energy corporation that accompanies many local communities. The company strives to fulfill its substantial social responsibilities continuously in order to create a society where everyone is prosperous. Especially, KNOC has selected safety as its top priority value, and has not only enhanced its disaster response system to make sure that everyone feels at ease, but has also secured comprehensive health and safety by enhancing the safety of its workers and suppliers. Furthermore, the company is working hard to create a happy local community while communicating with various stakeholders, including its customers, local communities, suppliers, and employees.




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# Health & Safety Reassuring the People

## Health & Safety Management System

Due to the prolonged COVID-19 pandemic and the long-term use of the operating facilities at nine stockpile sites, KNOC has strengthened the organization in charge of safety at the head office and each regional office in order to establish a work system that always puts safety first. The Health, Safety, Security and Environment Department oversees health and safety, and supervises the establishment of a company-wide environment, health and safety policy, management of the operating system, establishment and operation of security system policies, and emergency preparation work and training. The company is making efforts to prevent damage to workers, including those of its suppliers, and to manage safety by setting up disaster, health and safety management goals and tasks that reflect the ongoing changes in the domestic and foreign environments and the characteristics of KNOC. As a result of such efforts, the company has achieved zero major disaster safety accidents for 5 consecutive years. And was awarded the ministry of econmy and finance and Security Award by achieving grade 2 for the safety management rating system, the highest rating among 98 public institutions.

**Health & Safety Management System**

| | | | |
|---|---|---|---|
| Goal | To be an energy corporation that makes the life and safety of the people its highest value. | | |
| Strategy | Disaster Safety<br>Enhance the KNOC integrated disaster & safety system. | Industrial Safety<br>Achieve Zero industrial disasters at business sites, Create a workplace that puts workers' happiness and safety first. | Facility Safety<br>Expand disaster & safety facilities Secure safety upon repair work |
| Tasks | • Build and operate ICT-based systems.<br>• Strengthen disaster response prioritizing public safety. | • Establish safe workplaces ~~sites~~ with No industrial disasters.<br>• Create a workplace where workers are safe and happy. | • Establish a safe management strategy for facilities.<br>• Strengthen safety management activities for site facilities. |



Anti-drone system in stockpiling bases

**Anti-drone defense systems(Yongin)**




## Integrated disaster safety management system

KNOC has improved its disaster response ability by enhancing the ICT-based disaster & safety ~~systems~~ and building a disaster management in partnership with its stakeholders. ~~The company has additionally installed 43 CCTVs for fire moni w supply of petroleum but also ensured the safety of the public.~~

**Disaster management response system**

| Stage 1 \| Prevention | Stage 2 \| Preparation |
|---|---|
| • Performed capacity building activities in disaster sector (40 times)<br>• Strengthened top management's spot inspections (24 times, 118%↑) | • Conducted preparation training against oil leaks and water pollution (11 times)<br>• Implemented preparation plan against typhoons and heat waves (25 times) |
| **Stage 2 \| Response** | **Stage 4 \| Disaster recovery** |
| • 'ZERO' disaster accidents & facility damages.<br>• Thorough response to heat waves, typhoons, rainy season. | • Check cooperation system between KNOC, local government, and private enterprises.<br>• Perform services for securing the appropriateness of disaster management resources. |

**Joint disaster response system by stakeholders**

| | Local government | Related organization |
|---|---|---|
| Sharing | • Conducted public-private joint training (10 times) | • Opinion gathering and feedback for the Disaster Response Manual.<br>– Massive marine pollution in 2021. |
| System construction | • Build the communication management system.<br>• Stakeholder analysis & management procedure<br>– Reflect the disaster mitigation activity plan. | • Sign marine facility safety management agreements with top 3 oil refinery companies.<br>• Check & strengthen the effectiveness of the emergency recovery agreement. |







Local community mutual cooperation safety service.




Environment & safety innovation training given by CEO

## Creation of reassuring society for people

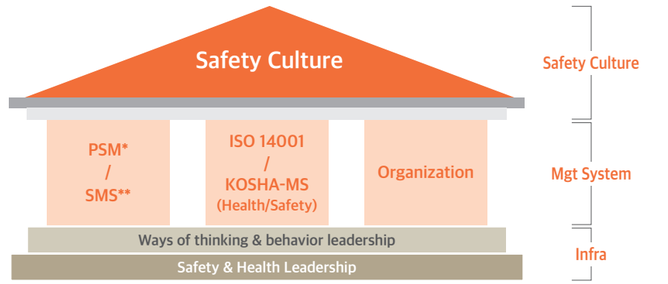
KNOC has established a cooperation system with related organizations to prevent and prepare for large-scale casualty and property damage accidents, whose frequency has risen recently. The company has passed on its advanced safety management skills to three ROK Army supply battalions responsible for oil storage facilities. KNOC has also contributed to preventing marine accidents by signing an offshore facility safety management agreement with the top three refinery companies in Korea. The company has spread examples of marine accidents and enhanced the capacity of volunteer workers to prevent marine pollution by hosting meetings of volunteer workers supervised by the Donghae office, and created a safety net for the local community by strengthening the disaster safety cooperation system, such as having safety inspections for the disadvantaged social classes conducted by a Yeosu public-private consultative body.

## Creating a Safe Workplace

KNOC aims to preemptively prevent industrial disasters by enhancing its safety management system and on-site safety management. The responsibility of the top management is being stepped up in view of the recent enactment of the Serious Accidents Punishment Act, and the frequency of exposure to risk factors is growing due to the increase in high-risk work. Today, KNOC is actively strengthening on-site safety management by pursuing certification of the safety management systems of all its business sites (KOSHA-MS) based on the CEO's safety management philosophy, having site inspections conducted by the top management, commemorating "Safety Inspection Day", conducting spot checks, and sharing accident cases and countermeasures to prevent their recurrence.

**CEO's Safety Management**

| Infra + System + Health & Safety Culture | Emphasis on spreading a mature safety culture |
|---|---|
| Healthy and safe company | Implementation of Active Caring, Safety Talk |




* PSM: Process Safety Management ** SMS: Safety Management System

**On-site safety management inspection process**

| ❶ Diagnosis | ❷ Planning | ❸ Tasks | ❹ Evaluation |
|---|---|---|---|
| • Systematic safety management is needed.<br>• Suppliers' workers experience the majority of industrial disasters.<br>• Hazardous work factors persist. | • Strengthen safety-focused management.<br>• Safety management done with contractors.<br>• Conduct preemptive risk management focusing on on-site operability. | • Strengthen the safety management system.<br>• Provide safety training for contractors & risk assessment support.<br>• Establish a recurrence prevention plan. | • Introduce the latest KOSHA-MS.<br>• Zero mortality accidents at the Ulsan underground construction site.<br>• Consecutive zero disaster business site in 2021. |

## Creation of Safe Workspaces

There is a need for effective safety management countermeasures due to the continuous general disasters caused by workers' carelessness on site, various stepped-up safety regulations, and the increase of large-scale construction works. KNOC has introduced a location info (IoT) safety management system and the Smart Safety Ball in order to establish a safe work environment. By utilizing these smart safety technologies, the company intends to strengthen the functions for preventing major disasters such as fire and explosion, and realize smart safety management through contact-less on-site safety management and real-time site situation monitoring.




Location info (IoT) safety management system




Smart Safety Ball

## Creating a warm workplace

KNOC has endeavored to create warm workplaces because there was a need to create a work environment in which vulnerable workers such as pregnant women, patients with underlying health conditions, and customer receptionists would be protected, as the protective measures for managing the safety of vulnerable workers were strengthened by an amendment to the Occupational Health and Safety Act. The company has supported the industrial disaster prevention of vulnerable workers, contractors, and laborers by strengthening the safety management of not only its most vulnerable workers but also those of its suppliers, and has run a mental health care program for employees.

**Program for creating a warm workplace**

| Vulnerable workers and safety-disadvantaged social class | Field workers | Contractor | Employee |
|---|---|---|---|
| • Organize telecommuting and improve the contact-less work environment.<br>• Recruit people with disabilities and improve the related facilities.<br>• Support evacuation in the event of an emergency. | • Create rest areas for suppliers' workers.<br>• Provide special health checkups.<br>• Operate a lounge where employees can escape from the summer heat. | • Manage safe work levels and safety consulting.<br>• Manage safe work environment of contractors' workers. | • Provide health care.<br>• Provide stress management.<br>• Stabilize the mental health condition of customer receptionists. |

## Strengthening the quarantine system and returning to normal life

KNOC has prepared round-the-clock communication channels to facilitate the joint response to COVID-19, as well as operating an infectious disease task force and a joint labor-management council to combat COVID-19 effectively. The company has discussed the major items of agenda concerning the measures to be taken in the event that a person comes into contact with a confirmed Covid case and in the case of performing laboratory medical testing. The council supported tasks concerning the direction of self-measures by reflecting the government's management guidelines on vaccinated persons and the step-by-step Directions for returning to normal life centered on the infectious disease task force.

**COVID-19 self-quarantine system**

**Prevention system**

- Establish & operate guidelines according to stage of social distancing.
- Establish & operate service standard.
- Enhance the vaccination rate.
- Step up contact-less activities, temperature checks, etc.

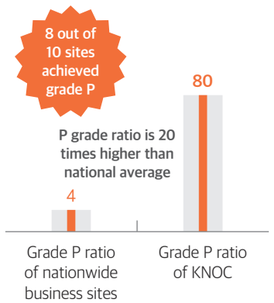
**Spread prevention system**

- Set up a plan to secure work continuity.
- Operate a situation response organization at all times.
- Cooperate with tenant companies and operate the emergency contact system.
- Operate guidelines for preventing the spread of COVID-19 by situation.





**Achieved grade 'P' at business sites subject to PSM** (Unit: %)




## Strengthened safety management focusing on prevention

KNOC has improved the safety management system and process safety management of the head office building, 9 stockpile sites, 1 gas field operating business sites, 2 construction sites, and 34 facilities to ensure the safety of all its facilities. The company has also built zero accident & zero disaster construction sites, performed safety management of smart stockpiling bases, strengthened its industrial disaster prevention inspections, and spread the safety culture. Furthermore, the company has developed a risk factor identification and response program for each stage, i.e. discovery-alternative-implementation & management, by conducting prevention-centered safety management. Thanks to this, KNOC acquired grade A in the safety activity level evaluation, and the highest grade in the safety management rating system among 98 public institutions.

## Reinforcement of the information security management system

KNOC has set up a new information security system to improve the vulnerable security elements of the telecommuting system, as contact-less remote telecommuting is increasing and the work environment is evolving. Furthermore, as intelligent hacking is becoming ever more advanced, the company has built a personal information leakage blocking system, improved the level of management, stepped up its inspection activities, and conducted personal information training to ensure the safety of personal information. In particular, by enhancing information security with the construction of ICT infrastructure comprising VDI* and a document centralization system, KNOC has achieved zero personal information leakage accidents, been evaluated for its excellence in information security audit for 2 consecutive years by the Ministry of Industry, and awarded the Minister of Industry's commendation for information security audit with a track record of having zero information security accidents.

* VDI: Virtual Desktop Infrastructure

**Information Security Promotion System**

| | | | |
|---|---|---|---|
| Strategic Goal | Enhance the information security management system and secure safety through improving information system | | |
| Strategy | Personal information protection<br>Guarantee the safety of personal information by enhancing the level of personal information protection. | Strengthening information security<br>Strengthen information security by newly establishing a VDI and document centralization system. | Strengthening crisis response capabilities<br>Strengthen information security crisis response capabilities through systematic management activities. |
| Indicators | Diagnosis of personal information management level + Evaluation of actual information security management conditions | | |

**Information security crisis response process**

**Prevention efforts**

- Diagnosis of information protection system safety (monthly)
  - Check security policy, check and remove security vulnerabilities
- Backup in preparation of control equipment failure and check reinstallation (1 time)
- Company-wide self-inspection activity (2 times)
  - Company-wide self-inspection (1 time), informatization services inspection (1 time)

**Detect & block**

- Detect and block by utilizing the system (34 million cases)
- Utilize network-based system
  - DDoS, spam mail, E-mail APT, network APT, etc.
- Utilize user-based system
  - Harmful websites, virus blocking system, etc.

**Evaluate & take measures**

- Establish countermeasures and engage in implementation activities to prevent the recurrence of vulnerabilities (1 time for entire company)
- Conduct education on simulated training for responding to violators
- Reflect information security implementation on company-wide measurement indicators

**Response training**

- Inspection training for computer network intrusion response system (Main system including homepage, etc.)
- Training for blocking suspected hacking e-mail and enhancement of reporting system
  - Increase number of simulated e-mail training (6 times in 2020 → 9 times in 2021)

# A Society that Shares Together

## Shared growth promotion system

KNOC intends to grow with its business partners and contribute to practicing ESG management. To this end, the company is engaging in win-win management activities reflecting its business characteristics, and has enhanced public convenience by improving the oil distribution structure by supporting economical stations. In addition, KNOC is creating a shared growth ecosystem in the domestic oil industry by providing practical support for SMEs and small business owners, such as E&P technology collaboration, localization of parts for stockpiling facilities, and a profit-sharing system.

### Shared growth promotion system

| | | | |
|---|---|---|---|
| Shared growth strategic direction | Strong Small & Medium Business with You! KNOC growing together with SMEs! | | |
| Shared growth tasks | Enhance the competitiveness of SMEs | Support start-ups and venture businesses | Expand the market for SMEs |
| | • Increase localization of stockpiling facility parts<br>• Support the technology fund in connection with KNOC business | • Expand free support for start-ups<br>• Support fund for commercialization of venture businesses | • Increase sales through expanding purchase consultation meetings<br>• Expand discoveries of various demands for purchase |

## Improving the exemplary transaction model and enhancing the vitality of suppliers

KNOC has improved the exemplary transaction model by reflecting the opinions of stakeholders so as to enhance the ability to execute the fair economy policy. The company has come up with 6 improvement tasks in 3 areas as a result of gathering the opinions of stakeholders such as suppliers, persons in charge of contracts, departments, and top management, and conducting self-checks to strengthen the effectiveness of integrity agreements and the fairness of public contracts. Furthermore, the company has invigorated its suppliers by making payments in a timely manner and ensuring that there are no delays in the payment of wages.

### Major tasks of exemplary transaction model

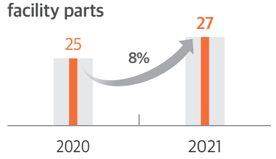
| Area | | Details |
|---|---|---|
| Improve common practice of transactions with suppliers | Task 1 | Announce the predicted price determination standard. |
| | Task 2 | Introduce the fair agreement signing system. |
| | Task 3 | Introduce the review system for government recommended policy implementation |
| Prevent unfair acts of private enterprises | Task 4 | Overall reorganization of the integrity agreement operating system. |
| | Task 5 | Enforcement of the system for guaranteeing the protection of laborer's rights. |
| Improve common practice of transactions with the public | Task 6 | Internal control in preparation for the enforcement of the Act on the Prevention of Conflicts of Interest. |

### Invigoration of suppliers

| Classification | Details | Achievements |
|---|---|---|
| Subcontractors guardian | • Expansion of scope<br>– Construction work worth KRW 50 million → over KRW 30 million<br>• Establish a procedure for periodic inspections of construction site status. | • 20 cases that used Subcontractors' guardian, KRW 28.4 billion.<br>– Number of users increased by 25% compared to the previous year.<br>• Zero cases of delayed payment of wages. |
| Timely payment of funds | • Provide information on payment procedures and precautions regarding contract signing notification documents.<br>– Specify period reduction related to overcoming COVID-19, etc. | • Establish a timely payment system & join the effort to overcome COVID-19.<br>– 112 simple labor service contracts worth KRW 72.6 billion. |
| Advance payment | • Comply strictly with obligatory advance payment and apply special cases. | • Ease fund burden of suppliers & ensure the safety of contract fulfillment. |



### Result of localizing stockpiling facility parts




## Localization of oil security stockpiling facility parts

KNOC has localized the parts of 9 crude oil and product stockpiling facilities to actualize the policy for localizing materials, parts, and equipment, and to efficiently run stockpiling facilities of oil security assets. The company has contributed to the participation of excellent SMEs and the expansion of their sales by supporting them to secure technology competitiveness throughout the whole cycle from domestic technology development to the deposit of technical materials. Especially, KNOC established a stable foundation on which SMEs that has successfully developed localized part can grow with the Korea Foundation for Cooperation of Large & Small Business and Rural Affairs by using the performance sharing system capable of entering into a private contract for up to 3 years.



Creation of an ICT ecosystem in the Ulsan region



Construction of a smart factory

## Strengthening the technology competitiveness of SME*s in connection with Economical Stations & Offshore Wind Farm Projects

Ulsan ICT SMEs were induced to participate as KNOC collaborated with the Ulsan Jung-gu Office and the Ulsan ICT Promotion Agency to enhance the integrated information system of the "Economical Station" business and actively realize the Ulsan region's SME promotion' policy. As the first a public corporation to relocate to Ulsan, KNOC has strengthened the competitiveness of the advanced system by collaborating with Ulsan SMEs. Moreover, as there is a need to strengthen the technology of SMEs to ensure the success of the Donghae wind farm project, the company provided funding for the construction of a smart factory for 2 Ulsan SMEs. KNOC also actively supported the 'Smart Factory Construction' project, a central project of the Ministry of SMEs and Startups, by organizing it with a matching fund method involving KNOC and the Korean government.

* SME: Small and Medium Enterprise

## Support for start-ups and venture businesses and expansion of the market for SMEs

KNOC is contributing to the invigoration of the oil industry ecosystem by supporting start-ups and venture businesses and discovering domestic and overseas demand for the products of excellent SMEs. The company has supported 16 API (Application Programming Interface) information and optimum oil price information on the gas stations with the lowest price in the region, as well as vehicle management and driving information to start-ups free of charge, and has consistently supported SMEs from the public offering stage to the selection and fund payment stages under an agreement with the Korea Foundation for Cooperation among Large & Small Business and Rural Affairs. Moreover, as a result of discovering various demands and expanding the market of SMEs by increasing the number of briefing sessions for SMEs' purchase policies, 65 SMEs participated and generated new sales of KRW 595 million.

### Major details of the strengthening of sales competitiveness and market support for SMEs

| Support business incubation by providing free support to start-ups | Support venture business commercialization fund support | Expand market entry & sales | Increase purchase amount of Brand K products, etc. |
|---|---|---|---|
| • Free support to app development start-ups.<br>• Provide 16 API info of gas stations with lowest price in the region. | • Support venture business commercialization fund. | • Increase the SME purchase policy briefing sessions hosted by KNOC<br>– 43 sessions in 2020.<br>→ 53 sessions in 2021. | • Brand K products, Onnuri gift certificates, etc.<br>• Focus on discovering expandable demand for product purchases. |

## Creation of sustainable jobs tailored to KNOC

KNOC recognizes the necessity of the role it plays in creating quality jobs according to the spread of ESG management and overcoming the employment crisis due to COVID-19, and is continuing its efforts to create and protect jobs by setting up a KNOC customized job creation strategy centered on people. KNOC protects jobs by investing in oil security businesses (development, stockpiling, improvement of distribution structure), its core business, having set the 4 directions (Chance, Create, Change, Chain) of job creation in connection with its business strategy. The company also creates jobs by discovering new energy businesses (Northeast Asia energy hub, offshore wind power, etc.), and creates unique, sustainable jobs by converting temporary positions to permanent positions and sharing jobs with socially disadvantaged persons.

### Creation of jobs tailored strategy

| | | | | |
|---|---|---|---|---|
| Vision | Creation of jobs tailored to KNOC to actualize social values centered around the people | | | |
| Direction | Chance<br>Creation of sustainable jobs | Create<br>Creation of new growth private jobs | Change<br>Creation of non-discriminatory workplace | Chain<br>Creation of job ecosystem |
| Tasks (12 cases) | Continuous job creation in stockpiling base construction and maintennance process maintenance process | Vitalization of local jobs due to full-scale Northeast Asia energy hub project | Creation of quality jobs with fair & transparent hiring procedure | Efforts to create private jobs through supporting consignment operation & shared growth |
| | Creation of jobs derived from domestic drilling and production operation project | Creation of eco-friendly jobs by commercializing floating offshore wind farm | Reasonable conversion to permanent position & efforts for better treatment | Development & operation of employment competency strengthening program by life cycle |
| | Creation of jobs via oil distribution structure improvement project | Create foundation for job creation via innovative technology development | Effort to promote employment of the disadvantaged in employment considering social balance | scovery of ideas and strengthen public-private-academia cooperation |

### Reorganization of jobs in connection with strategy

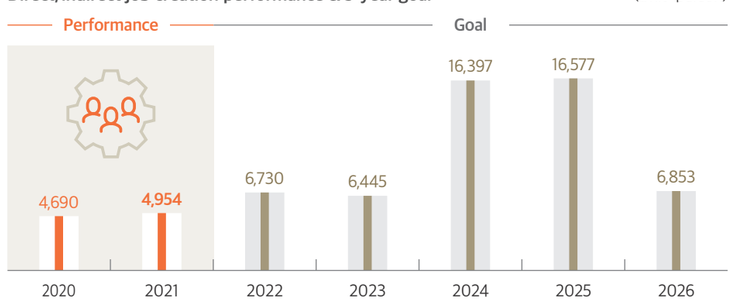
**Job Creation Committee**
(Chairman: President, Member: Executive Vice President)

ESG Dept. directly under President — (External) People's Advisory Group

| Job creation based on full-time jobs | Creation of new growth private jobs | Creation of non-discriminatory workplace | Creation of job ecosystem |
|---|---|---|---|
| Petroleum Stockpile Management Dept. | ESG Dept. | General Affairs Dept. | General Affairs Dept. |
| Energy Infra Business Dept. | Energy Infra Business Dept. | Human Resources Dep | ESG Dept. |
| Ulsan Operations Office | | | Global Technology Center |
| Smart Data Center | | | Human Resources Dept. |
| Domestic Product Supply Dept. | | | |

### Direct/indirect job creation performance & 5-year goal

(Unit: person)








## Increase of private jobs via new businesses

KNOC is leading the creation of private jobs by continuously discovering innovative new businesses, by using its technologies, resources, and capabilities based on its oil development, stockpiling, and distribution structure improvement businesses. The Northeast Asia Hub project, a project for developing an oil and gas logistics hub in Northeast Asia, has created 3,077 jobs (as of the end of 2021) since the commencement of construction in 2020. Furthermore, KNOC aims to create local jobs and invigorate the local economy by creating 7,018 more jobs by its completion in 2024. The floating offshore wind farm project, one of the new energy businesses associated with the government's carbon neutrality policy, passed the government's preliminary feasibility study and acquired the power generation business license in 2021. The project is expected to create 16,823 private jobs by 2025. The company is also in the process of creating a foundation for pushing ahead with the CCUS project and the low carbon ammonia project, and will create numerous private jobs by constructing facilities in the future.

### Anticipated effects of creation of private jobs

| Project | Major details |
|---|---|
| Northeast Asia energy hub | The Northeast Asia energy hub project (construction of storage facilities for 430,000㎘ of LNG, 270,000㎘ of Oil) will create private jobs for construction work, including civil engineering, electricity & mechanical facilities. |
| Floating offshore wind farm | Creation of private jobs through designing the offshore wind farm project, equipment purchase & production, facility transport & installation utilizing gas field offshore structures. |
| CCUS | Creation of direct/indirect private jobs during the Donghae gas field CCUS demonstration project & large-scale storage facility construction. |
| Low carbon ammonia | Direct/indirect job creation for building two 30,000-ton ammonia storage tanks and supplementary facilities to establish a low carbon ammonia distribution structure, and operation of the distribution business. |

### Promotion of employment of the disadvantaged in employment via private-public-academia cooperation




**Formation of sports teams for the disabled**

KNOC stands at the forefront of efforts to enhance the employment rate of people with disabilities, developing jobs suitable for the disabled. KNOC has formed the only sports team for the disabled among Ulsan public corporations by signing a business agreement with the Korea Employment Agency for the Disabled and collaborating with the Ulsan Sports Association for the Disabled. The company has recruited a total of 27 disabled athletes and supported their sports activities up to the present.



**Dream Maker, a career vocational training program for disabled youth**

KNOC, in cooperation with the Ulsan Welfare Center for the Disabled, has been operating a program to provide vocational training and employment opportunities aimed at improving the quality of life of disabled youth and integrating them into the local community. In 2021, the company operated a vocational skills program comprising interview training, on-the-job training, and local community adaptation training for disabled youths in special classes at 6 high schools in Ulsan. Meanwhile, the 'Dream Maker' program has enabled 115 students to complete their training, 13 of whom have been recruited by other organizations.



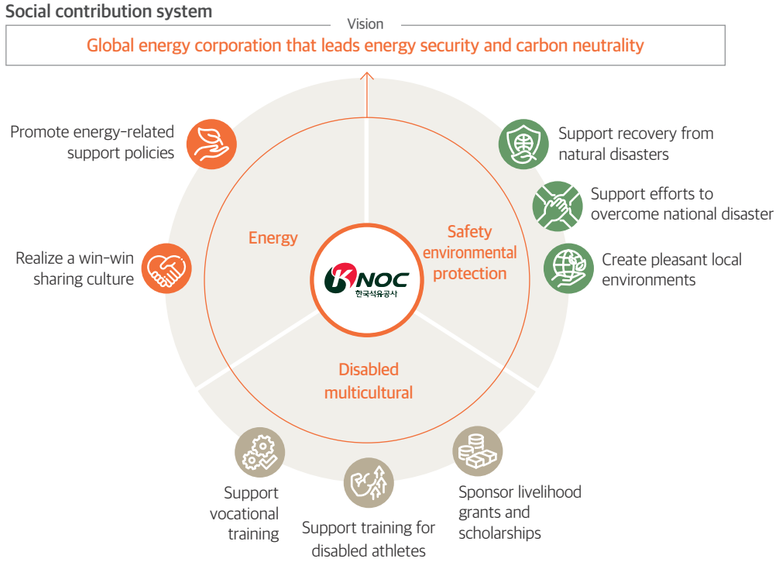

**Program for strengthening the employment competencies of young adults**

KNOC has developed and is continuously running programs to strengthen the employment competencies of high school and college students and to foster local talents in association with the local community. The company has operated programs designed to help young adults find meaningful employment, including oil-related job training, employment lectures, and internships providing firsthand work experience, as well as providing opportunities to explore careers for selected students in collaboration with the regional leading university promotion project group (Ulsan University) and the high school open school project (Ulsan Metropolitan Office of Education).

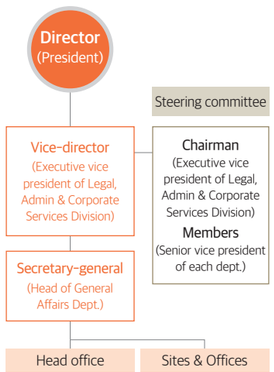
## Social contribution system

KNOC has established its vision of becoming a global energy corporation that leads energy security and carbon neutrality, and is pushing ahead with social contribution activities that reflect the nature of our business and social needs. The company has selected 3 key areas: energy, environment & safety, multicultural families and the disabled in order to establish its social contribution policy, and is working hard to implement various policies and partnerships aimed at creating a society where everyone lives in harmony in its capacity as 'a warm public energy corporation'.

**Social contribution system**




**Organizational chart of KNOC volunteer group**



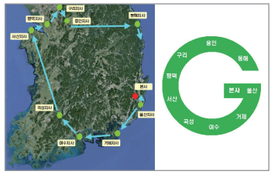

## Partnership between KNOC volunteer group and related organization

KNOC has formed the 'KNOC volunteer group' to engage in systematic, company-wide volunteer activities. In the case of domestic contributions, the head office and local offices work together to carry out systematic social contribution activities. In the case of overseas activities, they are operated according to the social contribution strategy suitable for the local situation. In addition, the company is making various efforts to invigorate the local economy and local communities in cooperation with local governments and welfare organizations. KNOC supports alienated local residents by purchasing agricultural products and social economy company products. The company also supports them by promoting shared kitchen projects, environmental cleanup campaigns of nearby parks, and participating in the creation of well-lit streets.


우리는 나눔과 섬김의 봉사활동을 통하여 사랑과 **인정이 넘치는 따뜻한 사회,** 다함께 더불어 사는 아름다운 공동체 가꾸기에 앞장서 나갈 것을 다짐하면서 다음과 같이 선서합니다.

1. 우리는 생명에 대한 외경심과 **인간사랑의 정신으로 경허히** 봉사활동을 하겠습니다.
2. 우리는 **도덕적 품성과 창조적 지성**으로 성실히 봉사활동에 임하겠습니다.
3. 우리는 봉사활동을 통해 **기쁨을 느끼고 다른 사람에게 폐가 되는 행동**은 하지 않겠습니다.
4. 우리는 항상 **감사와 양보의 마음을 가지고** 일상생활에 봉사정신이 이어지도록 하겠습니다.

Oath of Volunteer Group







## Solving regional problems through a collaborative platform

KNOC has made efforts to help resolve regional problems by participating in a public-private collaborative platform designed to handle local issues identified by residents. The collaborative platform was implemented via a process of matching agendas and executing them after the participating organizations signed an agreement, while Ulsan citizens identified proposed tasks and execution agendas. Thus, KNOC and a total of 60 organizations, including Ulsan city, district, county, and an innovation city public institution, participated in this collaborative platform. KNOC has collaborated with the local community (local government) on 3 issues: providing reusable containers, plogging at Ulsan beach, and multi-cultural support. Plogging was expanded to 'G9 saving the Earth in 2022,' and 'KNOC plogging relay,' and has been established as a full-fledged social contribution program.

**KNOC's major items of agenda in the regional problem-solving platform**

| Providing reusable containers | Plogging | Multicultural support |
|---|---|---|
| Support for a booth for 'Becoming eco-life guardians' to practice green (1,000 reusable baskets) | 'KNOC plogging' to solve the problem of Ulsan beach trash (Picking up trash while walking) | Support of the cost of the program to improve relationships between multi-cultural families and Korean family |










I Love Ulsan ♥Day, sharing 'side dish of love'

## Multi-faceted support for alley business districts, traditional markets, small business owners, vulnerable groups

KNOC has engaged in various company-wide activities to overcome the COVID-19 crisis and invigorate the local economy, while pushing ahead with social contribution activities tailored to the local community in connection with ESG. In particular, to ensure that it does not end up as a one-off event, the company has provided multifaceted support for alley business districts, traditional markets, small business owners, and vulnerable groups using various resources, such as donation budgets, projects for cooperating with Ulsan local government, cafeterias, and medical support.

**Activities for overcoming COVID-19 and invigorating the local economy**

| Overcoming COVID-19 | | Vitalization of local economy | |
|---|---|---|---|
| Donation support | • Use of donations (KNOC volunteer funds), provision of Emergency food supply sets. | Preferential purchase of local produce | • Expand preferential purchases of goods and services of the Ulsan region. |
| Disease control supplies | • Provision of disease control packs such as masks to neglected neighbors, small business owners, social economy companies. | Support marketing of traditional markets & small businesses | • Purchase agricultural products, support neglected neighbors.<br>• Purchase side dishes, support neglected neighbors.<br>• Purchase food ingredients for cafeterias. |
| Stabilize supply of & demand for blood | • Participate in "donations of love" in connection with the Korean Red Cross (Semi-annually) | Support marketing of social economy companies | • Purchase social economy company products (disease control supplies), support neglected neighbors. |

# Creating A Fun Workplace

## Labor-management cooperation system

KNOC abides by the "Freedom of Association and Protection of the Right to Organize Convention" (ILO #87), "Right to Organize and Collective Bargaining Convention" (ILO #98), and "Worst Forms of Child Labor Convention" (ILO #182). The company's labor union has 9 branches by region, and union members consist of grade 4 or lower employees. To secure membership, a person joins the Union Shop, based on which he/she joins the labor union at the same time as joining the corporation. The number of union members is 1,052, which constitutes 76% of the total number of employees. The company will develop win-win labor-management relations by maintaining a healthy, cooperative labor-management relationship. In addition, KNOC is conducting new employee training and training for preventing sexual harassment through E-learning to protect the human rights of employees. Based on this, the company is creating a healthy corporate culture.

**Labor-management cooperation development strategy**

| | | | | |
|---|---|---|---|---|
| Labor-management strategy | Vision | Realization of labor-management culture contributing to the national economy through national energy security | | |
| | Strategic Direction | Completion of cooperative labor-management partnership for sustainable growth | | |
| Key direction | Strategic labor-management mgt. | Vitalization of labor-management communication | Enhancement of labor-management mgt. capacity | Improvement of working conditions |
| Key tasks | • Reestablish labor-management strategy<br>• Select cooperative task of labor-management | • Strengthen labor-management communication channel<br>• Realize a corporate culture of empathy | • Strengthen labor-management relations mgt. capacity<br>• Strengthen support of outside experts | • Reasonable improvement of working conditions<br>• Strengthen settlement of grievances like human rights violations |




Ceremony for joint declaration of labor-management cooperation

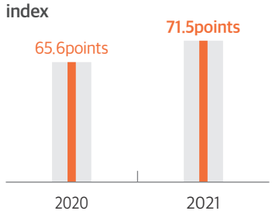
## Vitalization of open communication for labor-management cooperation

In light of the era of a massive shift in energy such as strengthened basis of carbon neutrality and expansion of eco-friendly energy, the company needed to restructure the reward system centered on jobs and operate a welfare system in line with the expectations of the people. KNOC has announced a joint statement for labor-management cooperation to solve such pending tasks and overcome the management crisis. The company vitalized open communication by reinforcing the labor-management communication channel centered on the CEO.

**Strengthening of communication with the CEO and top management**

| Classification | Channel | Details |
|---|---|---|
| Propagation of labor-management's will | • CEO's message(3 times)<br>• Leader's message(6 times) | • Share company management status and major issues via in-house broadcasting/video<br>• Give explanation on agendas for each dept., corporate culture, work life, etc. |
| 1 to 1 communication | • President-Head of labor union (6 times) | • Individual communication upon request for interview by the head of labor union<br>• Visit executive election camp and interview new head of union on day of appointment |
| 1 to small group communication | • We cheer u day(22 times)<br>• Encourage day(3 times) | • Top management visits and encourages team deserving encouragement or that has a pending issue<br>• Direct encouragement and small reward for an employee who has contributed to the company |
| 1 to many communication | • Townhall meeting(3 times)<br>• Issue & Interview(2 times) | • Direct sharing of strategy for all employees, financial status, and major company issues, etc.<br>• Q&A on major company issues via in-house broadcasting |

**Labor-management partnership index**



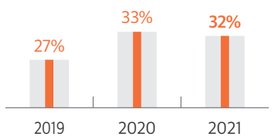

## Final conclusion of collective agreement with voluntary consultation between labor and management

KNOC succeeded in self-regulated collective agreement through trust and communication. In addition, the company unified multiple bargaining channels according to procedures and minimized the conflict between labor and management by signing an agreement on wages at a reasonable level. Especially, by presenting reasonable distribution criteria, the company prevented labor-labor conflict and induced voluntary working hour distribution between labor unions Moreover, KNOC prevented the possibility of unfair labor practices by complying with regulations related to the time-off system and through strict management.

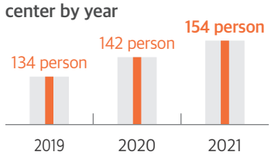




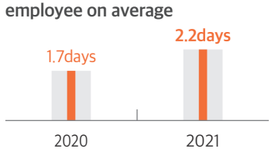
**Men's paternity leave use**




**No. of children in KNOC's daycare center by year**




**Special leave for childcare per employee on average**




## Efforts for happy balance between work and life

KNOC is endeavoring to create working conditions wherein both workplace and family can be happy, recognizing that creating a family-friendly work culture is essential for corporate management. The company has not only expanded the target of paternity leave to male and female employees raising children under the age of 8 but also extended the leave of absence up to 3 years (1 base year + 2 additional years). Furthermore, KNOC is working hard to ease the conflict between family and work life and maintain balance between work and life by supporting programs tailored to the period of childbirth and child-rearing in addition to providing the largest workplace childcare facility in Ulsan with capacity of 163 children.

## Creation of family-friendly workplace

KNOC is creating a family-friendly culture by explaining 10 items in detail such as cultural leisure, vacation, flexible work, daycare center, intercorporate loans, and retirement pension, in addition to the recent revision of the newly published welfare guidebook and improvement of special leave system. Moreover, the company is constantly gathering the opinions of its members and assisting in the coexistence of work and family to create an environment where all members can be happy in the family and at the workplace. Meanwhile, 100% of the retirement pension is currently deposited outside the company. The company is providing consulting and supporting educational expenses upon retirement by operating a career transition program.




Forbes' best company to work for 2021

## Operation of flexible work system

KNOC is working hard to actualize a workplace ideal to work in and a good workplace where a worker wants to work by striking a balance between work and family. The family-friendly system aims to enhance sustainable performance by maintaining harmony between work and family. The company is making various efforts to operate and vitalize flexible working systems including working hours selection system, staggered commuting system, and short-time working system. In 2021, KNOC analyzed users by gender, position, and job through multi-dimensional flexible work performance and identified matters requiring improvement. Thus, the company enhanced the operational effectiveness of the system. As a result of such efforts, the company was recognized for its performance as it ranked among the Global Top 100 of Forbes world's best employers for 2 consecutive years.

## Cloud-based smart work system implementation

KNOC has implemented a cloud-based smart work system since there is a need for a flexible work environment to respond to uncertainties such as COVID-19 and to improve the system and corporate culture to revolutionize working methods. The company introduced smart work after gathering employees' opinions on introducing smart work, holding contactless briefing sessions for all employees, giving outside lectures on smart work leadership, and showing PR videos for managers to form a consensus on smart work.

**Smart work system implementation item**

| Introduced work PC virtualization | Introduced Cube system (document centralization) | Test operation of free seat system | Installed cloud printing at head office |
|---|---|---|---|
| • Introduce infra that can simultaneously accommodate 800 persons & terminals<br>• Actively used in telecommuting, etc. | • Integrate work PC knowledge with Cube system(Khub)<br>• Separate implementation of security system preventing random leak of internal data | • Test operation of 1 layer of free seat system<br>– Expansion to be determined after operation result analysis | • To be installed at the head office, additionally installed at offices<br>• Improved portability by ID card-based data printing |

# Strengthening HR Capacity Creating Values

## HR development promotion system

As a national energy corporation leading energy security and carbon neutrality, KNOC aims to secure future capabilities by strengthening its unique capacity by continuously fostering oil development and stockpiling experts and fostering new energy project leaders and professional human resources. The company is exerting efforts to raise the value of its members by enhancing the capabilities of employees with various trainings such as training courses and commissioned education through the establishment of a systematic education system for each competence to train the world's best professional human resources. In addition, the company strives to share corporate values and create social values through various channels, such as training civilian personnel in the oil industry and local talent based on already secured professional human resources.

**Human resource development system**

| HRD goal | Secure manpower specializing in energy to lead oil security and new energy industries | | |
|---|---|---|---|
| Key direction | Strengthen expertise in oil development and oil stockpiling | Train new energy business leaders and professional manpower | Share corporate values and create social values |
| Key tasks | • Diversify E&P business and technology training<br>• Enhance training on stockpiled assets and safety management | • Create training support system for new growth businesses<br>• Train future innovation leader for carbon neutrality | • Strengthen sharing of corporate values such as ESG, innovation, etc.<br>• Diversify channels for training local talent |

## Training for strengthening capabilities for the new energy era

KNOC is actively promoting new growth businesses including floating offshore wind farms, CCUS, and hydrogen as its future business to respond to the era of energy conversion in keeping with the government's carbon neutrality policy. Thus, the company is working hard to lay the foundation for new energy businesses by establishing a job conversion training support system for manpower specializing in oil development with similar technical foundation to enhance the executive ability of new growth businesses and training professional human resources by conducting training segmented by area, education method, and level.

**Result from the customized education method**

**Middle manager**

- Individual middle manager (manager & senior manager) performed competence diagnosis. (identify strengths & weaknesses)
- Received training tailored to individuals and groups based on diagnosis results. (Completed by 16 persons, 25% of 64 trainees)

**Evaluator**

- Each individual evaluator (manager) performed self-diagnosis of deficient competence.
- Selected and completed programs needed for oneself as a result of diagnosis. (Completed by 170 persons, 95% of 179 trainees)

**Acquisition of license**

- Performed survey of demand for licenses needed for the duties of each department
- Provided programs tailored to licenses based on the result of demand survey (38 persons)

**Fostering professional manpower for the era of new energy**

| Classification | | Details |
|---|---|---|
| Company course | | • "Understanding new growth business" course (Completed by 1 person)<br>• "Theory on carbon capture & storage" course (Completed by 10 persons) |
| External commissioned training | Basic course | • Supports participation in floating offshore wind farm UNIST training program (Completed by 2 persons) |
| | Business course | • Supports domestic commissioned training related to CCUS & hydrogen (4 courses, completed by 10 persons)<br>• Supports domestic commissioned training related to offshore wind power and new & renewable energy (5 courses, completed by 14 persons) |
| | Specialized course | • Supports domestic master's degree course in area of new energy (Expected to select 2 persons every year)<br>– New & Renewable Energy Technology Management Dept. UNIST Graduatr School of Technology and Innovation Management |
| External civilian support | | • Energy & Mineral Resources Development Association, New & renewable energy program/lecturer support (3 session, completed by 87 persons)<br>• Floating offshore wind power international forum program/lecturer support (1 session) |

## Introduction of training methods tailored to individuals

Thus, the company is endeavoring to enhance the understanding of members' tasks and develop job skills by providing effective training services such as training programs tailored to individuals and adoption of optimum training methods by contents through the introduction of tailored training methods considering an individual's capabilities.





## Transparent evaluation and reasonable reward

KNOC has established a performance-based culture providing reasonable rewards through transparent and fair evaluation. The company has enhanced strategic performance management by introducing challenge sessions to operate a personal evaluation system wherein an organization's goal connects to an individual's goal. Challenge sessions are company-wide debates for setting challenging goals and improving acceptability to strengthen the connectivity between strategies and KPIs. The company has verified the target challenges to achieve strategic goals by coming up with 66 KPIs for each division.

## Enhance job performance capability for new businesses through exchange of human resources

KNOC performs the exchange of human resources to enhance the job performance capability of the new offshore wind farm project, reporting the results of the performance inspection that derived actual business results from participating in international exchange conferences, predicting the obstacles in the offshore wind project, and coming up with measures to overcome them. The company created a win-win effect by considering the performance and work continuity by extending the exchange period from 1 year. The company is planning to increase exchanges of human resources in the area of safety with industrial safety organizations based on the results of human resource exchanges for the offshore wind farm project in 2022.

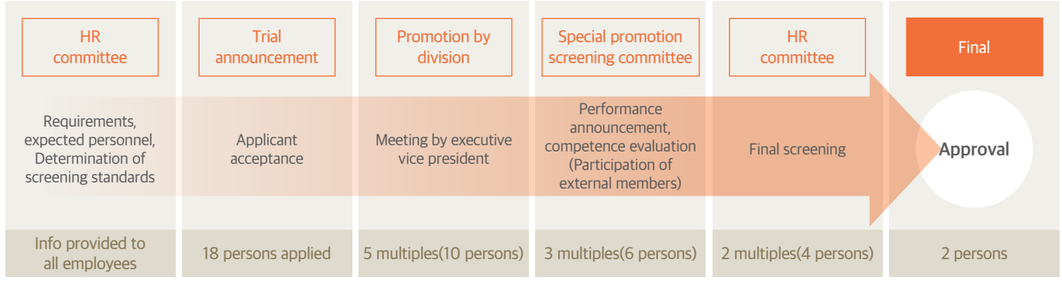
**HR exchanges for improving job performance ability in the offshore wind farm project**

| Classification | KNOC(performed by KEA employee) | Korea Energy Agency(KEA)(performed by KNOC employee) |
|---|---|---|
| Exchange dept | ESG Dept. Offshore wind business team | Wind business office Offshore wind team |
| Performed duties | • Investigation of offshore power-related laws and policy & market trend materials<br>• Participation in establishing support measures that can be grafted into the KNOC business | • International cooperation work with country leading offshore power such as Denmark<br>• Inspection of implementation of follow-up measures for offshore wind development plan |

## Special promotion for excellent performers

KNOC is giving special promotions for excellent performers by gathering internal opinions based on performance. Special promotions strengthened the acceptance of employees by transparently disclosing the entire process such as recommendations from each division, comprehensive score of special HR committee/applicants to the special HR committee, ranking, etc. Furthermore, when calculating the annual salary based on performance, the company is using the organization's evaluation and personal MBO evaluation results.

**Special promotion process for excellent performers**



## Target setting and training of female managers

KNOC is supporting the setting of growth targets as a manager from the aspect of motivating the increase of female managers and expanding the education of female talent academy and female leadership. As a result of constantly conducting training for female managers of excellent female employees and appointing them to high-ranking positions to improve the relatively low percentage of female executives due to the nature of the company's business, the number of grade 1~3 female managers increased by 13%. The company will work hard to enhance the female representation by expanding the number of female managers and recruiting women and expanding the work area of female manpower by analyzing the current status of the use of female manpower.

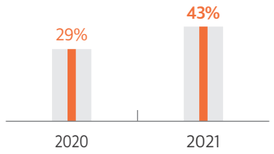
### Education for strengthening the expertise of female manpower and establishing gender-equal organizational culture

| Classification | Details |
|---|---|
| Leadership workshop | • Female talent academy(July), Female leadership special lecture/Strength(Dec.) |
| Organization culture | • Gender-equal organizational culture improvement workshop(Dec.) |
| Job expertise | • Gender balance HR management capacity strengthening education(Oct.)<br>• Job training by the officer in charge of women engineers and scientists (May, Nov) |

## Realization of gender equality in appointing executives

KNOC set a goal of increasing female executives and established a mid- to long-term plan to realize gender equality in appointing executives. In addition, the company expanded the participation of female executives when recommending candidates and limited the ratio of men or women to below 80% of the fixed number by improving the gender balance when organizing the executive recommendation committee to realize gender equality actively. Apart from this, the company is preventing the issue of male bias in candidates recommended for executive positions by institutionalizing measures to enhance the possibility of women's appointment to an executive position by organizing committee members using the Ministry of Gender Equality and Family's recommendation database.

### Improvement of female percentage in the Executive Recommendation Committee




## Realization of win-win workplace without discrimination

KNOC appoints high school graduates, unlimited contract worker, separate job groups, and women to departments without discrimination and does not discriminate by providing rewards as well as the same opportunities for in-house training to solve the problem of unreasonable discrimination. The company is also applying the same base pay for wages and welfare, and operating the same welfare system.

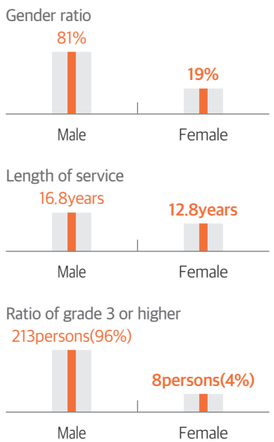
### Operation of identical system for high school graduates

| Support for college admission | Placement / Training / Rewards | Wage / Welfare |
|---|---|---|
| Supports opportunities for the graduates to work and study at the same time and strengthen one's capacity in response to the government's "work first-then enter college" policy | Non-discriminatory placement to departments, same opportunity for in-house training, no discrimination in compensations | Applies base pay system and welfare system identical to college graduates |

### Consultation system between labor and management for improving the treatment of minority job groups

| | |
|---|---|
| Unlimited suppliers | **Composition of consultative group** \| (Members) Head of HR Dept., Chief vice-chairman of labor union, etc.<br>**Operating method** \| Quarterly general meeting, biweekly working-level meeting, expert's advice, etc. |
| Salary peak | **Composition of consultative group** \| (Members) Head of Legal, Administration & Corporate Services Division, Chief vice-chairman of labor union, etc.<br>**Operating method** \| Quarterly general meeting, biweekly working-level meeting, expert's advice, etc. |

### KNOC gender equality status








# Human Rights Management Respecting Each Other

## Human rights system that puts people first

KNOC is supporting the international human rights standard such as the UN's "Guiding Principles on Business and Human Rights (UNGPs)" and the 10 principles of the UN Global Compact (UNGC). The company is actively complying with the "UN Human Rights Management Charter" and Human Rights Management Guidelines. Accordingly, the company is promoting systems for operating an effective rectification process and reporting human rights violations by improving the rectification procedure for human rights violations. KNOC not only stepped up human rights protection measures for employees and external stakeholders through human rights impact assessment but is also practicing human rights management by operating human rights promotion activities and programs.

### Human rights promotion system

| | | | |
|---|---|---|---|
| Vision | A public energy corporation that is always there for the people by practicing human rights management | | |
| Strategy | Secure the effectiveness of the human rights management system | Strengthen human rights protection measures | Work hard to practice human rights |
| Tasks | Improve human rights violation rectification procedure and promote reporting system | Perform human rights impact assessment and improve vulnerable areas | Operate various human rights promotion activities and programs |



Convening the human rights management committee

## Human rights promotion organization

KNOC enacted the "human rights management regulations" after conducting a basic factual survey on human rights management in 2018 and organized the human rights management committee in December 2018. In 2021, the company started operating the officers in charge of human rights it designated in each department including overseas offices and strengthened the human rights promotion system by newly establishing a separate menu for human rights on the company homepage.

### Human rights promotion organization




## Execution of human rights impact assessment

KNOC is conducting human rights impact assessment as a policy to identify actual and potential human rights risks that may arise during business activities. In 2021, the company scored 93.2 points (stage 2) in the human rights impact assessment for major businesses. The company will continue to implement effective human rights management by developing objective indexes by using the human rights impact assessment results and completing and implementing the human rights management feedback system.

### Plans to expand human rights impact assessment in major businesses

**Major business stage 1(2020)**

- Target: Stockpiling construction & operation, distribution business
- Implement improvement tasks from evaluation results
  - Create resting space for women
  - Prepare response procedures for malicious civil complaint
  - Introduce suppliers' worker rights protection implementation agreement

**Major business stage 2(2021)**

- Target: Stockpiling base operation(6 offices)
- Business characteristics
  - Safety, environment, supply network, facility security, etc.
- Evaluation item: 51 indicators, 10 items
  - 13 indicators supplemented (improve laborers' safety)

**Major business stage 3(2022)**

- Target: E&P business-related
- Develop indicators considering the business characteristics
- Self-inspection via checklist
- Conduct workshop related to evaluation
- Derive improvement tasks & plan




Human rights counseling center

## Vitalization of human rights counseling center

KNOC has opened the human rights counseling center as a separate menu on human rights management on its homepage to vitalize the human rights counseling in order to prevent human rights violations. The human rights counseling center thoroughly guarantees the protection of the identity of reporters and takes measures to prevent secondary damages at all times. In addition, the center established the human rights management process based on rectification procedures by going through the investigation on the report and giving a reply to the results at the earliest convenience of the center.

### Activities for sustainable human rights management

| Classification | Purpose | Rectification procedure |
|---|---|---|
| Homepage | Share and spread the rectification procedure | • Opened separate menu for human rights management (Human rights counseling center) on the homepage<br>• KNOC posted various contents related to human rights management |
| Web mail | Strengthen report accessibility and remember identity security | • Opened web mail for reporting & counseling<br>• Played role as contactless counseling window according to COVID-19 |
| PR | Announced intent to practice human rights management | • Issued and distributed human rights management PR materials (leaflets)(1,000 copies)<br>• Sent human rights letter to KNOC employees (4 times a year) |

### Established human rights process based on rectification procedure

| Classification | Human rights management operation | Rectification procedure |
|---|---|---|
| Needs of stakeholders | "How are human rights managed?" | "I want to be relieved of a human rights violation~~" |
| Manual development | Human rights management manual | Human rights violation rectification procedure manual |
| Major details | • Responsibilities & rights of major activities of human rights management<br>• Method for implementing the major tasks of human rights management | • Information on cases by type of human rights violation<br>• Information on human rights violation rectification procedure inside & outside KNOC |

### Details of human rights management promotion by stakeholders

**Employee**

- Implementation of human rights awareness education course by issue
  - Completed 9 courses, 34 hours
- Conducted face-to-face education by inviting experts (3 times a year)

**Supplier**

- Introduced worker rights protection implementation agreement
  - Made submission mandatory when signing an agreement with KNOC
- Distributed human rights management PR material (leaflet)

**Local community**

- Ulsan city「Citizen's human rights violation relief committee」
  - Attended in-house attorney's external expert committee
  - Reviewed & voted for human rights violation & discrimination incident

## Practicing human rights management with stakeholders

KNOC engages in human rights protection and promotion activities on stakeholders such as suppliers, customers, local communities, etc. The company improved legal systems such as special terms & conditions for simple labor services to guarantee the supplier's 3 labor rights, improved rest places, and provided manuals through the CEO's special safety education & meeting for suppliers and conducted joint human rights management inspection with suppliers.

## Human rights management education

KNOC engages in educational activities for enhancing employees' human rights awareness. In 2021, the company selected 9 human rights educational courses based on human rights management issues and conducted a total of 20,682 hours of human rights education for employees. In addition, KNOC held a human rights & ethics pop-up quiz every 22nd of the month (E-E day) to enhance employees' awareness and understanding of human rights, and it is working hard to form a human rights-friendly organizational culture.

### Major results of human rights management education

| Classification | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|
| No. of sessions of human rights education | times | 7 | 8 | 7 |
| No. of participants in human rights education | persons | 1,288 | 1,235 | 1,132 |
| Total hours of human rights education | hours | 12,860 | 10,907 | 20,682 |
| Human rights management education time per person | hours | 10 | 9 | 18 |

## How to use the human rights counseling center and rectification procedures

**Subject to report**

Act of violation and act of discrimination, human rights of the reporter or stakeholder legally guaranteed from an organization's management activities

**Protection measure for victim**

- KNOC has the obligation to take protective measures for the victim so that there is no secondary damage (Article 33 of the Human rights management regulations)
- A reporter can request external experts for counseling or investigation (Article 31 of the Human rights management regulations)
- Whether or not to take rectification measures is decided after going through the review by a committee for fair processing (Article 31.4 of the Human rights regulations)
- Guarantee of victim and reporter's right to read or request a copy of a reported incident (Article 35 of the Human rights management regulations)

**Guarantee of reporter's status and duty of good faith**

- Guarantee the confidentiality of reporter and report details, prohibition of unfavorable measures for reporting (Article 33 of the Human rights management regulations)
- If the case was reported even though the reporter knew—or was able to find out—that the reported details were false, the person cannot be protected by Article 33 (Article 29 of the Human rights management regulations)

### Human rights counseling center operating process

**Report to human rights counseling center**

- Report via visitation, mail, phone, fax, or e-mail
- Prepare "human rights violation report" when reporting violations
- Counseling with human rights manager

**Preliminary investigation of report details**

- Supplement report details (Non-specific or unspecified report details)
- Return (Case closed)
  - ① No supplementation within 14 days
  - ② Withdrawal of report
  - ③ Anonymous report or report under false name
  - ④ More than 1 year passed from date of damage
  - ⑤ Clearly false
  - ⑥ Progress/end of rectification
  - ⑦ No desire by victim for further investigation
  - ⑧ Same repeated incident
  - ⑨ Inappropriate intent of reporting
  - ⑩ Judgment by committee

**Classification & transfer**

- (HR team) sexual harassment & sexual assault / Workplace bullying
- (Legal team) Violation of code of conduct / Other human rights infringement
- (Internal Audit Dept.) Anti-corruption & whistle blowing / civil complaints / others
- (National Human Rights Commission, investigative agency, etc.) When investigation by higher authority is necessary

**Counseling & investigation and Victim protection measures**

- Incident investigation (on-the-spot survey, document browsing, sampling, etc.)
- Prepare investigation results
- End of investigation
  - ① Suspension of investigation (whereabouts unknown, impossible to investigate, unnecessary, etc.)
  - ② Solved during investigation (settlement, withdrawal, etc.)

**Review & resolution of human rights management committee's investigation results**

- Review investigation results / Decide to conduct corroborative investigation
- Decide: ❶dismiss ❷reject ❸(quote) rectify & recommendation for correction
  - Suspension & correction
  - Relief measures such as restoration
  - Improvement of recurrence prevention law, system, policy practices

**Result notification & implementation of rectification measures**

- Notify processed results within 7 days of the date of resolution
- Set up rectification measure implementation plan within 30 days of the date of resolution

**Processing period**

- Process within 6 months of the date of reporting
- Include 1 extension within 30 days

# GOVERNANCE

We will strengthen our competitive edge based on innovation and integrity.

**66**
Healthy Governance

**70**
Clean Compliance & Ethical Management

**73**
Transparent Information Disclosure

**74**
Improvement of Financial Soundness

**75**
Risk Management

## KNOC'S APPROACH

The government-wide activities to increase the people's trust in public corporations is being reinforced. Gaining trust requires not only sound governance and high ethical consciousness of employees but also the participation of stakeholders and transparency of information. KNOC's board of directors will protect the rights and interests of its stakeholders according to the law and articles of association and establish and actively practice measures to enhance ESG management. Furthermore, the company will actively reflect the opinions of internal and external stakeholders based on the principle of communication and disclosure and lead transparent and clean management.



# Healthy Governance

## Composition and role of the Board of Directors

KNOC is operating the management system it has established centered on the board of directors as the highest decision-making body. The board of directors consists of 4 executive directors including the president and the auditor general and 5 non-executive directors. The board of directors has its transparency and independence guaranteed, and it also has the right to review and vote on regulations such as management activities encompassing the environment, society, and governance, budget and funding plans, business plans and operation plans, and articles of association and matters falling under the other rights of the board of directors. The directors have the obligation to maintain confidentiality and general responsibilities under the civil code (responsibilities for compensation for damages due to default and illegal act), special responsibilities under the civil code (responsibilities for compensation for damages to an organization upon violation of the law or articles of association, responsibilities to a third party), and responsibilities under the criminal law (advance acceptance of bribe, influence peddling).

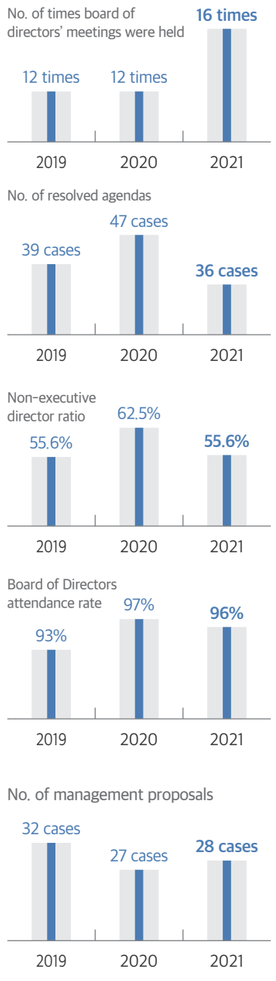
### Composition of the Board of Directors

| Classification | Position | Name | Gender | Career | Term of Office | ESG Committee |
|---|---|---|---|---|---|---|
| Executive director | President & CEO | Kim Dong-sub | Male | • Professor, Dept. of Industrial Engineering, UNIST<br>• Director of SK Innovation Technology Center, President of Technology & CTO<br>• Royal Dutch Shell Global Solutions Asia-Pacific Regional Manager<br>• Assistant professor, Park Yong Machinery Dept., Yeungnam University | Jun. 8, 2021~<br>June 7, 2024 | |
| | Auditor General | Choi Hyeong-ju | Male | • Manager, 2nd Dept., National Defense Audit Group, Board of Audit & Inspection<br>• Manager, Re-examination Dept., Active Administration Support Group, Board of Audit & Inspection | March 17, 2021~<br>March 16, 2023 | |
| | Planning & Financing Division Head | Choi Mun-gyu | Male | • Executive vice president of Legal, Admin & Corporate Services Division<br>• Dept. Head of PR Culture<br>• Director of Finance & Management, Vietnam Office<br>• Innovation Team Leader, ERP Promotion Group | January 4, 2021~<br>January 3, 2023 | |
| | Executive Vice President, Exploration & Production Division | Lim Geon-muk | Male | • Head of Overseas Business Dept. 2<br>• Head of E&P Planning & Management Dept.<br>• Senior Vice President, Kazakhstan Office<br>• Head of Production Dept. 1 | December 14, 2021~<br>December 13, 2023 | |
| Non-executive director (Chairman of the Board of Directors) | | Kim Yeong-gwa | Male | • Asian Industry Cooperation Ambassador, Ministry of Foreign Affairs<br>• Guest researcher, International Trade Research Center<br>• Non-executive director, KB Financial Group<br>• President, Korea Securities Finance Corp.<br>• Economic Planning Board, Ministry of Finance and Economy, Ministry of Strategy and Finance, Financial Services Commission | May 7, 2020~<br>May 6, 2022 | O |
| Non-executive director | | Kim Taek-hwan | Male | • Special member(present), Presidential Committee for Balanced National Development<br>• Auditor(present), Comprehensive advertising agency, Neostory Co., Ltd.<br>• Director(present), Seongbuk Youth Center | July 16, 2018~<br>July 15, 2022 | O |
| Non-executive director | | Jeong Ho-seong | Male | • Representative attorney(present), Jain Law Firm<br>• Member(present), Human rights commission<br>• Member(present), Korean Society of Law<br>• PR Member(present), PR Dept., Korean Bar Association | July 16, 2018~<br>July 15, 2022 | O |
| Non-executive director | | Kim Byeong-su | Male | • Lawyer Members (present), Samsung Law Firm<br>• Lawyer, Attorney at Law Kim Byeong-su<br>• Lawyer, Busan Law Firm | September 1, 2020~<br>August 31, 2022 | O |
| Non-executive director | | Min Dong-ju | Female | • Professor(present), Dept. of Energy Resources Engineering, Seoul National University<br>• Member(present), Overseas Resource Development Loans Review Association, Ministry of Trade, Industry, and Energy<br>• Civilian committee member, Crisis Management Manual Council, Ministry of ~~Interior~~ and Security<br>• Non-executive director, Korea Institute of Ocean Science & Technology(KIOST)<br>• Senior researcher, Korea Ocean Research & Development Institute(KORDI) | November 9, 2020~<br>November 8, 2022 | O |





### Board of directors meeting attendance rate & agenda processing details




## Appointment of a director

The president, auditor general, and non-executive director are appointed through the recommendation by the executive recommendation committee and the process specified in "the Law on the Management of Public Bodies" to enhance the quality and expertise of the top management and ensure the fairness of the appointment procedure. Since executive directors must perform their duties focusing on the sound management of the organization from an independent, neutral position as a delegated person of an organization, a strict detailed judgment standard including innovative mindset and expertise in a field and intent to practice ethical management applies to them. To ensure the independence and diversity of the board of directors, consideration is made so that there can be an appropriate balance of gender and region. KNOC makes sure that a candidate is not biased to a specific gender when recommending an executive by introducing a "balanced gender recommendation system" that can include an applicant with the relevant gender of personnel equivalent to 50% to the recommended candidate.

### Director appointment process

| Term | 3 years | 2 years | 2 years | 2 years |
|---|---|---|---|---|
| Position | President | Auditor General | Executive director* | Non-executive director |
| ① Recruitment(public contest, both public contest & recommendation) | ○ | ○ | | ○ |
| ② Recommendation by executive recommendation committee | ○ | ○ | | ○ |
| ③ Review & vote by steering committee of public institution of Ministry of Strategy and Finance | ○ | ○ | | ○ |
| ④ ~~Resolution by the general meeting of shareholders~~ | ○ (Head of competent authority) | ○ (Minister of Strategy and Finance) | | |
| ⑤ Proposal (Main agent of execution) | ○ (President) | ○ (President) | ○ (CEO) | ○ (Minister of Strategy and Finance) |

* President, Auditor General excluded.

## Operation of Board of Directors

The board of directors is classified into regular and temporary and is convened upon the request of the chairman or one-third of the current directors. The board of directors is established with the attendance of majority of the current directors, and agendas are resolved with the majority agreement of current directors excluding directors with special interest in the major agendas such as management goals, budget, finance plan, etc. KNOC consults on pending issues at all times through the management advisory committee, ESG committee, audit committee, and executive recommendation committee, which are subcommittees under the board of directors. The company is strengthening the management proposals and reinforcing the restraint ability through the business and management execution audit.

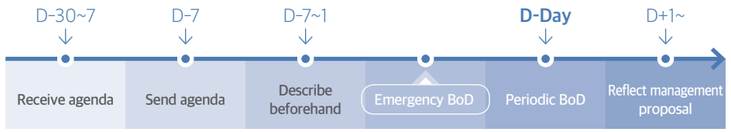
### Composition and roles of the committee

| Committee | Member | Assembly period | Role |
|---|---|---|---|
| Management Advisory Committee | All board members | Monthly | Discussion of major management issues |
| ESG Committee | Within 5 non-executive directors | Regular(semi-annual) and as necessary | Environment, ethical management, etc. |
| Audit Committee | Auditor general, non-executive directors | Regular(semi-annual) and as necessary | Audit of accounting duties, etc. |
| Executive Recomwmendation Committee | Non-executive directors, external members | When the appointment of executive is necessary | Screening and recommendation of executive candidates |

## Strengthened management decision-making function of the board of directors

KNOC established the review function of the board of directors to strengthen its decision-making function and reinforced the operating system. The company not only notified the management agendas on time and regularized the agenda briefing session but also established an emergency decision-making support system. In addition, the company enhanced the non-executive directors' understanding of projects by sharing the management conditions through monthly management performance and weekly oil news, etc.

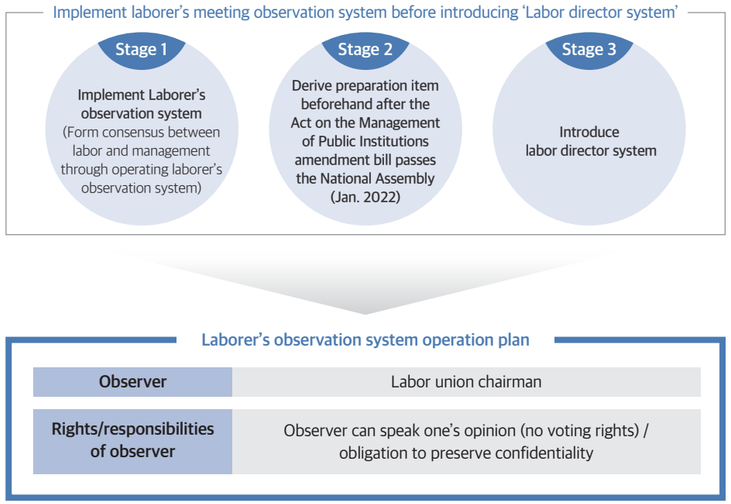
**Board of directors' operating system**




## Introduction of laborer's meeting observation system

KNOC has introduced the laborer's meeting observation system to allow the "labor union chairman" to attend and observe the Management Committee meetings. The union chairman does not simply attend meetings but has the right to speak when sharing agendas beforehand and observes the Management Committee meetings to reflect the labor union's opinions actively. Meanwhile, in January 2022, as the partial amendment bill for the Act on the Management of Public Institutions has passed the assembly plenary session, the company is planning to introduce the labor director system in the second half of the year by appointing a labor director.

**Plan to introduce laborers' participation in management and its operating method**








## Expansion of ESG-centered management proposals

KNOC has set up the ESG management strategy and newly established the ESG Department directly under the president and board of directors' ESG committee for ESG management. The ESG committee was established in November 2011 and is composed of 5 non-executive directors by field. The ESG committee supports the efficient and reasonable decision making of the board of directors regarding the promotion of ESG by giving advice on the ESG management strategies and related business plans as well as through prior review of the ESG-related resolution by the board of directors and major management proposals.

**Major ESG activity details**

| Area | Major management proposals | Reflected results |
|---|---|---|
| E (Environment) | • Push ahead with the Donghae floating offshore wind farm led by KNOC, not foreign capital. | • Reported plans to promote floating offshore wind power project to Management Advisory Committee by establishing SPC. |
| | • Sufficiently review matters related to restoration measures after the end of production at Donghae gas field from an environmental perspective. | • Established basic plan for withdrawing from Donghae gas field project ~~(Jun.)~~ and reviewed legal obligations related to the environment. |
| S (Social) | • Prepare win-win plan with the local community related to the construction of Ulsan stockpiling base | • Confirmed support plan (draft) for the area around the construction site at the board of directors |
| | • Make sure oil tax reduction measures are immediately applied to economic gas stations, and let the people actually experience the changes. | • Immediately implemented price discount to economic gas stations<br>• Enhanced monitoring of oil price information |
| G (Governance) | • Request additional review on the support effect related to fund support to subsidiaries | • Resolution pending at the board of directors ~~(Oct.)~~ and to reach resolution after additional discussion on the agenda |

## Audit committee activities for transparent management

KNOC is operating the audit committee it has established in accordance with Article 20 of the Act on the Management of Public Institutions. The audit committee consists of the auditor general and 2 non-executive directors, and these directors are appointed by the decision of the board of directors. An accounting or a finance expert is appointed as one of the audit members according to related regulations. Furthermore, the company has established an internal audit organization (audit department) directly under the audit committee and secured the organization's independence by separately operating an enforcement agency.

**Major activities of the Audit Committee**

| Role | No. of personnel (As of Jun. 2022) | Composition | Number of audit committee meetings held | |
|---|---|---|---|---|
| | | | 2020 | 2021 |
| Audit related to company affairs & accounting | 3 | 1 Auditor general, 2 non-executive directors (including chairman) | 5 | 5 |

## Performance evaluation by the board of directors

The board of directors is checking and monitoring the results regarding monthly, quarterly, and annual performance indicators. In addition, KNOC is carrying out the performance-based annual salary system to strengthen the connection between the top management's compensation and management performance. The wage of an executive director consists of base pay, bonus, and severance pay, whereas the wage of a non-executive director includes a service allowance. In the case of an executive director, a bonus is paid according to the annual management results or evaluation results of job performance. The bonus payment rate of the head of an organization is paid according to the management performance evaluation result, but the limit and rate of payment of a bonus are set forth by the government. A non-executive director receives a service allowance for the agenda of the board of directors and KNOC's business development research as set forth by the executive compensation regulation.

# Clean Compliance & Ethical Management

## Compliance & Ethical Management System

KNOC has declared ethical management and has enacted the ethical management standard to actualize the vision of ethical management, which is the "Restoration of trust through fair and transparent management, and innovation and growth through trust." In 2021, the company reestablished its roadmap with the aim of "conducting self-investigation on integrity," and "operation of ethics & human rights manager by department," and derived 4 major promotion tasks accordingly. Moreover, KNOC supplemented institutional strategies such as policy organization and executing organization based on promotion plan, plan execution, monitoring, and performance evaluation according to the execution system.

### Ethical management promotion system

| | | | | |
|---|---|---|---|---|
| Vision | Restoration of trust through fair and transparent management, and innovation and growth through trust. | | | |
| Strategy | Establish integrity culture of mutual respect through communication | Secure fairness through establishing and operating a transparent task system | Strengthen effectiveness of anti-corruption based on voluntary compliance and integrity policy | |
| Promotion Tasks | Enhance effectiveness of whistleblower protection | Perform systematic supplementation of systems and regulations | Disclose open communication and work promotion process | Strengthen foundation of preventive audit |
| Execution System | Promotion Plan<br>Diagnose vulnerable areas, Establish integrity and anti-corruption plans | Plan Execution<br>Improve systems and company regulations, Awareness education, campaign activities | Monitoring<br>Anonymous report to KNOC, Inspection regularly and at all times | Performance evaluation<br>Performance evaluation of individuals and the organization, Integrity evaluation of KNOC and Anti-Corruption and Civil Rights Commission |
| | Policy organizations<br>Integrity citizen auditor, ESG committee, Council for promoting the anti-corruption of high-ranking positions | | Implementing organizations<br>Legal team (Compliance, ethical management), Audit dept. (Integrity, anti-corruption) | |




Organization of anti-corruption council



Training on ethical management for all employees

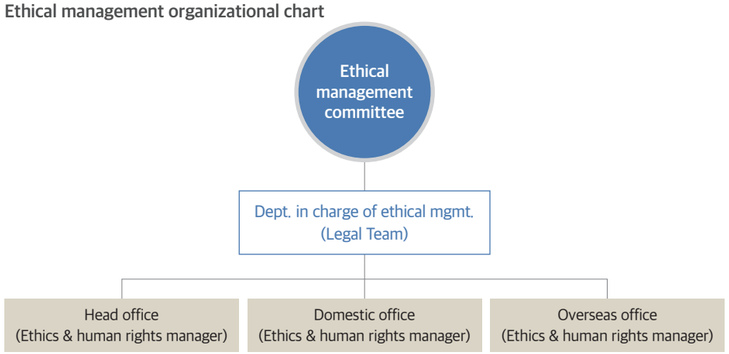



Awarded during the Korean public institution auditor competition

## Strengthening of the organization to enhance ability to execute ethical management

KNOC reorganized the organization dedicated to ethical management and designated the "Legal Team" as a department dedicated to ethical management. This team is in charge of enacting and revising ethical management standards and implementing various ethical management programs. In addition, the company has organized a council for promoting anti-corruption in high-ranking positions. By doing so, KNOC seeks to enhance its ability to respond to major issues related to the government's anti-corruption policy and national trust and substantialize the operation of the compliance and ethical management system.

### Ethical management organizational chart








### Phased integrity contract procedure

**Order-placing phase**
Provide information on the notice regarding the implementation of integrity contract system and information on prohibiting unfair conduct in the bidding guide

**Bidding phase**
Requisition of integrity contract (pledge) when submitting a bid

**Contract signing phase**
Sign contract by including the prohibition of unfair conduct in the special terms & conditions

**Contract fulfillment phase**
Contract cancellation/termination and limitation of eligibility for participation in bidding in case of violation of the duty of integrity

## Operation of executives' job integrity agreement system and integrity agreement system

KNOC is operating an executives' job integrity agreement system participated in by the top management including the CEO (president, auditor general, executive director). A total of 28 executives' job integrity agreements were signed from 2006 to 2021; thus ensuring the fairness of task execution of high-ranking executives. Moreover, the company is operating an integrity agreement system promising that both parties (the company and KNOC) will not engage in corruptive behavior during the process of bidding, successful bid, and agreement fulfillment to eradicate corrupt practices such as collusion during bid contracting and fulfillment, offering of bribes, etc.

### Overview of Executives' Integrity Agreement System

| Classification | Major details | Remarks |
|---|---|---|
| Purpose | • Regulations on standards and procedures needed for the operation of executive's job integrity agreement<br>• Applied subject: Executives (excluding non-executive director)<br>• To prevent corruption and enhance effectiveness of work ethics by setting forth executive's responsibilities for integrity obligations and violations. | Article 1 |
| Contracting method | • An executive signs an integrity agreement reflecting the obligations and responsibilities according to the regulations for operating executives' job integrity agreement. | Article 3 |
| Compliance obligation and responsibility | • To comply with integrity obligations during tenure of office and to bear responsibility in case of a violation | Article 4 |
| Job integrity obligation | • Limitations and prohibition of accepting bribery, intervention for benefits, job-related information leakage, mediation, soliciting, and sexual harassment, etc. | Article 5-9 |
| Sanctions in case of violating integrity obligation | • Economic sanctions according to violation type<br>• Even if a retired executive receives criminal punishment for violating integrity obligations during service, sanctions are imposed within 3 years after resignation. | Article 10 |
| Report to board of directors, consideration and decision, and notification | • When a sentence over a certain level is confirmed due to a violation of obligations for job integrity, the head of the ethical management reports this to the board of directors within 15 days from the delivery date of the decision (Board of directors considers and decides on the level of sanctions).<br>• When the level of sanctions is decided, the head of the ethical management notifies the amount of repayment, payment period, and payment method to the head of HR, head of department of remuneration, and relevant executives.<br>• Pay repayment amount within 30 days from the date the sanction level was notified from the board of directors | Article 11 |




Selection as self-audit organization for the development of self-auditing activities

## Strengthening internal audit activities as management partner

KNOC has vitalized the active administration system to normalize management and realize the social values of the organization by engaging in audit activities as a business management partner and internal restrainer. Furthermore, the company improved the risk profile, enhanced the daily life audit system, and created a clean business atmosphere by holding integrity leader meetings, integrity campaigns, and council for promoting anti-corruption in high-ranking positions. As a result of such efforts, KNOC was given a commendation as an "advanced self-audit organization" by the Board of Audit and Inspection as the only first-tier public corporation.

### Vitalization of active administration system

| Simplification of pre-consulting | Simplification of exemption of active work | Discovery of excellent cases | Inspection of active administration |
|---|---|---|---|
| Request for opinion of audit department on issues difficult to decide on | Responsibilities are relieved for issues that has occurred during active work for public interest purposes | Discover and save excellent work cases identified during audit | Conduct inspection to encourage company-wide active administration |
| **Simplified review documents and requirements for application, Collective review and fast feedback** | **Expanded judgment standard for exemption, On-site exemption with one's authority without application** | **Rewarded PIC of an excellent case, Newly registered excellent cases to audit DB** | **Aimed to prevent violation of social obligations, Conducted consulting audit to discover matters to improve on** |

### Major tasks for preventing conflict of interest

**Related regulations**
Prepare for implementation of Conflict of Interest Prevention Act, Improve necessary regulations beforehand

**Internal member**
Strengthen training and PR to prevent conflict of interest

**Local community**
Jointly respond with local community to prevent conflict of interest

## Efforts to prevent conflict of interest

KNOC has identified tasks for preventing corrupt practices and conflict of interest with the CEO's declaration to participate in the anti-corruption initiative actively. The company revised the standard for preventing conflict of interest of the code of conduct by checking the appropriateness of establishing a system for preventing conflict of interest and pursuit of unfair interest that has reflected the characteristic of KNOC and conducted inspection and training courtesy of an invited expert. In addition, the company is spreading the culture of preventing conflict of interest as a leading organization of integrity by revising the new changeover guideline for economical stations, participating in the Ulsan private-public integrity consultative group, and holding debates on preventing conflict of interest.

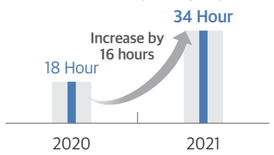
## Efforts to eradicate abuse of power

KNOC is conducting training for eradicating abuse of power and engaging in the campaign for the Day of Mutual Respect every month. The company is also operating an agreement of implementing the protection of the rights of suppliers' workers and an online reporting system wherein a supplier can report abuse of power at all times. The company has improved basic systems such as promoting the fair contract pledge system and specific criteria for screening the eligibility of facility construction. KNOC is raising employees' awareness of abuse of power by gathering suggestions for improving the reporter protection system through the civilian auditor system for anti-corruption and vitalizing the sharing of information between public institutions.

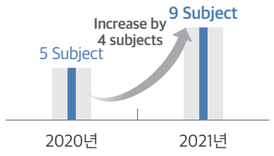
### Spreading the culture of mutual respect

| Improve members' awareness | Improvement of customized system | Domestic & foreign exchanges and PR |
|---|---|---|
| **Domestic** | **Domestic** | **Domestic** |
| • Conducted training for all employees to eradicate abuse of power and workplace bullying<br>• Engaged in campaign for the Day of Mutual Respect (monthly) | • Strengthened management of subcontractors<br>• Strengthened protection of reporters when investigating a reported incident such as abuse of power | • Engaged in campaign to eradicate abuse of power through various media<br>• Organized working-level consultative group for improving an organization's integrity |
| **Foreign** | **Foreign** | **Foreign** |
| • Introduced pledge system for implementing the protection of a supplier's workers' rights<br>• Provided information and PR on reporting channels to suppliers | • Introduced fair contract pledge<br>• Improved specific criteria for screening eligibility of facility construction | • Operated civilian auditor system for integrity<br>• Participated in working group for human rights with UNGC company |

### Increase of training time per person




### Increased training subject




## Training on ethical management

KNOC is making it mandatory for its employees to complete training on integrity and ethics for each life cycle. The company is educating its high-ranking executives about integrity & ethics and their role as a leader. KNOC is also conducting training for promoted employees on spreading an ethical culture and providing training to recruits about the mindset of a public official and basic quality education. In addition, the company is training in-house lecturers specializing in integrity to conduct effective training on integrity & ethics. The company selects one person from the Legal Team and one from the Internal Audit Department and makes them participate in specialized education courses to strengthen their capacity as lecturer specializing in integrity and have them spread an ethical culture by actually making them conduct education courses. Employees of domestic offices are trained on ethical management strategies and system for reporting unethical behavior. Meanwhile, KNOC is conducting separate training on integrity and ethics for executives and senior vice presidents, which are high-ranking positions. The company is conducting training specializing in leadership to lead a clean organizational culture, and employees are receiving training on the global standard management environment and the role of managers.



# Transparent Disclosure of Information

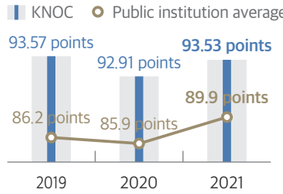
## Enhancing the transparency of organizational operation

As the government and the people are increasingly interested in public announcements, KNOC has expanded the public announcement items for all business areas with the aim of promoting the transparency of organizational operation. The company has garnered an "Excellent grade of higher" from the evaluation of the actual operational state of information disclosure by the Ministry of the Interior and Safety for 3 consecutive years by analyzing pending issues in communication between members and setting the direction for information disclosure through national demand analysis.

### Activities for enhancing transparency in all business areas

| Oil development | Oil stockpiling | Improvement of oil distribution structure |
|---|---|---|
| • Changed composition of investment deliberation committee<br>– Made composition of the majority of organization with external members mandatory<br>• Strengthened internal control procedure in investment process<br>– Made preparation of integrity failure report mandatory | • Implemented joint safety inspection (monthly)<br>• Conducted preventive inspection for safety accidents (bi-monthly)<br>• Actualized reward & punishment standards for safety management<br>• Expanded target for self-measurement of air pollutants | • Strengthened use of integrated information system for economic gas stations<br>– Provided information on new changeover, cancellation and evaluation grade<br>• Improved operating procedure of economic gas station<br>– Selected judges and prepared pricing procedure |
| • Enhanced transparent of new investments<br>– Held investment deliberation committee (10 times)<br>• Prepared measures for preventing recurrence of investment failure<br>– Conducted cases analysis on failure | • Achieved zero disasters in 2021<br>– Established field-centered accident prevention system<br>• Promoted safety awareness of field workers<br>• Strengthened protection of local residents' health rights | • Invigorated real-time communication<br>– Expanded contactless services and disclosed information<br>• Secured transparency of economic gas station operation<br>– Strengthened fairness of operating procedure |

### Result of evaluation of the actual operational state of information disclosure




### Information disclosure to satisfy the people's right to know

| | |
|---|---|
| Prior disclosure of info | • Additionally discovered announcement info by reflecting people's survey results and analysis of user needs<br>– Disclosed more than 2 times the target of Ministry of the Interior and Safety (80 cases) (Total 163 cases) |
| Disclosure of original text | • Increased disclosed documents through monitoring by month/half-year and relaxing standards for partial disclosure |
| Request for info disclosure | • Strengthened transparency of information disclosure work and revised regulations for protecting civil rights<br>– Enhanced personal info protection, increased external members of informaiton disclosure council |


KNOC Archives

## Operation of KNOC Archives

KNOC is operating the KNOC Archives it has established for disclosing company records to the people. The company collected 83 types of important materials by preparing a standard for registering and managing publications, and it is carrying out record management of the dataset records. Furthermore, the company provided document viewing service to all employees and leased and exhibited records at the Oil Tank Culture Park, with about 4,300 people visiting the exhibition.

### Major results of record management

**System improvement**
- Expanded target of supervision and inspection of record management (offices->entire company) and enhanced expertise
- Discovered and prevented loss of 997 volumes of important documents preserved for 30 years minimum.

**Standard establishment**
- Prepared registration and management standard for publications (Collected 83 types of materials important for KNOC)
- Carried out record management of dataset records (Established 3-year plan)

**Awareness improvement**
- Conducted circuit education & cyber education of record management (665 persons)
- Rewarded and spread excellent cases such as restoration of old paper records

**Recording service**
- Provided document viewing service for all employees (999 cases)
- Rented and exhibited records from Oil Tank Culture Park (Approx. more than 4,300 visitors)

# Improvement of Financial Soundness

## Execution of mid- to long-term financial management plan

As the establishment of measure to improve KNOC's financial structure was required according to the recommendation by "the 2nd innovation task force for overseas resource development," the company has established measures to improve its finance in cooperation with the government's joint consultative group. According to the CEO's strong commitment, KNOC is making every effort to improve its financial structure by securing financial soundness, maximizing its profit through efficient management and supervision of overseas businesses, and strategically selling off its non-core assets by objectively checking its portfolio at the same time.

### Performance by finance strategy according to the CEO's commitment

| Financial strategy | Major items to be carried out and results | Results |
|---|---|---|
| ❶ Profit improvement | CEO Comment: "Sweat the Asset"<br>Cost reduction: 15% preemptive deferment/reduction of non-rigid expenses, efforts to reduce budget reflected in internal evaluation<br>Profit source discovery: Increased added value from utilizing newly introduced oil type, applied production increasing technology for overseas oil development | 2021: 3.9<br>2020: -0.5<br>Operating income increased by 440 million USD |
| ❷ Asset rationalization | CEO Comment: "Push ahead with renegotiation using rising oil prices"<br>Sales of A assets: Reduced decommissioning liabilities by 220 mil. USD through selling 2 packages<br>Sales of B assets: Succeeded in sales of assets by 30 mil. USD increase compared to past using rising oil prices. | before sale: 23.1<br>after sale: 20.2<br>Provisional liabilities reduced by 290 million USD |
| ❸ Improve investment efficiency | CEO Comment: "Execute investment within business cash flow"<br>Priority: Adjust priority through increasing investment on assets with good cash flow<br>Investment reduction: Adjusted investment through zerobase review and reduced debt by retrieving subsidiary | 2020: 131.2<br>2021: 125.5<br>Debt reduced by 570 mil. USD |
| ❹ New energy business | CEO Comment: "Lead carbon neutrality using KNOC core technologies"<br>Floating offshore wind farm: Pushed ahead with 200MW project without setbacks and expanded to 1GW-sized project<br>Hydrogen: Expanded our business to hydrogen · ammonia infrastructure including stockpiling in response to energy transition<br>CCUS: Expanded government R&D 400,000 tons/year(2026) -> dedicated organization's designation to 4 mil. tons/year (2030) | (Unit: KRW 100 mil.)<br>2021: 5<br>2020: 0<br>New investment of KRW 500 mil. in new energy |

### Budget formulation in connection with the strategic direction

**Stable oil security supply**
- Expand production to 4 mil. barrels
- Expand stockpile to 100,000 barrels

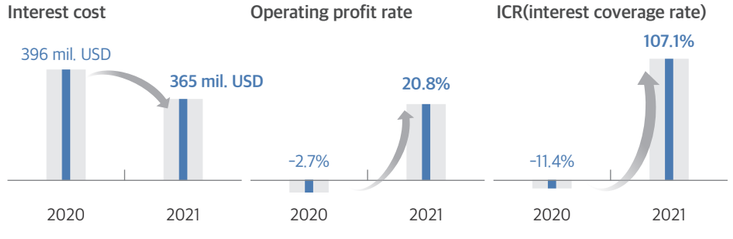
**Lead carbon neutral new energy industry**
- Commercialized floating offshore wind farm
- Newly carry out hydrogen·ammonia & CCUS

**Strengthen competitiveness via innovation**
Active budgeting for improving technologies/facilities related to profit

**Early establishment of ESG management**
Increase budget for safety & social values related to people's life

## Preemptive response to financial issues

KNOC secured a stable fund procurement source worth 1 billion USD by collaborating in policy finance with a government-run bank and overcame the uncertainty of the financial market by successfully issuing global bonds worth 700 million USD at an opportune time. This was the outcome of securing a stable procurement source of dollars and won and cutting down financial expenses with low-interest procurement. It has the advantage of having the effect of easing the dependence on foreign loans and enabling the establishment of a coordination scheme in case of an emergency concerning resource security.








# Risk Management

## Financial risk management system

The organization for advising on and managing KNOC's financial risks is the Investment & Risk Committee, which comprehensively manages financial risks such as oil prices and liquidity risks including currency exchange rates and interest rates. Having established an early warning system along with the comprehensive monitoring of financial risk indicators, it is identifying changes in financial risk factors. Especially oil prices as KNOC's major risk factor are being managed by establishing a company-wide hedge policy. In addition, the company is managing market risks (exchange rate, interest, etc.) within the tolerance limit by measuring VaR (Value at Risk) according to the monthly change of risk factors. Furthermore, KNOC is carrying out short-term liquidity management measures that ensure that the fluctuation of past results is measured stochastically to calculate and maintain the appropriate amount on hand for the management of short-term liquidity.

### Financial risk management system

| Major risk | Currency risk | Interest rate risk | Liquidity risk | Oil price risk |
|---|---|---|---|---|
| Monitoring system | Inspection of integrated financial risk indicators | Measurement of currency risk amount (monthly) | Risk management committee | |
| Response measures | Execution of cross-currency swap | Fixed-rate borrowing | Secure emergency funding source | Hedge oil price by business |
| Result from double-checking of appropriateness | Good<br>14% level vs. limit | Good<br>97.5% fixed-rate borrowing | Good<br>Secured Credit line | Good<br>Hedged individual business units |

## Corruption risk management

KNOC has laid the foundation for sustainable management by coming up with 6 major tasks for corruption risk management to normalize the management of an organization and support the realization of social values. In addition, the company has substantialized the corruption risk management system by vitalizing the internal attorney system, conducting audit satisfaction surveys, and strengthening anonymity protection measures. KNOC has established a system wherein matters related to corruption risk can be discussed with stakeholders through a preliminary review of the audit report by the "audit quality manager" and establishment of the audit report standard format and revision and distribution of audit manuals.

### Corruption risk management system

| | | | | |
|---|---|---|---|---|
| Mid-long term audit goal | Creation of sustainable management foundation through fair and open audit | | | |
| 2021 audit goal | Support normalization of an organization's management and realize social values as a management partner and internal checker | | | |
| Audit tasks | Improve management of overseas offices and diagnose self-effort | Check new business risks to secure new growth engine | Check appropriateness of operating stockpiling business closely related to national safety | |
| | Support response to vulnerable elements of business management and realization of social values | Recover the trust of the people through strengthening anti-corruption and integrity culture | Strengthen foundation of preventive audit and improve audit quality | |
| Feedback & communication | Advanced preparation<br>Upgraded daily audit system<br>Simplified prior consulting | Follow-up inspection<br>Checked actual condition of audit disposition,<br>Vitalize active work immunity | Strengthened communication<br>Council for anti-corruption of high-ranking positions,<br>Audit satisfaction survey | Feedback<br>Discovered & shared excellent cases,<br>Expanded audit DB system |

# APPENDIX

We will improve the people's quality of
life through stable supply of sustainable energy.

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# ESG Data Book

## Environment

| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| GHG Emissions | | | | | |
| Scope 1 | | tCO2-eq | 612 | 605 | 589 |
| Scope 2 | | tCO2-eq | 6,798 | 6,736 | 6,639 |
| Total | | tCO2-eq | 7,410 | 7,341 | 7,228 |
| GHG reduction | | | | | |
| Total GHG emission reduction | | tCO2-eq | 4,480 | 4,286 | 4,426 |
| Total GHG emission reduction rate | | % | 38 | 38 | 38 |
| Energy consumption in/outside the organization | | | | | |
| Energy purchase amount | New & renewable energy | TJ(Terra Joule) | 0 | 0 | 0 |
| | Electric power | TJ | 140 | 139 | 139 |
| | Total | TJ | 140 | 139 | 139 |
| Energy usage | LNG (city gas) | TJ | 7 | 8 | 8 |
| | Gasoline | TJ | 1 | 0 | 0 |
| | Diesel | TJ | 3 | 2 | 2 |
| | Propane | TJ | 0.28 | 0.281 | 0.275 |
| | Total | TJ | 11 | 10 | 10 |
| Water consumption | | | | | |
| Water consumption | Water and sewage | ton | 102,927 | 87,778 | 119,771 |
| | Industrial water | ton | 600,900 | 580,786 | 864,928 |
| | Underground water | ton | 16,479 | 41,289 | 22,793 |
| | Other | ton | 153,227 | 147,190 | 149,952 |
| | Total | ton | 873,533 | 857,043 | 1,157,445 |
| Amount of recycled and reused water | | ton | 4,050 | 15,229 | 12,066 |
| Water reuse ratio | | % | 0.51 | 1.78 | 1.04 |
| Waste amount | | | | | |
| Waste generation according to type | Designated wastes | ton | 100 | 189 | 229 |
| | General wastes | ton | 409 | 540 | 449 |
| | Construction wastes | ton | 26 | 166 | 165 |
| | Total | ton | 534 | 895 | 843 |
| | Recycled | ton | 170 | 189 | 142 |
| Air pollutant emissions[1)] | Dust | ton | N/A | N/A | 0.23 |
| | $NO_X$ | ton | N/A | N/A | 1.51 |
| | $SO_X$ | ton | N/A | N/A | 4.05 |
| Current status of water pollutant management[2)] | | | | | |
| Wastewater amount generated[3)] | | ton | 1,446,571 | 1,297,938 | 1,406,166 |

1) KNOC aggregated since 2021 in accordance with the Total Air Pollution Load Management System.

2) The regulatory values of the Yeosu, Seosan, Geoje, and Ulsan branches (marine facilities under the Marine Environment Management Act) are based on the environmental impact assessment agreement, while the Guri branch applies the Water Environment Conservation Act, and the results are average values.

3) Applicable to Yeosu, Seosan, Geoje, Ulsan, and Guri branches with wastewater facilities;





| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Water Pollutant Discharge (Ulsan office) | COD[4)] | ppm | 1.98 | 2.88 | 3.41 |
| | BOD[5)] | ppm | 1.55 | 0.69 | 1.61 |
| | T-P[6)] | ppm | 0.14 | 0.10 | 0.08 |
| | T-N[7)] | ppm | 2.26 | 0.78 | 1.52 |
| | SS[8)] | ppm | 2.47 | 1.88 | 2.43 |
| Water Pollutant Discharge (Yeosu office) | COD | ppm | 6.30 | 4.98 | 5.66 |
| | BOD | ppm | 1.43 | 1.02 | 0.85 |
| | T-P | ppm | 0.00 | 0.00 | 0.00 |
| | T-N | ppm | 0.00 | 0.79 | 0.00 |
| | SS | ppm | 1.43 | 2.72 | 1.37 |
| Water Pollutant Discharge (Seosan office) | COD | ppm | 8.40 | 6.95 | 7.00 |
| | BOD | ppm | 1.33 | 4.25 | 3.08 |
| | T-P | ppm | 0.00 | 0.00 | 0.00 |
| | T-N | ppm | 0.00 | 0.00 | 0.00 |
| | SS | ppm | 3.20 | 2.70 | 1.53 |
| Water Pollutant Discharge (Geoje office) | COD | ppm | 4.53 | 4.05 | 4.55 |
| | BOD | ppm | 2.39 | 1.23 | 1.35 |
| | T-P | ppm | 0.00 | 0.00 | 0.00 |
| | T-N | ppm | 0.00 | 0.00 | 0.00 |
| | SS | ppm | 1.63 | 1.92 | 1.74 |
| Water Pollutant Discharge (Guri office) | COD | ppm | 2.64 | 1.57 | 0.00 |
| | BOD | ppm | 0.58 | 1.04 | 0.35 |
| | T-P | ppm | 0.01 | 0.01 | 0.01 |
| | T-N | ppm | 0.37 | 0.68 | 0.38 |
| | SS | ppm | 0.84 | 0.44 | 0.38 |
| Sewage generation | | | | | |
| Water Pollutant (Seosan office) | BOD | ppm | 5.31 | 5.58 | 5.58 |
| | SS | ppm | 2.00 | 1.87 | 2.83 |
| Water Pollutant (Pyeongtaek office) | BOD | ppm | 4.80 | 5.11 | 9.88 |
| | SS | ppm | 4.33 | 4.24 | 8.87 |
| Water Pollutant (Yongin office) | BOD | ppm | 3.56 | 4.40 | 4.59 |
| | SS | ppm | 2.06 | 2.30 | 2.30 |
| Water Pollutant (Gokseong office) | BOD | ppm | 4.32 | 2.63 | 3.05 |
| | SS | ppm | 2.29 | 2.84 | 3.99 |

4) COD (Chemical oxygen demand): The amount of oxidant consumed to chemically oxidize oxidizable substances (mainly organic matter) in water using an oxidizing agent (K2Cr2O7 & KMnO4) converted to oxygen;

4) BOD (Biochemical oxygen demand): The amount of dissolved oxygen required for aerobic bacteria to oxidize organic substances in water;

6) Total amount of phosphorus contained in water as an index for eutrophication of rivers and lakes

7) Total amount of nitrogen content including organic and inorganic nitrogen

8) SS (Suspended solid): A substance with a particle diameter of 2 mm or less that does not dissolve in water

| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Air Pollutant (Ulsan Construction Sub-office) | Fine dust (PM2.5) | ㎍/㎥ | 15.7 | 15.9 | 17.43 |
| | Fine dust (PM10) | ㎍/㎥ | 28.6 | 31.5 | 28.85 |
| | NOx[1)] | ppm | 0.017 | 0.019 | 0.019 |
| **Eco-friendly vehicle ratio** | | | | | |
| Business vehicle | Business vehicle (excluding compact car, green car) | car | 4 | 5 | 5 |
| | Compact car | car | 1 | 1 | 1 |
| | Total | car | 5 | 6 | 6 |
| Green car | Hybrid | car | 5 | 5 | 5 |
| | Electric car | car | 3 | 3 | 3 |
| | Total | car | 8 | 8 | 8 |
| Green car ratio | Total | % | 62 | 57 | 57 |
| **Environmental facility investment** | | | | | |
| Air (VOCs treatment facility of stockpiling sites reflected) | | KRW 1 mil. | 2,206 | 1,125 | 1,350 |
| Water quality | | KRW 1 mil. | 338 | 0 | N/A[2)] |
| Recycling & others | | KRW 1 mil. | 0 | 0 | N/A[2)] |
| **Environmental expense** | | | | | |
| Environmental facility operating cost/recycling cost | | KRW 1 mil. | 10,123 | 5,088 | N/A[2)] |
| Depreciation | | KRW 1 mil. | 3,577 | 3,611 | N/A[2)] |
| General management expense | | KRW 1 mil. | 7,798 | 2,599 | N/A[2)] |
| **Compliance with environmental laws** | | | | | |
| Disciplinary actions for environmental regulation violations | | case | 0 | 0 | 0 |
| Amount of disciplinary actions (penalty) for environmental regulation violations | | KRW 1 mil. | 0 | 0 | 0 |
| **Use of hazardous chemical substances** | | | | | |
| Consumption of hazardous chemical substances | | ton | 0 | 0 | 0 |
| Accidents involving hazardous chemical substance leak | | case | 0 | 0 | 0 |
| **Environmental performance of overseas sites[3)]** | | | | | |
| Energy consumption | Direct consumption[4)] | TJ | 16,595 | 18,779 | 11,839 |
| | Indirect consumption[5)] | TJ | 3,085 | 3,453 | 1,820 |
| | Total | TJ | 19,680 | 22,232 | 13,659 |
| GHG emissions[4)] | Scope 1 | tCO2-eq | 1,002,852 | 945,682 | 865,969 |
| | Scope 2 | tCO2-eq | 115,105 | 127,379 | 187,233 |
| | Total | tCO2-eq | 1,117,957 | 1,073,061 | 1,053,202 |

1) NOx (Nitrogen Oxide): A generic term for compounds of nitrogen and oxygen, including nitrous oxide, nitrogen dioxide, and nitrogen monoxide; It causes respiratory disorders, photochemical smog, acid rain, etc.

2) Environmental expense is statistical data to be submitted to the OECD by the MOE, and since OECD standards stipulates to submit data from 2 years past, data of 2021 will be prepared and submitted in 2023.

3) ANKOR, Dana, Harvest Energy, KNOC Caspian Branch, Vietnam 11-2 (license business only);

4) 1 Sm³= 40 MJ (energy-gas basis, Sustainability reporting guidance for the oil and gas industry, IPIECA&API&IOGP);

5) 1 Mwh = 0.0096 TJ (Sustainability reporting guidance for the oil and gas industry, IPIECA&API&IOGP);





| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Air pollutant emission | NMVOC[6)] | ton | 3,332 | 3,419 | 2,171 |
| | SOx[7)] | ton | 210 | 247 | 307 |
| | NOx | ton | 1,853 | 1,840 | 1,621 |
| | Total | ton | 5,395 | 5,506 | 4,099 |
| Oil spill | Number of spills | Number | - | 1 | - |
| | Spill quantities | ton[8)] | - | 0.4 | - |
| Produced water[9)] | Produced water throughput | ton | 22,540,093 | 18,502,416 | 24,312,626 |
| | Produced water recycled[10)] | ton | 15,943,138 | 19,269,689 | 16,111,055 |
| Waste | Hazardous waste | ton | 51,043 | 57,973 | 37,463 |
| | Non-hazardous waste | ton | 18,661 | 18,232 | 4,966 |
| Environmental regulation violation | Fine[11)] | USD | 26,479 | 9,768 | 302,968 |

6) NMVOC: Non-methane volatile organic compounds;

7) SOx (sulfur oxide): A generic term for compounds of sulfur (S) and oxygen, including sulfur dioxide, sulfuric acid, and sulfates such as copper sulfate; It is a major air pollutant and causes acid rain.

8) 1 bbl = 0.134 ton (Sustainability reporting guidance for the oil and gas industry, IPIECA&API&IOGP);

9) Produced water: It is a by-product or waste produced to the ground along with crude oil and gas in oil and gas wells. It is also called formation water, brine, or saltwater. Production water is water that ends up as connate or bottom water in the reservoir or is flown into the reservoir during the application of water flooding.

10) Applicable to Dana and Harvest Energy

11) Fines for violations of environmental regulations, such as oil-based water leaks and air pollution emissions

## Social

| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| **Employee status** | | | | | |
| Gender | Male | persons | 1,116 | 1,109 | 1,069 |
| | Female | persons | 256 | 264 | 253 |
| Number of full-time employees | Male | persons | 1,084 | 1,078 | 1,040 |
| | Female | persons | 210 | 220 | 214 |
| | Total | persons | 1,294 | 1,298 | 1,254 |
| Full-time employee ratio | Male | % | 97 | 97 | 97 |
| | Female | % | 82 | 83 | 85 |
| | Total | % | 94 | 95 | 95 |
| Number of non-regular employees | Non-regular | persons | 15 | 16 | 14 |
| | Unlimited contract | persons | 63 | 59 | 54 |
| | Total | persons | 78 | 75 | 68 |
| Non-regular employee ratio | Male | % | 3 | 3 | 3 |
| | Female | % | 18 | 17 | 15 |
| | Total | % | 6 | 5 | 5 |
| Number of employees by age | Under 30 | persons | 116 | 133 | 109 |
| | 30~50 years old | persons | 890 | 876 | 844 |
| | Over 50 | persons | 366 | 364 | 369 |
| Diversity of employees | Female employees | % | 19 | 19 | 19 |
| | Female managers | persons | 11 | 11 | 11 |
| | National veterans | persons | 76 | 77 | 73 |
| | Disabled | persons | 36 | 36 | 33 |

| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| executives (executive director, executive vice-president) | Male | persons | 4 | 3 | 4 |
| | Female | persons | 0 | 0 | 0 |
| | Under 35 | persons | 0 | 0 | 0 |
| | 35~50 years old | persons | 0 | 0 | 0 |
| | Over 50 | persons | 4 | 3 | 4 |
| Grade 1-3 | Male | persons | 231 | 228 | 229 |
| | Male ratio | % | 17 | 17 | 18 |
| | Female | persons | 9 | 7 | 8 |
| | Female ratio | % | 1 | 1 | 1 |
| | Under 35 | persons | 0 | 0 | 0 |
| | Ratio under 35 | % | 0 | 0 | 0 |
| | 35~50 years old | persons | 32 | 28 | 28 |
| | Ratio between 35-50 | % | 2 | 2 | 3 |
| | Over 50 | persons | 208 | 207 | 209 |
| | Ratio over 50 | % | 16 | 16 | 17 |
| Grade 4-8 | Male | persons | 849 | 847 | 807 |
| | Male ratio | % | 66 | 65 | 65 |
| | Female | persons | 201 | 213 | 206 |
| | Female ratio | % | 16 | 17 | 16 |
| | Under 35 | persons | 239 | 220 | 180 |
| | Ratio under 35 | % | 19 | 17 | 15 |
| | 35~50 years old | persons | 678 | 702 | 690 |
| | Ratio between 35-50 | % | 53 | 54 | 54 |
| | Over 50 | persons | 133 | 138 | 143 |
| | Ratio over 50 | % | 10 | 11 | 11 |
| Total number of employees | | persons | 1,372 | 1,373 | 1,322 |
| **New recruitment by age** | | | | | |
| Under 35 | | persons | 17 | 30 | 1 |
| 35~50 years old | | persons | 4 | 3 | 1 |
| Over 50 | | persons | 0 | 0 | 0 |
| **Retirement management** | | | | | |
| Retirement type | Retired person | persons | 22 | 24 | 25 |
| | Voluntarily retired person | persons | 31 | 16 | 22 |
| | Voluntary retirement rate | % | 58 | 40 | 47 |
| Total number of retired persons | | persons | 53 | 40 | 47 |
| Employee turnover count by gender | Male | persons | 42 | 33 | 39 |
| | Female | persons | 11 | 7 | 8 |
| Employee turnover count by age | Under 35 | persons | 11 | 5 | 5 |
| | 35~50 years old | persons | 9 | 10 | 10 |
| | Over 50 | persons | 33 | 25 | 32 |
| | Total | persons | 53 | 40 | 47 |
| **New recruitment for full-time position (employees)** | | | | | |
| Total No. of newly hired employees | | persons | 21 | 33 | 2 |

| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Female | | persons | 3 | 6 | 0 |
| Disabled | | persons | 0 | 0 | 0 |
| No. of local talents in non-capital regions | | persons | 11 | 24 | 2 |
| High school graduates | | persons | 7 | 11 | 0 |
| **Human resource development (education & training)** | | | | | |
| Total number of personnel educated | | persons | 1,357 | 1,357 | 1,308 |
| Training hours per person | | hours | 89.31 | 99.69 | 91.58 |
| Total training time | | hours | 121,193 | 135,273 | 119,790 |
| Training execution cost per person | | KRW 1 thousand / Persons | 913 | 616 | 683 |
| Total training expense | | KRW 1 mil. | 1,239 | 836 | 893 |
| Training satisfaction | | points | 83.96 | 82.54 | 79.92 |
| **Flexible working system** | | | | | |
| Time selection system | Recruit | persons | 16 | 4 | 0 |
| | Conversion | persons | 9 | 15 | 19 |
| Flexible working hours | Staggered commuting type | persons | 308 | 301 | 33 |
| | Working hours selection type | persons | 297 | 321 | 349 |
| | Flexible work type | persons | 5 | 14 | 0 |
| Remote work system | Telecommuting type | persons | 0 | 689 | 685 |
| **Use of parental leave** | | | | | |
| Number of employees who used parental leave | Male | persons | 27 | 28 | 29 |
| | Female | persons | 67 | 41 | 53 |
| | Total | persons | 94 | 69 | 82 |
| Number of employees returning to work after parental leave [1)] | Male | persons | 25 | 28 | 29 |
| | Female | persons | 64 | 40 | 52 |
| | Total | persons | 89 | 68 | 81 |
| Number of employees rendering continuous service for 12 months after parental leave | Male | persons | 21 | 20 | 27 |
| | Female | persons | 51 | 27 | 50 |
| | Total | persons | 72 | 47 | 77 |
| Return rate after parental leave [2)] | Male | % | 93 | 100 | 100 |
| | Female | % | 96 | 98 | 98 |
| Rate of staying on duty for 12 months after returning | Male | % | 84 | 71 | 93 |
| | Female | % | 80 | 68 | 96 |
| **Labor union membership** | | | | | |
| Total number of workers | | persons | 1,372 | 1,373 | 1,322 |
| Number of union members (collective agreement applied) | | persons | 1,134 | 1,118 | 1,072 |
| Union membership rate (collective agreement applied) | | % | 83 | 81 | 81 |
| Labor-management council, Occupational safety & health association convened (4 times) | | number | 5 | 6 | 6 |
| Company-wide event for labor-management cooperation (annual) | | persons | 1,134 | 0 | 0 |
| Satisfaction with labor-management relations | | % | 82.06 | 65.6 | 71.53 |

1) All those who switched to parental leave after using maternity leave are considered returning employees.

2) Number of employees who returned to work, number of employees who worked for 12 months (Data changed due to change of formula)

| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Grievance settlement | | | | | |
| Grievance settlement cases | | cases | - | 43 | 44 |
| Grievance settlement rate | | % | - | 100 | 100 |
| Social contribution activities | | | | | |
| Social contribution expenses (amount including social contribution, energy welfare) | | KRW 1 mil. | 289 | 386 | 239 |
| Number of participants in employee volunteer activities | | persons | 1,221 | 1,212 | 1,159 |
| Volunteer time per employee | | hours | 35 | 32 | 31 |
| Employee Donations | | KRW 1 mil. | 97 | 122 | 92 |
| Status of local community activities | | | | | |
| Communications with local community stakeholders | | number | 62 | 43 | 31 |
| Employees' health & safety | | | | | |
| Disaster death rate | | % | 0 | 0 | 0 |
| Serious disasters | | cases | 0 | 0 | 0 |
| Number of injuries & diseases of workers | Male | persons | 2 | 0 | 0 |
| | Female | persons | 0 | 0 | 0 |
| | Total | persons | 2 | 0 | 0 |
| Number of deaths of workers related to work | Male | persons | 0 | 0 | 0 |
| | Female | persons | 0 | 0 | 0 |
| | Total | persons | 0 | 0 | 0 |
| On-site safety inspection | Number of implementations per site | cases | 21 | 29 | 24 |
| | Total implementations | cases | 187 | 258 | 211 |
| | Detected sites with poor conditions | cases | 897 | 810 | 842 |
| Safety management supervisor training | The No. of employees who completed it | persons | 186 | 181 | 223 |
| Secured safety managers | Full-time position ratio | % | 100 | 100 | 100 |
| Use of health checkup | General checkup | persons | 759 | 737 | 708 |
| | Special checkup | persons | 209 | 188 | 235 |
| | Comprehensive checkup | persons | 1,304 | 1,234 | 1,280 |
| Supplied/Supported medicine | | persons | 842 | 680 | 783 |
| Health promotion activities (use of health consulting) | | persons | 180 | 164 | 178 |
| Employees' satisfaction | | | | | |
| Remuneration & welfare satisfaction | | points | 80.01 | 83.68 | 80.81 |
| Shared growth | | | | | |
| Preferential purchases | | KRW 1,000 | 146,102,399 | 147,376,707 | 168,787,284 |
| SME product purchase performance | SME product purchase amount | KRW 1,000 | 71,840,112 | 73,564,524 | 72,070,252 |
| | Ratio | % | 49.17 | 49.92 | 42.70 |
| | Total purchase amount | KRW 1,000 | 146,102,399 | 147,376,707 | 168,787,284 |
| Green purchase performance | Green purchase amount | KRW 1,000 | 1,516,802 | 114,990 | 114,093 |
| | Ratio | % | 91.52 | 81.21 | 45.31 |
| | Total purchase amount | KRW 1,000 | 1,657,274 | 141,591 | 251,791 |
| Purchases from female-owned business products | Purchase amount from female-owned businesses | KRW 1,000 | 6,378,918 | 4,821,243 | 3,602,253 |
| | Ratio | % | 4.37 | 3.27 | 2.13 |
| | Total purchase amount | KRW 1,000 | 146,102,399 | 147,376,707 | 168,787,284 |
| Purchases from social enterprise products | Purchase amount from social enterprises | KRW 1,000 | 788,211 | 934,381 | 805,826 |
| | Ratio | % | 1.05 | 1.20 | 0.65 |
| | Total purchase amount | KRW 1,000 | 74,916,141 | 78,030,464 | 124,611,973 |
| Purchases of products made by people with severe disabilities | Purchase amount of products made by people with severe disabilities | KRW 1,000 | 497,378 | 369,599 | 137,355 |
| | Ratio | % | 0.66 | 0.47 | 0.11 |
| | Total purchase amount | KRW 1,000 | 74,916,141 | 78,030,464 | 124,611,973 |
| Agricultural-Fishery Win-Win Cooperative Fund | | KRW 1 mil. | 92 | 89 | 91 |
| Supplier[1] | | | | | |
| Total number of suppliers | | Total | 113 | 127 | 119 |
| Human rights management | | | | | |
| Execution of internal operation audit (annual) | | Number | 23 | 24 | 24 |
| No. of participants in ethics education | | persons | 1,288 | 1,235 | 1,132 |
| Total hours of ethics education | | hour | 6,761 | 15,830 | 19,852 |
| Hours of ethics management education per person | | hour | 5 | 13 | 18 |
| Number of human rights education sessions | | Number | 7 | 8 | 7 |
| Number of participants in human rights education | | cases | 1,288 | 1,235 | 1,132 |
| Total hours of human rights education | | hour | 12,860 | 10,907 | 20,682 |
| Hours of human rights management education per person | | hour | 10 | 9 | 18 |
| Number of processed human rights violations (discrimination, etc.) | | cases | 0 | 1 | 0 |
| Forced labor, child labor | | cases | 0 | 0 | 0 |
| Product responsibilities | | | | | |
| Violations of law on customer health & safety | | cases | 0 | 0 | 0 |
| Violations of law on anti-corruption violation | | cases | 0 | 1 | 1 |
| Received complaints on customer's personal info management | | cases | 0 | 0 | 0 |
| Customer quality-related complaint rate (PPM) | | PPM | 0 | 0 | 0 |
| Guarantee of customer's right to know (info disclosure rate) | | % | 89.1 | 75.9 | 86.7 |
| Customer satisfaction | | | | | |
| Customer satisfaction with public organization | | points | 82.7 | 82.6 | 80.8 |
| Inspection of public institution's management disclosure (Evaluation score, out of 1 pts) | | points | 1 | 1 | 0.6 |
| No. of users of the oil information system | Annual Opinet users | 10k persons | 6,161 | 6,939 | 7,079 |
| | Annual Petronet users | 10k persons | 76 | 77 | 66 |
| Safety performance of overseas business sites | | | | | |
| Total hours worked | | hour | 8,695,381 | 8,154,309 | 8,208,587 |
| LTI[2] | | cases | 3 | 2 | 2 |
| LTIF[3] | | hours (mil.) | 0.35 | 0.25 | 0.24 |
| Fatal accidents[4] | | cases | 1 | 0 | 0 |

1) No. of suppliers contracted through HQ contract dept.

2) LTI: Lost time incident

3) LTIF: Lost time injury frequency

4) 2 fatalities of service supplier employees (Kazak)

## Governance

| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Distribution of economic performance | | | | | |
| Total taxes paid to government (corporate tax) | | KRW 1 mil. | 553,813 | 4,625 | 274,143 |
| Total amount paid to employees (labor cost & welfare cost included) | | KRW 1 mil. | 335,206 | 249,143 | 303,209 |
| Expenses paid to outsourcing partners (outsourcing cost) | | KRW 1 mil. | 70,213 | 67,900 | 80,706 |
| Voluntary contributions & fund investments to the local community | | KRW 1 mil. | 889 | 2,029 | 1,157 |
| Expenses paid to material partners (material cost) | | KRW 1 mil. | - | - | - |
| Interest paid to lenders of creditors (interest rates) | | KRW 1 mil. | 474,593 | 467,532 | 417,670 |
| Total distribution of economic performance | | KRW 1 mil. | 1,414,714 | 791,229 | 1,076,885 |
| Holding amount of economic values | | KRW 1 mil. | 2,064,656 | 1,439,361 | 1,508,784 |
| Creation of economic values | | | | | |
| Operating income | | KRW 1 bil. | 571,469 | - 54,108 | 447,437 |
| Current net income | | KRW 1 bil. | - 154,752 | - 2,439,173 | - 45,972 |
| Sales | | KRW 1 bil. | 2,929,993 | 1,931,222 | 2,154,338 |
| Sales by business | | | | | |
| Oil E&P Business | Production | MMboe [1] | 68 | 60 | 50 |
| | Daily production | Mboed [2] | 185.9 | 164.5 | 136.4 |
| | Reserves secured | MMboe | 1,237 | 1,247 | 1,057 |
| | (Overseas) Crude oil production | Mboe [3] | 43,628 | 41,186 | 35,359 |
| | (Overseas) Gas production | Mboe | 16,271 | 12,418 | 9,773 |
| | (Overseas) Condensate production | Mboe | 6,375 | 5,321 | 4,212 |
| | (Domestic) Gas production | Mboe | 1,452 | 1,044 | 399 |
| | (Domestic) Condensate production | Mboe | 119 | 79 | 31 |
| | Sales total | KRW 1 mil. | 2,662,816 | 1,648,968 | 1,960,959 |
| Oil Stockpiling | Stockpile | MMbbl | 96.5 | 96.9 | 97.5 |
| | Stockpiling capacity (cumulative) | MMbbl | 135.7 | 135.7 | 146.0 |
| | Oil reserves leased | Mbbl | 6,376 | 4,089 | 4,836 |
| | International joint stockpiling attracted | Mbbl | 17,120 | 20,739 | 18,283 |
| | Traded amount | Mbbl | 22,746 | 8,600 | 27,013 |
| | Sales total | KRW 1 mil. | 260,441 | 279,446 | 189,753 |
| Government subsidy and contracting | Sales total | KRW 1 mil. | 6,736 | 2,808 | 3,926 |
| Confirmed corruption cases & unfair trade practices and measures taken regarding this | | | | | |
| Number of corruption cases | | cases | 0 | 1 | 1 |
| Number of legal actions taken on unfair trade practices | | cases | 0 | 0 | 0 |
| Management of anti-corruption & ethical management | | | | | |
| Number of ethical management (anti-corruption) education sessions | | Number | 3 | 3 | 3 |
| Ratio of employees participating in ethical management education | | % | 95.9 | 97.7 | 91.1 |
| Processed code of ethics violations reported (corruption, etc.) | | cases | 2 | 1 | 1 |
| Legal actions taken on unfair trade practices | | cases | 0 | 0 | 0 |

1) MMboe(Million Barrels of Oil Equivalent)

2) Mboed(Thousand Barrels of Oil Equivalent per Day)

3) Mboe(Thousand Barrels of Oil Equivalent)





| Classification | | Unit | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Sanctions against other legal violations | | cases | 0 | 0 | 0 |
| Monitoring status | Disciplinary action against ethical management violations | cases | 0 | 3 | 4 |
| | Improvement and guidance after audit | cases | 244 | 190 | 242 |
| | Ethics level diagnosis | points | - | 8.26 | 8.09 |
| Board of directors | | | | | |
| Board of directors' operation results | Number of board of directors' meetings held | times | 12 | 15 | 16 |
| | No. of resolved agendas | cases | 39 | 47 | 36 |
| | Non-executive director ratio | % | 55.6 | 62.5 | 55.6 |
| | Board of Directors' meeting attendance rate | % | 93 | 97 | 96 |
| | No. of management proposals | cases | 32 | 27 | 28 |
| Total remuneration of board of directors | Non-executive director | KRW 1 mil. | 150 | 135 | 150 |
| | Executive director | KRW 1 mil. | 444 | 546 | 444 |
| Retirement pension | | | | | |
| Pension fund for paying pension (retirement pension operating amount) | Degree of accumulated pension assets | KRW 1 mil. | 92,723 | 104274 | 106,620 |
| Number of subscribers by type | DB | persons | 1,280 | 1,255 | 1,197 |
| | DC | persons | 157 | 182 | 198 |
| | Total | persons | 1,437 | 1,437 | 1,395 |
| Credit rating | | | | | |
| S&P | | | AA | AA | AA |
| Moody's | | | Aa2 | Aa2 | Aa2 |

## List of subsidiaries

| Name of subsidiaries | Main business activity | Business location | Ownership and Voting rights (%) | |
|---|---|---|---|---|
| | | | End of current term (2021) | End of last term (2020) |
| ANKOR E&P Holdings Corp. | Resource development (oil&gas) | United States | 100.00 | 100.00 |
| Dana Petroleum Limited | Resource development (oil&gas) | Great Britain | 100.00 | 100.00 |
| KNOC Eagleford Corp. | Resource development (oil&gas) | United States | 100.00 | 100.00 |
| Harvest Operations Corp. | Resource development (oil&gas) | Canada | 100.00 | 100.00 |
| KNOC Kaz B.V. | Resource development (oil&gas) | Netherlands | 100.00 | 100.00 |
| KADOC Ltd. | Resource development (oil&gas) | Malaysia | 75.00 | 75.00 |
| KNOC Sumatra Ltd. | Resource development (oil&gas) | Indonesia | 100.00 | 100.00 |
| KNOC Yemen Ltd. | Resource development (oil&gas) | Yemen | 60.00 | 60.00 |
| KNOC Trading Singapore Pte. Ltd. | Trading and marketing support | Singapore | 100.00 | 100.00 |
| KNOC Service Co., Ltd. | facility management | Republic of Korea | 100.00 | 100.00 |

# LRQA Independent Assurance Statement

## Relating to Korea National Oil Corporation's Sustainability Report for the calendar years 2020-2021

This Assurance Statement has been prepared for Korea National Oil Corporation in accordance with our contract but is intended for the readers of this Report.

### Terms of engagement

LRQA was commissioned by Korea National Oil Corporation (KNOC) to provide independent assurance on its 'KNOC Sustainability Report 2022' ("the report") against the assurance criteria below to a "moderate level of assurance and materiality of professional judgement" using "Accountability's AA1000AS v3", where the scope was a Type 2 engagement.

Our assurance engagement covered KNOC's operations and activities in domestic for the calendar years 2020-2021 and specifically the following requirements:

- Evaluating adherence to the AA1000 AccountAbility Principles1 of Inclusivity, Materiality, Responsiveness and Impact
- Confirming that the report is in accordance with GRI Standards2 and core option
- Evaluating the accuracy and reliability of data and information for only the selected indicators in the GRI Content Index listed below:
  - GRI 200(Economic): 205-2, 205-3, 206-1
  - GRI 300(Environmental): 302-1, 305-1, 305-2, 306-1, 306-2, 306-3, 307-1
  - GRI 400(Social): 401-1, 401-2, 401-3, 403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 403-9, 403-10, 404-1, 404-2, 405-1, 412-1, 413-1, 418-1, 419-1

Our assurance engagement excluded the data and information of KNOC's suppliers, contractors and any third-parties mentioned in the report.

LRQA's responsibility is only to KNOC. LRQA disclaims any liability or responsibility to others as explained in the end footnote. KNOC's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the report and for maintaining effective internal controls over the systems from which the report is derived. Ultimately, the report has been approved by, and remains the responsibility of KNOC.

### LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that KNOC has not, in all material respects:

- Met the requirements above
- Disclosed accurate and reliable performance data and information as all errors or omissions identified during the assurance engagement were corrected
- Covered all the issues that are important to the stakeholders and readers of this report.

The opinion expressed is formed on the basis of a moderate level of assurance and at the materiality of the professional judgement of the verifier.

**Note:** The extent of evidence-gathering for a moderate assurance engagement is less than for a high assurance engagement. Moderate assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a moderate assurance engagement is substantially lower than the assurance that would have been obtained had a high assurance engagement been performed.

### LRQA's approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing KNOC's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through reviewing documents and associated records.
- Reviewing KNOC's process for identifying and determining material issues to confirm that the right issues were included in their Report. We did this by benchmarking reports written by KNOC and its peers to ensure that sector specific issues were included for comparability. We also tested the filters used in determining material issues to evaluate whether KNOC makes informed business decisions that may create opportunities that contribute towards sustainable development.
- Auditing KNOC's data management systems to confirm that there were no significant errors, omissions or mis-statements in the report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the report.
- Checking whether GHG emissions and energy consumptions in the report were transposed correctly from the GHG inventory which was verified by the third-party assurance provider.
- Reviewing additional evidence made available by KNOC at its headquarters in Ulsan City.
- Checking that the GRI Content Index allows stakeholders to access sustainability indicators.

### Observations

Further observations and findings, made during the assurance engagement, are:

- Inclusivity:
  We are not aware of any key stakeholder groups that have been excluded from KNOC's stakeholder engagement process.
- Materiality:
  We are not aware of any material issues concerning KNOC's sustainability performance that have been excluded from the report. It should be noted that KNOC has established extensive criteria for determining which issue/aspect is material and that these criteria are not biased to the company's management.
- Responsiveness:
  KNOC should strengthen responsible practices, including policies, goals, performance monitoring and reporting in relation to the safety and health of workers of business partners in its workplace.
- Impact:
  KNOC should make the materiality test process in place more effective by improving the procedure to identify and understand its negative outward impacts in sustainability context.
- Reliability:
  KNOC's data management system for the selected indicators are well defined. However, KNOC's personnel responsible for publication of a sustainability report need to better understand the reporting principles and requirements of the GRI standards to make sure that the report is prepared in accordance with the GRI standards.

### LRQA's standards, competence and independence

LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 Greenhouse gases - Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and ISO/IEC 17021 Conformity assessment - Requirements for bodies providing audit and certification of management systems that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

This verification engagement is the only work undertaken by LRQA for KNOC and as such does not compromise our independence or impartiality.

Tae-Kyoung Kim
LRQA Lead Verifier
On behalf of LRQA
17th Floor, Sinsong Building, 67 Yeouinaru-ro, Yeongdeungpo-gu, Seoul, Korea
LRQA reference: SEO00000716

Dated: 8 October 2022

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*1 https://www.accountability.org*
*2 https://www.globalreporting.org*

# K-ESG Implementation Level Diagnosis

## To KNOC management and stakeholders,

### Assessment function

The Korea Public ESG Research Institute has developed and adopted the "Evaluation Checklist for K-ESG Implementation of Public Institutions" based on the K-ESG Guidelines published by the Ministry of Trade, Industry and Energy. The Evaluation Checklist of K-ESG Implementation for Public Institutions consists of 61 items in the four domains of information disclosure, environment, society, and governance, including the performance assessment of each ESG area. For the reliability and comparability of the assessment, the evaluation agency iMSR assessed KNOC's K-ESG level.

### Assessment scope

The Institute for Public K-ESG and iMSR assessed KNOC's mid-to-long-term strategy, stakeholder communications, ESG management activities, and strategy implementation process. The assessment result is a comprehensive review and analysis of corporate disclosure information, government disclosure information, press reports, internal performance data, and calculation system on ESG-related policies and activities from the stakeholder's standpoint.

### Assessment method

The Institute for Public K-ESG and iMSR conducted the first internal assessment through internal stakeholders in each department involved in evaluating public enterprise management and publishing the Sustainability Management Report. For the second assessment, the evaluation team visited KNOC's head office and conducted due diligence through internal documents on assessment evaluation and interviews with relevant personnel.

### Assessment results and recommendations for improvement

KNOC attained the Grade A due to the assessment, verifying that its ESG management implementation level has been satisfactory. It also indicates that its employees have a high awareness level of ESG management activities, with the enterprise's operational systems, policies, and practices being well-organized.

#### I. Information disclosure domain

KNOC provides balanced ESG information that can influence stakeholders' decisions and value judgments. The enterprise regularly provides comprehensive information on ESG through its website, business reports, sustainability management reports, and other publications.

#### II. Environmental domain

Although KNOC is pursuing economically sustainable development while minimizing the environmental impact throughout the entire process of the enterprise's business operations, the processes to develop, execute, achieve, review, and maintain environmental management effectively and its performance management are relatively inadequate and need to be supplemented in the future.

#### III. Social domain

KNOC instated the vision to be "A global energy company leading energy security and carbon neutrality" to embody its commitment to ESG management. Although it showed excellent results in the overall social domain, there is room for improvement in win-win partnerships and execution in community affairs.

#### IV. Governance aspect

KNOC operates business with a sound governance structure prescribed by the Act on the Management of Public Institutions. For a better governance structure, it is necessary to enhance diversity in the management of affiliated committees and the Board of Directors and secure the expertise of the audit team.





## K-ESG Guidelines Index

● Fulfilled ◐ Partially fulfilled ○ unfulfilled

| Domain | Category | Categorization range | Assessment subject | Pg. | Remarks |
|---|---|---|---|---|---|
| Information disclosure (P) | Information disclosure format | P-1-1 | Information disclosure method | About this report | ● |
| | | P-1-2 | ESG information disclosure cycle | About this report | ● |
| | | P-1-3 | ESG information disclosure scope | About this report | ● |
| | Information disclosure content | P-2-1 | ESG key issues and KPIs | 19-20, 24-25 | ◐ |
| | Information disclosure verification | P-3-1 | ESG information disclosure verification | 88-89, 90-93 | ● |
| Environment (E) | Goals of environmental management | E-1-1 | Establishment of Environmental Management Goals | 36-41 | ● |
| | | E-1-2 | Environmental management implementation system | 36-41 | ● |
| | Raw and subsidiary materials | E-2-1 | Raw and subsidiary material usage | 78-81 | ● |
| | | E-2-2 | Percentage of recycled raw and subsidiary materials | 78-81 | ● |
| | Greenhouse gas emissions (GHG) | E-3-1 | GHG emissions (Scopes 1 & 2) | 78-81 | ● |
| | | E-3-2 | GHG emissions (Scope 3) | - | ○ |
| | | E-3-3 | Verification of GHG emissions | 78-81, 88-89 | ● |
| | Energy | E-4-1 | Energy usage | 78-81 | ● |
| | | E-4-2 | Percentage of recycled energy usage | 78-81 | ● |
| | Utility water | E-5-1 | Utility water usage | 78-81 | ● |
| | | E-5-2 | Percentage of utility water reuse | 78-81 | ● |
| | Waste | E-6-1 | Discharged waste | 78-81 | ● |
| | | E-6-2 | Percentage of waste recycling | 78-81 | ● |
| | Pollutants | E-7-1 | Atmospheric pollutant emissions | 78-81 | ● |
| | | E-7-2 | Water Pollutant Emissions | 78-81 | ◐ |
| | Violation of environmental laws/ regulations | E-8-1 | Violation of environmental laws/regulations | 78-81 | ● |
| | Environmental labeling | E-9-1 | Percentage of eco-certified products and services | 78-81 | ◐ |
| Social (S) | Goal | S-1-1 | Goal setting and disclosure | 46, 50, 54, 56, 58, 61 | ● |
| | Labor | S-2-1 | New employee hiring and retention | 81-85 | ● |
| | | S-2-2 | Percentage of regular full-time employees | 81-85 | ● |
| | | S-2-3 | Voluntary turnover rate | 81-85 | ● |
| | | S-2-4 | Education/ training-related expenses | 81-85 | ● |
| | | S-2-5 | Welfare benefit expenses | 81-85 | ◐ |
| | | S-2-6 | Guaranteed freedom of association | 56-57 | ● |
| | | S-2-7 | Rate of re-employment support among those over the age of 50 and expected to change jobs involuntarily | - | ○ |
| | Diversity and gender equality | S-3-1 | Percentage of female employees | 81-85 | ● |
| | | S-3-2 | Ratio of female employee's pay (compared to average pay) | 81-85 | ● |
| | | S-3-3 | Percentage of employees with disabilities | 81-85 | ● |

| Domain | Category | Categorization range | Assessment subject | Pg. | Remarks |
|---|---|---|---|---|---|
| Social (S) | Industrial safety | S-4-1 | Safety and health promotion system | 46 | ● |
| | | S-4-2 | Industrial accident rate | 81-85 | ● |
| | Human rights | S-5-1 | Human rights policy establishment | 61-63 | ● |
| | | S-5-2 | Human rights risk assessment | 61-63 | ● |
| | Win-win growth and partnership | S-6-1 | Suppliers' ESG management | 50-53 | ● |
| | | S-6-2 | Support for suppliers' ESG | 50-53 | ● |
| | | S-6-3 | Agreement on ESG with suppliers | 50-53 | ◐ |
| | Local communities | S-7-1 | Strategic social contribution | 54 | ● |
| | | S-7-2 | Employee participation in voluntary services | 54-55 | ● |
| | | S-7-3 | Win-win partnerships and ESG activities in rural areas (balanced development) | 54-55 | ● |
| | | S-7-4 | Contribution to the vitalization of industry-university cooperation | 54-55 | ◐ |
| | | S-7-5 | Contribution to future generations' growth and education/ training | 54-55 | ◐ |
| | Information protection | S-8-1 | Implementation of an information protection system | 49 | ● |
| | | S-8-2 | Privacy infringement and remedies | 49, 81-85 | ● |
| | | S-8-3 | Self-initiated efforts and measures to protect privacy | 49 | ● |
| | Consumer | S-9-1 | Providing consumer information | 32-33 | ● |
| | | S-9-2 | Consumer safety | 46-49 | ● |
| | | S-9-3 | Operation of customer satisfaction response system | 32-33 | ● |
| | Violation of laws/ regulations in social sector | S-10-1 | Violation of laws/ regulations in social sector | Not applicable | ● |
| Governance (G) | Formation of the BOD | G-1-1 | ESG agenda under BOD | 69 | ● |
| | | G-1-2 | Percentage of non-executive directors | 66-67, 86~87 | ● |
| | | G-1-3 | Separation of the CEO and Chairman of BOD | 66-69 | ● |
| | | G-1-4 | Gender diversity of the BOD | 66, 86~87 | ● |
| | | G-1-5 | Expertise of non-executive directors | 66-69 | ● |
| | Activities of BOD | G-2-1 | Overall BOD attendance | 85-87 | ● |
| | | G-2-2 | Attendance rate of executive directors | 85-87 | ● |
| | | G-2-3 | Committees under BOD | 66-69 | ● |
| | | G-2-4 | Agenda deliberation by BOD | 66-69 | ● |
| | Ethical management | G-3-1 | Disclosure of Code of Ethics violations | - | ○ |
| | | G-3-2 | Compliance with ethical management/ anti-corruption laws/ Code of Conduct, etc. | 70-73 | ● |
| | Audit team | G-4-1 | Establishment of an internal audit department | 69-73, 75 | ● |
| | | G-4-2 | Expertise of the audit team (accounting/ finance experts on audit team) | 69-73, 75 | ◐ |
| | Violation of laws/ regulations in Governance | G-5-1 | Violation of laws/ regulations in governance | Not applicable | ● |





## Assessment result and recommendation

As a result of the K-ESG level assessment, KNOC obtained the Grade B+, indicating that it had a system for implementing ESG management. KNOC is in the stage of dispersing ESG management enterprise-wide, while the level of implementation of information disclosure, occupational safety, human rights, and ethical management has been outperforming.

We recommend that KNOC change the ESG information disclosure cycle from two years to one to improve its quality. We also expect KNOC to lead ESG information disclosure among public institutions by establishing an integrated system for ESG information disclosure of its suppliers to expand the scope of ESG information disclosure.

KNOC should establish a foundation for calculating Scope-3 GHG emissions and upgrading management through the integrated system for the ESG information disclosure of its suppliers. Moreover, we identified vulnerabilities concerning welfare benefit expenses, mutual partnerships, and local community affairs, and determined it is necessary to derive new programs for future improvements.

KNOC discloses HR disciplinary sanctions/ penalties for Code of Ethics violations, but it is necessary also to disclose the number of violations and number of employees involved in any violations, judicial/ administrative sanctions, and corrective actions to prevent recurrences.

We duly recommend KNOC integrate the values and principles of ESG management with the enterprise's unique business strategy to ensure that its public interest mandate as a public enterprise contributes to the stability of oil supply and demand and national economy development more robustly based on K-ESG guidelines going forward.

September 30, 2022

B+ K-ESG Assessments

* K-ESG implementation evaluation rates the enterprise based on seven grade levels of (S, A+, A, B+, B, C, and D) according to business reports, official websites, sustainability management reports, Alio (Clean Eye), and questionnaire surveys from the Institute for Public K-ESG. For more detailed information, please refer to the link at http://www.esgpublic.or.kr.

**Evaluation accreditation agency** Institute for Public K-ESG

The Institute for Public K-ESG 한국공공ESG연구원

**Evaluation agency** iMSR

iMSR Instigator of Movement for Social Responsibility

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# GRI Content Index

| Topic | No. | Disclosure | Page | ISO 26000 |
|---|---|---|---|---|
| Organizational Profile | 102-1 | Name of organization | 10 | 6.3.10/6.4.1-6.4.2/6.4.3/6.4.4/6.4.5/6.8.5/7.8 |
| | 102-2 | Activities, brands, products, and services | 12~18 | |
| | 102-3 | Location of headquarters | 10 | |
| | 102-4 | Business region | 14~18 | |
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| | 102-6 | Markets area | 10~18 | |
| | 102-7 | Scale of the organization | 10~11, 81 | |
| | 102-8 | Information on employees and other workers | 81~84 | |
| | 102-9 | Supply chain | 10, 14~18 | |
| | 102-10 | Significant changes to the organization and its supply chain | No significant change | |
| | 102-11 | Precautionary principle or preventive approach | 75 | |
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| | 102-13 | Association member | 100~101 | |
| Strategy | 102-14 | Statement from the senior decision maker | 6~7 | 4.7/6.2/7.4.2 |
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| | 102-22 | Composition of the highest governance body and its committees | 66~69 | |
| | 102-23 | Chair of the highest governance body | 66 | |
| | 102-26 | Role of the highest governance body in setting the purpose, values, and strategy | 66~69 | |
| Stakeholder Engagement | 102-40 | List of stakeholder groups | 21~23 | 5.3 |
| | 102-41 | Collective bargaining agreements | 56 | |
| | 102-42 | Identifying and selecting stakeholders | 21~23 | |
| | 102-43 | Approach to stakeholder engagement | 21~25 | |
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* Code of ethics link: https://www.knoc.co.kr/sub02/sub02_1_4_3_r.jsp





| Topic | No. | Disclosure | Page | ISO 26000 |
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| | 102-52 | Reporting cycle | 2 | |
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| Employment 2016 | 401-1 | New employee hires and employee turnover | 82 | 6.4.3/6.4.4/6.8.7 |
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| | 401-3 | Parental leave | 57, 83 | |
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| Occupational Health and Safety 2018 | 403-1 | Minimum notice periods regarding operational changes | 46~49 | - |
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| | 403-9 | Work-related injuries | 84 | |
| | 403-10 | Work-related disease | 84 | |
| GRI 404: Training and education | | | | |
| Training and Education 2016 | 404-1 | Average hours of training per year per employee | 83 | 6.4.7/6.8.5 |
| | 404-2 | Programs for upgrading employee skills and transition | 58~60 | |
| GRI 405: Diversity and equal opportunity | | | | |
| Diversity and Equal Opportunity 2016 | 405-1 | Diversity of governance bodies and employees | 60, 66~69 | 6.2.3/6.3.7/ 6.3.10/6.4.3 |
| GRI 406: Nondiscrimination | | | | |
| Non-discrimination 2016 | 406-1 | Incidents of discrimination and corrective actions taken | 85 | 6.3.6/6.3.7/ 6.3.10/6.4.3 |

| Topic | No. | Disclosure | Page | ISO 26000 |
|---|---|---|---|---|
| GRI 412: Human rights assessment | | | | |
| Human Rights Assessment 2016 | 412-2 | Employee training on human rights policies or procedures | 61~63 | - |
| GRI 413: Local community | | | | |
| Local Communities 2016 | 413-1 | Operations with local community engagement, impact assessments, and development programs | 50~55 | - |
| GRI 418: Customer privacy | | | | |
| Customer Privacy 2016 | 418-1 | Substantiated complaints concerning breaches of customer privacy and losses of customer data | 85 | 6.7.1-6.7.2/6.7.7 |
| GRI 419: Socioeconomic compliance | | | | |
| Socioeconomic Compliance 2016 | 419-1 | Noncompliance with laws and regulations in the social and economic areas | No violations | 4.6 |

* Task by non-employee workers

1. Head office
   - Office management (security guard, reception, landscaping, facility management, cleaning, etc.)
2. Branch
   - Security personnel for stockpiling facilities (Main gate, intrusion prevention, anti-terrorism, etc.)
   - Facility maintenance (stockpiling tank, warehousing, piers, etc.)
   - Offshore buoy maintenance (Offshore crude oil input/output facility management)
3. Gas field
   - Helicopter service (Moving to offshore platform)
   - Supply vessel (Transporting food and supply to gas field/platform by ship)
   - facility maintenance (offshore gas field platform, land platform)
4. Oil hub
   - Construction of Oil hub (construction and supervision of stockpiling tank)

# SASB Index

The Sustainability Accounting Standards Board (SASB) of the United States, which waslaunched in 2011, has announced the Industry Standards, which classified financially importantsustainability information into 11 sectors/77 industrial sectors according to the Sustainable Industry Classification System in consideration of the specificity of each industrial sector.

| Topic | Code | Accounting Metric | Page |
|---|---|---|---|
| GHG Emissions | EM-RM-110a.1 | Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations | 36, 78~81 |
| | EM-RM-110a.2 | Description of long-term and short-term strategy or plan to manage Scope 1 emissions, reduction targets, and analysis of performance against those targets | 36~41, 78~81 |
| | EM-RM-110a.3 | Description of long-term and short-term strategies to reduce GHG emissions, GHG reduction targets and performance | 36~41 |
| | EM-RM-110a.4 | Percentage of fulfillment of RPS target | 36~41 |
| Air Quality | EM-RM-120a.1 | (1) Air emissions of the following pollutants: (1) NOx (excluding $N_2O$), (2) SOx, (3) particulate matter (PM10), (4) $H_2S$, (5) volatile organic compounds | 78~81 |
| Energy Management | EM-RM-130a.1 | (1) Total energy consumed, (2) Percentage of grid electricity, (3) Percentage renewable, (4) Total self-generated energy | 78~81 |
| Water Management | EM-RM-140a.1 | (1) Total water withdrawn and reused, (2) Total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress | 78~81 |
| | EM-RM-140a.2 | Number of incidents of noncompliance associated with water quality permits, standards, and regulations | 78~81 |
| | EM-RM-140a.3 | Description of water management risks and discussion of strategies and practices to mitigate those risks | 42~43, 78~81 |
| Hazardous Waste Management | EM-RM-150a.1 | Amount of hazardous waste generated, percentage recycled | 78~81 |
| | EM-RM-150a.2 | (1) Number of underground storage tanks (USTs), (2) Number of UST releases requiring cleanup, (3) Percentage of accident occurrence rate related to underground storage tanks in regions with UST financial assurance funds | 42~43, 78~81 |
| Community Relations | EM-RM-210a.1 | Discussion of engagement processes to manage risks and opportunities associated with community interests | 54~55 |
| Workforce Health & Safety | EM-RM-320a.1 | (1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees | 82~85 |
| | EM-RM-320a.2 | Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks | 46~49 |
| Safety & Environmental Stewardship of Chemicals | EM-RM-410b.1 | (1) Percentage of products containing Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone hazard assessment | - |
| | EM-RM-410b.2 | Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact | - |
| Management of the Legal & Regulatory Environment | EM-RM-530a.1 | Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry | 38~40 |
| Operational Safety, Emergency Preparedness & Response | EM-RM-540a.1 | Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR) | 81~85 |
| | EM-RM-540a.2 | Number of transport incidents | 42 |





# TCFD Index

In December 2015, the Financial Stability Board (FSB) launched the Task Force on Climate-related Financial Disclosures (TCFD). TCFD has developed an international information disclosure framework requiring the disclosure of financial information related to climate change. International stakeholders and investors are using the information related to climate change disclosed according to the TCFD recommendations in making decisions. We at KNOC are working hard to comply with the 11 recommendations of TCFD. Activities regarding this are being dealt with in the corporate sustainability management report for responding to climate change.

| TCFD recommendation | | KNOC major activity | Page |
|---|---|---|---|
| Governance | a) Describe the board's oversight of climate-related risks and opportunities<br>b) Describe management's role in assessing and managing climate-related risks and opportunities | KNOC has established the ESG committee and set its role in Nov. 2021 so that the will to practice ESG management can be reflected to the management and the carbon neutrality issue can be discussed | 66~69 |
| Strategy | a) Describe climate-related risks and opportunities verified from the short-term, mid-term, and long-term perspectives<br>b) Describe the effect of climate-related risks and opportunities on an organization's business, strategy, and financial plan<br>c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios | KNOC has introduced ESG as a new paradigm for sustainable growth and set tasks by ESG area through Challenge Green 7 to manage ESG performance | 36~43 |
| Risk Management | a) Describe the organization's processes for identifying and assessing climate-related risks<br>b) Describe the organization's processes for managing climate-related risks<br>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management | KNOC has set 3 major strategic directions under the environmental vision of "fulfillment of social responsibilities through sustainable environmental preservation," and it is carrying out 8 strategic tasks through detailed analysis of each area | 36~43 |
| Metrics and Targets | a) Disclose the metrics used to assess climate-related risks and opportunities<br>b) Disclose greenhouse gas (GHG) emissions (Scope 1, Scope 2, Scope 3)<br>c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets | KNOC aims to secure large-scale $CO_2$ storage using its powerful oil exploration technology and foster a new carbon-neutral business and contribute to the national reduction target by reducing GHG by 4 million tons a year | 36~43, 78~81 |

# UNGC Index

## Support for the 10 Principles of The UN Global Compact

The principles of the Global Compact are based on the following international agreements:

| | | |
|---|---|---|
| Universal Declaration of Human Rights | Rio Declaration on Environment and Development | United Nations Convention Against Corruption |
| International Labor Organization's (ILO) "Declaration on Fundamental Principles and Rights at Work" | | |

COMMUNICATION ON PROGRESS

UN GLOBAL COMPACT

This is our **Communication on Progress** in implementing the Ten Principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

### Human Rights

**Principle 1**
Businesses should support and respect the protection of internationally proclaimed human rights.

**Principle 2**
Businesses should make sure that they are not complicit in human rights abuses.

### Labor Regulations

**Principle 3**
Business should uphold the freedom of association and effective recognition of the right to collective bargaining.

**Principle 4**
Businesses should uphold the elimination of all forms of forced and compulsory labor.

**Principle 5**
Businesses should uphold the effective abolition of child labor.

**Principle 6**
Businesses should uphold the elimination of discrimination with respect to employment and occupation.

### Environment

**Principle 7**
Businesses should support a precautionary approach to environmental challenges.

**Princsiple 8**
Businesses should undertake initiatives to promote greater environmental responsibility.

**Principle 9**
Businesses should encourage the development and diffusion of environment-friendly technologies

### Anti-corruption

**Principle 10**
Businesses should work against corruption in all its forms, including extortion and bribery.





# Major Awards & Memberships in Associations

## Major Awards

| Date | Award | Host organization |
|---|---|---|
| 2017.12 | Accredited as an outperforming institution for resource management in emergency preparedness | Ministry of the Interior and Safety |
| 2018.01 | Officially commended for social contribution activities | ROK Army 53rd Infantry Division |
| 2018.02 | Grand Award in Social Contribution by Happiness Plus | Korea Institute of Sustainability Management Evaluation |
| 2018.11 | Won the Korea Volunteer Award | United Nations Volunteers Korea |
| 2018.11 | Accredited for contribution to promoting local problem-solving platform | Ulsan Metropolitan City |
| 2018.11 | Accredited for Oil & Gas Authority's Maximizing Economic Recovery | UK Award OGA/ OGUK |
| 2018.12 | Officially commended for meritorious effort in joint disaster response training | Yongin Fire Station |
| 2019.01 | Officially commended for public/ private/ military/ police cooperation to improve facility protection capabilities | 55th Infantry Division Commander |
| 2019.01 | Won an award for contribution to the spread of sharing culture | Ulsan Metropolitan City |
| 2019.03 | Officially commended for One Company-One River Restoration Campaign and environmental conservation activities | Ulju-gun |
| 2019.09 | Won Grand Prize for the 2019 Korea Employment-Friendly Enterprise | Dong-A Ilbo |
| 2019.09 | Won Korea's Most Trusted CEO Award (in the communication management sector) | Dong-A Ilbo |
| 2019.11 | Officially commended at the 39th National Sports Festival for People with Disabilities | Ulsan Sports Association for the Disabled |
| 2019.12 | Won the Prime Minister's Commendation for contribution to establishing emergency response preparation | Ministry of the Interior and Safety |
| 2020.02 | Officially commended from the Minister of National Defense for contribution to integrated defense | Ministry of Trade, Industry, and Energy |
| 2020.03 | Officially commended in celebration of the 64th anniversary of the Korea Exchange | Korea Exchange |
| 2020.03 | Officially commended for contribution to integrated defense operations | Gyeonggi-do |
| 2020.12 | Won the Minister's commendation for information disclosure | Ministry of the Interior and Safety |
| 2020.12 | Won the Prime Minister's commendation for excellence in national core-based disaster management evaluation | Ministry of the Interior and Safety |
| 2020.12 | Won the Minister's commendation at the 2020 Carbon Neutral Green Management Awards | Ministry of Trade, Industry, and Energy |
| 2020.12 | Won Presidential Commendation for contribution to integrated defense (Yongin Branch, KNOC) | United Defense Headquarters |
| 2020.12 | Won the Prime Minister's commendation for civil defense service | Ministry of the Interior and Safety |
| 2021.10 | Won the Excellent Paper Award by The Journal of the Korean Society of Mineral and Energy Resources Engineers in 2021 | Korea Industrial Safety Association |
| 2021.11 | 59th anniversary firefighting day commendation by regional group head | Ulsan Metropolitan City |
| 2022.01 | Accredited as an outperforming enterprise for reducing GHG target management system in the public sector for 10 consecutive years | Ministry of Environment |

## Membership of associations and organizations

* As of June 30, 2022

| Membership of associations and organizations | |
|---|---|
| East of England Energy Group (EEEGR) | Process Safety Council in southern Gyeonggi area |
| Emergency Planning Council (Ministry of Trade, Industry, and Energy) | Public Institution Audit Council |
| Energy & Mineral Resources Development Association of Korea | Public-Private Council of Ulsan Integrity Society |
| Energy Future Forum | Safety Management Council for Onsan Industrial Complex |
| Koran Association of Occupational Health Nurses | Seosan City Development Council |
| Koran Association of Occupational Health Nurses | Taean Maritime Safety Council |
| Korea Customs Logistics Association | The Geological Society of Korea |
| Korea Electric Engineers Association | The Institute of Internal Auditors |
| Korea Environmental Preservation Association | The Korean Association for Public Administration |
| Korea Fire Safety Institute | The Korean Dietetic Association |
| Korea Industrial Safety Association | The Korean Society of Economic & Environmental Geology |
| Korea Industrial Technology Association | The Korean Society of Mineral & Energy Resources Engineers |
| Korea New & Renewable Energy | Ulsan Energy Forum |
| Korea Society of Public Enterprise | Ulsan Innovation City Development Committee |
| Korea Wind Energy Industry Association | Ulsan Metropolitan City Council of Major Public Institutions |
| Korean Society For Quality Management | Ulsan Metropolitan Council for Regional Innovation |
| Korean Society of Earth & Exploration Geophysicists | Ulsan Public Institution Audit Council |
| Korean Society of Soil and Groundwater Environment | UNGC |
| Netherlands Oil & Gas Exploration & Production Association | WEC Korea |
| Oil and Gas UK (OGUK) | WGC Korea |
| Process Safety Council in Gangwon area | WPC Korea |