

The 4th KIPF Public Sector Accrual Accounting International Symposium

In Search of Climate-related ESG Reporting in the Public Sector

Wed, 1 Nov 2023, Hybrid Event

* Virtual (Live Streaming) and In-person (Seoul, Republic of Korea)



PROGRAM

Host | **Chang Oh Moon** Deputy Director of GAFSC, KIPF

13:30~14:00

Registration

Opening Ceremony

14:00~14:25	Opening Remarks	Jae Jin Kim President (Korea Institute of Public Finance)
	Congratulatory Remarks	Dae Young Ju Secretary-General (Presidential Commission on Carbon Neutrality and Green Growth) Wan Hee Kim Professor (Gachon University)

Keynote Speech

14:25~14:40

Climate-related ESG Reporting in Public Sector

Serdar Yilmaz Practice Manager, Public Finance and Procurement Global Unit (World Bank)

Presentation

Session 1 Developing Climate-Related ESG Reporting Guidance in the Public Sector

14:40~15:30

Presentation 1

Development of sustainability related financial reporting standards:

The Reporting entity and its characteristics as a key issue

Andreas Bergmann Professor (Zurich University of Applied Science)

Presentation 2

ESG reporting by U.S. public sector entities: An update on ESG reporting guidance

Scott Showalter Professor (North Carolina State University)

15:30~15:40

Break

Session 2 Promoting Climate-Related ESG Reporting in the Public Sector

15:40~16:30

Presentation 3

Establishing a system for ESG disclosure and evaluation in the public sector

Dong Sook Han Professor (Chungnam National University)

Presentation 4

Case studies of climate-related ESG reporting in the public sector

Kyu Hun Shim Head of CSR Department (Korea Gas Corporation)

Ki Jong Jeong Department Manager, Planning Team (Korea District Heating Corporation)

Ji Hyun Lee Sr. Portfolio Manager, (National Pension Service Investment Management)

16:30~16:40

Break

Discussion

16:40~17:30	Chair	Bong Hwan Kim Professor (Seoul National University)
	Panel	Soo Young Kim Director, Government Accounting and Reporting Division, (Ministry of Economy and Finance) Hea Su Park Senior Deputy Director, Energy Economy Adjustment Bureau, (Presidential Commission on Carbon Neutrality and Green Growth) Woung Hee Lee Head of Sustainability Reporting Center, Korea Sustainability Standards Board(KSSB), (Korea Accounting Standards Board) Bo Hwa Lee ESG Platform Partner (Samil PwC)

17:30~17:40

Q&A and Closing

프로그램

사회자 | 문창오 국가회계재정통계센터 부소장

13:30~14:00

등 록

개회식

14:00~14:25

개회사 **김재진** 한국조세재정연구원 원장
축회사 **주대영** 2050 탄소중립녹색성장위원회 사무차장
김완희 가천대학교 경영학부 교수

기조연설

14:25~14:40

공공부문 기후 관련 ESG 보고
Serdar Yilmaz World Bank 공공재정·조달 부문 프렉티스 매니저

주제발표

세션 1 공공부문 기후변화 ESG 보고 기준 개발

14:40~15:30

발표 1. **지속가능성 재무보고 기준 개발: 보고실체를 중심으로**
Andreas Bergmann 스위스 취리히응용과학대학교 교수

발표 2. **미국 공공부문의 ESG 보고 지침 및 시사점**
Scott Showalter 노스캐롤라이나 주립대학교 교수

15:30~15:40

휴 식

세션 2 공공부문 기후변화 ESG 보고 촉진 방안

15:40~16:30

발표 3. **공공부문의 ESG 공시와 평가제도 구축 방안**
한동숙 충남대학교 행정학부 교수

발표 4. **공공부문 기후변화 ESG 보고 사례**
심규현 한국가스공사 상생협력처장
정기종 한국지역난방공사 기획부장
이지현 국민연금공단 책임운영역

16:30~16:40

휴 식

종합토론

16:40~17:30

좌 장 **김봉환** 서울대 행정대학원 교수
토 론 **김수영** 기획재정부 회계결산과장
박해수 2050 탄소중립녹색성장위원회 에너지경제조정국 서기관
이웅희 한국회계기준원 지속경영지원센터장
이보화 PwC삼일회계법인 ESG Platform 파트너

17:30~17:40

질의응답 및 폐회

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The 4th KIPF Public Sector Accrual Accounting International Symposium
In Search of Climate-related ESG Reporting in the Public Sector

제4회 KIPF 발생주의 회계 국제심포지엄
공공부문 기후변화 ESG 보고

Keynote Speech
기조연설

Climate-related ESG Reporting in Public Sector

Serdar Yilmaz

Practice Manager, Public Finance and Procurement Global Unit (World Bank)

공공부문 기후 관련 ESG 보고

Serdar Yilmaz (World Bank 공공재정·조달 부문 프랙티스 매니저)



World Bank Group new vision and mission

Vision	<i>To create a world free of poverty on a livable planet</i>
Mission	<i>To end extreme poverty and boost shared prosperity on a livable planet</i>

The slide has a white background with green accents on the left and right sides. The text is presented in a clean, sans-serif font, with the vision and mission statements highlighted by colored boxes.

Why is sustainability reporting in public sector important

Climate-change: overview and impact

Private sector is moving fast on ESG reporting, raising equivalent demand on public entities

Demand for climate-related financial information by investors: to attract capital

Limited identification and integration of sustainability opportunities and risks in public sector

Stakeholders are interested to know the contribution of the public sector to addressing the global climate emergency and the ongoing progress towards the UN SDGs

Who in public sector should report on ESG?



Entities either are involved in **raising resources** from constituents such as taxes or debt, or in **deploying resources** for the provision of public goods and/or the delivery of public services to beneficiary constituents.



There must be **a user need** for information, which stems from the existence of service recipients or a resource provider - taxpayers and their dependence on information.



In certain cases, it might be useful or even necessary to report on the activities of **individual government departments**, agencies, programs or activities separately and to designate them as reporting entities.

Challenges in defining public sector reporting entity

- **Difficult to define scope** of reporting entities due to complex hierarchical decision making in public sector
- Aggregate information presented at **national level might not be enough**
- Need report by **individual entity** who is responsible for the actions, such as CO2 emissions
- Public sector entities in some country are of **huge number** and play the **dominant role** in providing services but are subject to very **light regulations** on information disclosures (Vietnam: 48 thousands entities, using 1.5 million people in public hospitals, media, agriculture, transport,...)

Principles recommended in adopting ISSB standards in Cambodia



How is the WB supporting Sustainability Reporting?

Integrating sustainability reporting in WB instruments and practices

- For example, integrating in Country Climate Developments Reports the identification of opportunities to strengthen reporting on climate change, as well as revising Financial Management practices and requirement

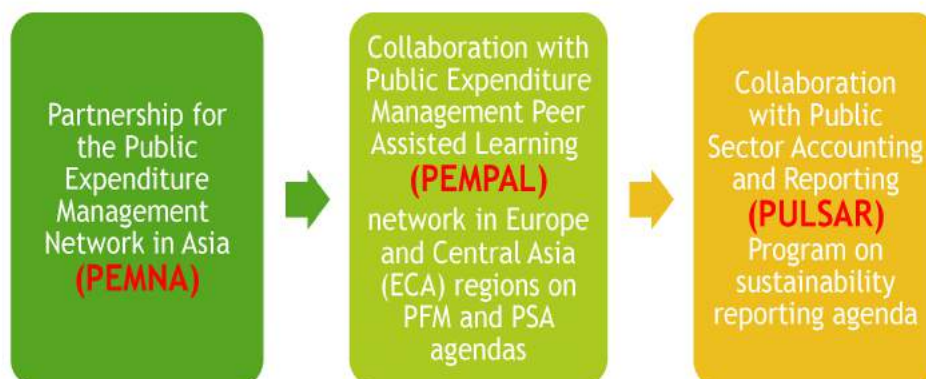
Developing tools and supporting client countries (through technical assistance) to integrate climate change in Public Finance Management

- For example, climate budget tagging, green procurement and public investment management

Providing sustainable, scalable and impactful support to client countries and partner institutions

- For example, partnering with and supporting IPSAS Board to develop climate-related standard, and supporting client countries through provision of financial and technical assistance

The World Bank and KIPF collaboration



Ongoing work of IPSAS Board

- ❖ **Project brief for climate-related disclosures – Mar 2023:**
 - (i) **climate change threatening** human well-being and the planet's health, requiring immediate public sector action
 - (ii) **a specific climate-related standard** for the public sector could be developed from the draft climate-related standards of the International Sustainability Standards Board (ISSB) and the Global Sustainability Standards Board (GSSB).
- ❖ **Amendments to Recommended Practice Guidelines – May 2023:**
 - (i) **RPG1** - Reporting on the Long-Term Sustainability of an Entity's Finances
 - (ii) **RPG3** - Reporting Service Performance Information,
- ❖ **The World Bank and IPSASB are working on a grant proposal** to assist the IPSASB in starting to set up the sustainability reporting agenda for public sector.

Call to action

- 1 • Partner with Governments to design and increasingly adopt policies, principles and practices to integrate sustainability development elements in public sector governance, strategy, risk management and reporting
- 2 • Design and implement innovative and sustainable initiatives to develop adequate expertise and institutional capacity in public sector institutions, including Auditor General
- 3 • Learn, leverage, and leapfrog from Public Sector Accounting reforms (IPSAS) and performance audit practices (ISSAI)

Thank you!

Session 1

Developing Climate-Related
ESG Reporting Guidance in the Public Sector

공공부문 기후변화 ESG 보고 기준 개발

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[Session 1]
Developing Climate-Related ESG Reporting Guidance
in the Public Sector

[세션 1]
공공부문 기후변화 ESG 보고 기준 개발

Development of sustainability related financial reporting
standards: The Reporting entity and its characteristics
as a key issue

Andreas Bergmann Professor (Zurich University of Applied Science)

지속가능성 재무보고 기준 개발: 보고실체를 중심으로

Andreas Bergmann (스위스 취리히응용과학대학교 교수)

Development of sustainability related financial reporting standards

The Reporting entity and its characteristics as a key issue

Prof. Dr. Andreas Bergmann, Director Public Sector
Durlandy Cubillos, Contador Público, Research Associate
Pascal Horni, MSc, Research Associate
Esteban Walteros, Contador Público/Admr, Research Associate

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Development of sustainability related financial reporting standards

Agenda

1. Development at international level



2. Reporting entity and its characteristics as a key issue

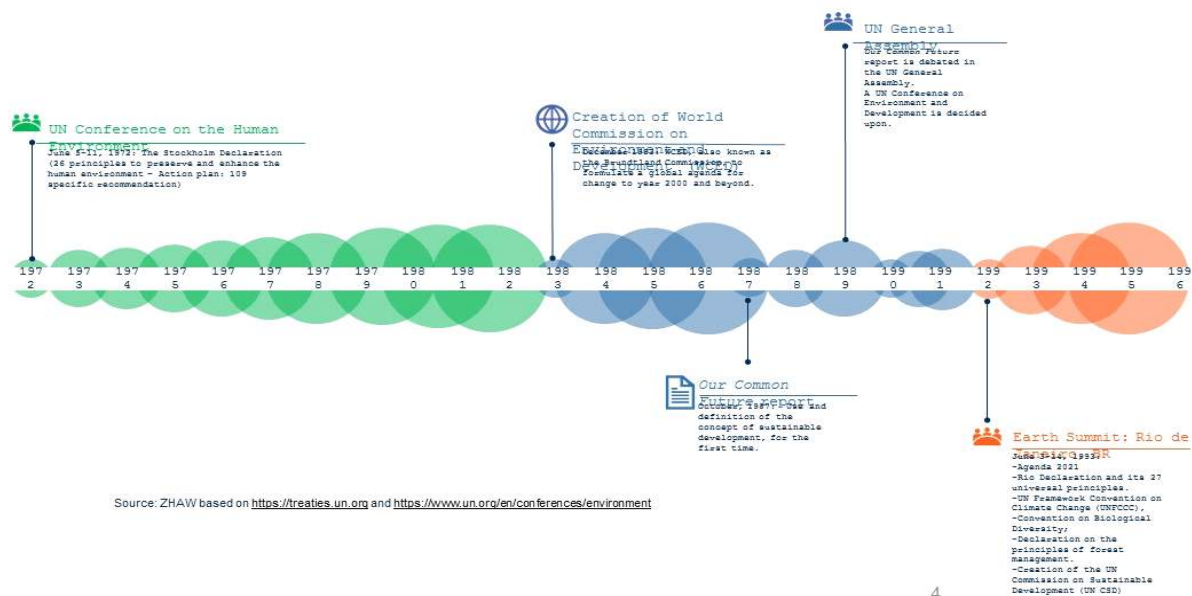


Development at international level



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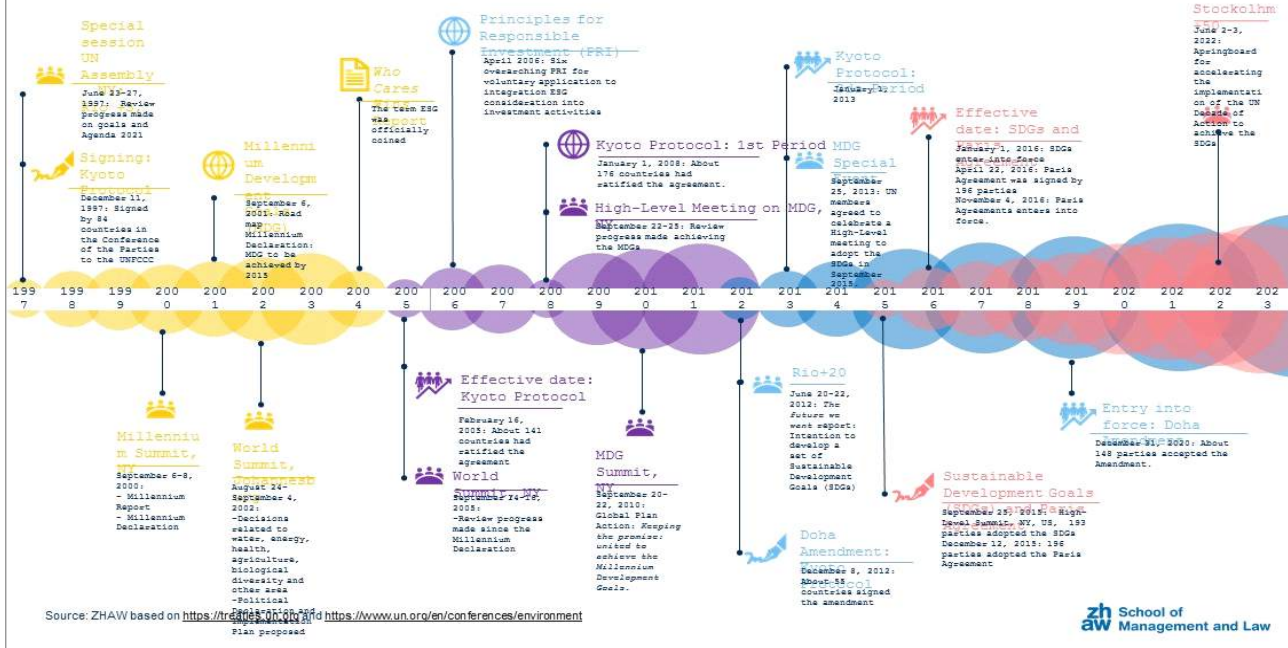
Background Sustainable Development and SDG (1972-1996)



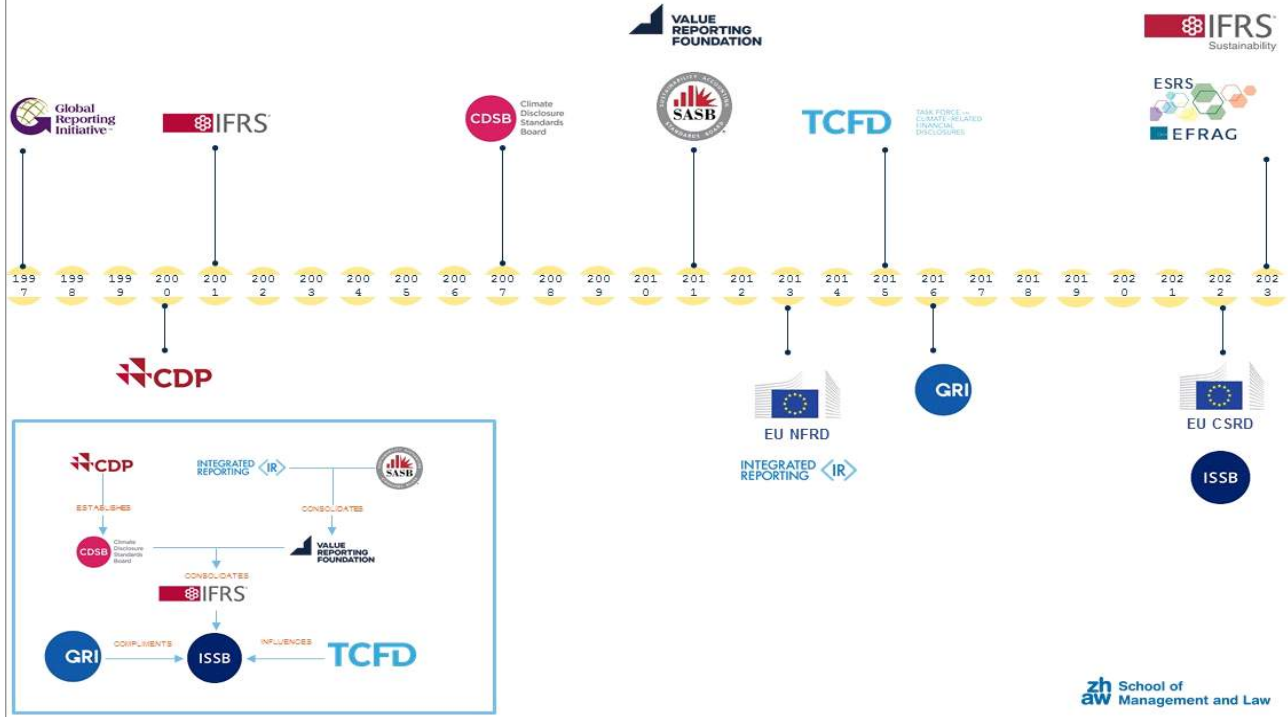
Source: ZHAW based on <https://treaties.un.org> and <https://www.un.org/en/conferences/environment>

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Background Sustainable Development and SDG (1997-2023)



Evolution to ESG disclosure standards



Development at international level

Background

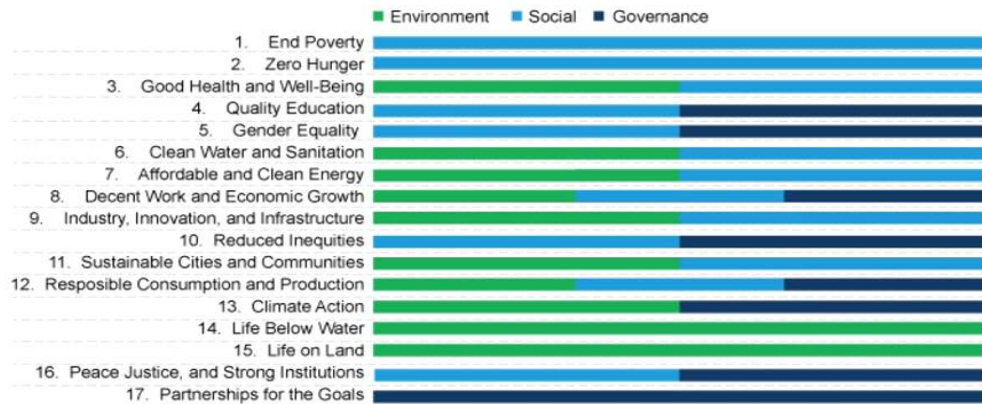


Source: <https://sdgs.un.org/goals> [downloaded 29.05.2023]

Development at international level

Background

Public and private sector entities should adapt their policies and operational terms to address ESG (Environment, Social, and Governance) factors implied by the SDGs.



Source: Advancing Public Sector Sustainability Reporting (IPSASB, 2022)

Development at international level

Background

Task Force on Climate-related Financial Disclosures –
Financial Stability Board (FSB)



Value Reporting Foundation -
(Before International Integrated Reporting Council (IIRC) y
Sustainability Accounting Standards Board (SASB))



Source: <https://www.valuereportingfoundation.org/> [downloaded 29.05.2023]

CDSB Framework - Climate Disclosure Standards Board (CDSB)



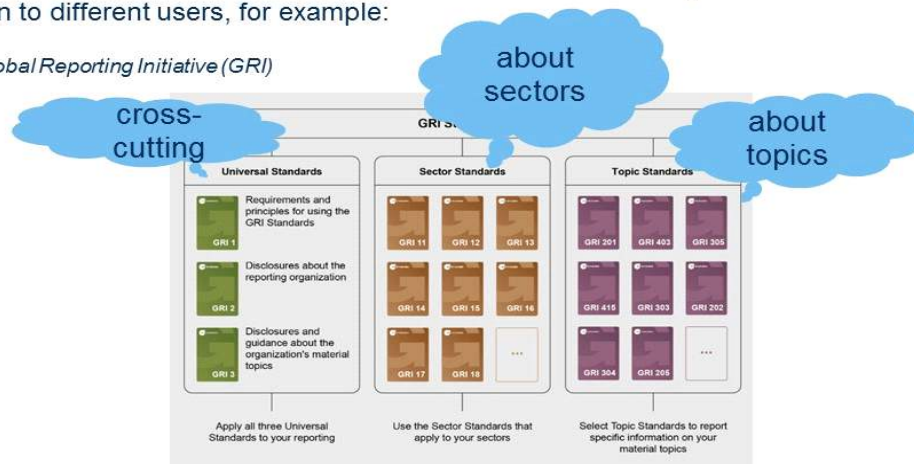
Source: <https://www.cdsb.net/> [downloaded 29.05.2023]

Development at international level

Background

In the private sector, there are a variety of frameworks for disclosing ESG and climate information to different users, for example:

Global Reporting Initiative (GRI)



Source: <https://www.globalreporting.org/> [downloaded 29.05.2023]

Development at international level

Background

Consolidation of standards in the private sector

- The IFRS Foundation announces the creation of the International Sustainability Standards Board (ISSB) during the United Nations Climate Change Conference (COP26) in Glasgow (Scotland) in November 2021.
- The made the decision to consolidate the VRF and CDSB in June 2022 (achieved on 1 August 2022)
- But they will not consolidate the GRI, because of its wide use and broader stakeholder concept.



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Development at international level

The ISSB's mission is to develop standards that will result in a comprehensive and high-quality global foundation of sustainability information focused on the needs of investors and financial markets.

In June 2023 it issued the first two standards S1 and S2.



Fuente: <https://www.ifrs.org/> [descargado 03.09.2023]

With single materiality, i.e., effects on the entity

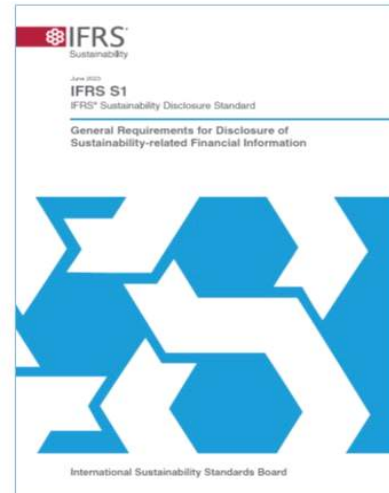
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Development at international level

IFRS S1

General Requirements for the Disclosure of sustainability-related Financial Information

- Objective: To disclose information on sustainability-related risks and opportunities to users in order to assess the value of companies and decide to resource it.
- Scope: Information on sustainability-related risks and opportunities.
- Reporting entity: Same as the Financial Statements.
- Core content: Disclosures on governance, strategy, risk management; and metrics and targets.



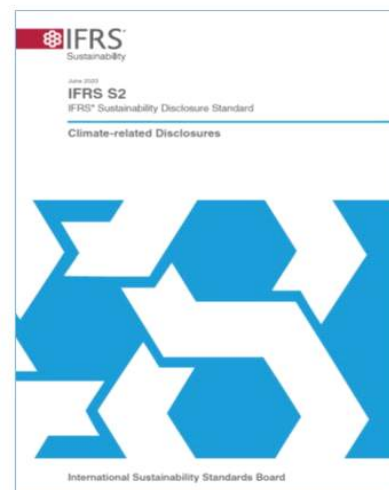
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Development at international level

IFRS S2

Climate-related disclosures

- Objective: To disclose information on climate-related risks and opportunities to users in order to assess the value of businesses and decide to provide resources to it.
- Scope: Information on climate-related risks and opportunities.
 - Physical risks
 - Transactional risks
 - Opportunities
- Core content: Climate-related disclosures, climate, governances, strategy, risk management; and metrics and targets.



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Development at international level

European Union: New Directive on Corporate Sustainability Reporting (CSRD)

- Applies to listed and unlisted companies if they reach a certain size
- Strong focus on **double-materiality**, hence, does not follow IFRS.
 - Introduces the concept of "undertakings", which include the entire value chain (?)
 - "Undertakings" does not translate well into other languages
- July 2023: Endorsement of the first 12 **European Sustainability Reporting Standards (ESRS)**



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Development at international level

First steps of the IPSASB in June 2020: Questions and answers from the team



- To discuss the relevance of GPR 3 Reporting on performance of services with respect to climate change and the UN Sustainable Development Goals (SDGs)
- Also relevant are GPR 1 Reporting on the long-term sustainability of an entity's finances and GPR 2 Commentary on Financial Statements.
- The topic may have implications for the application of IPSAS 1 Presentation of Financial Statements, IPSAS 17 Property, Plant and Equipment, IPSAS 19 Provisions, Contingent Liabilities and Contingent Assets, IPSAS 21 Impairment of Non-Cash Generating Assets, IPSAS 26 Impairment of Cash Generating Assets, IPSAS 29/41 Financial Instruments.

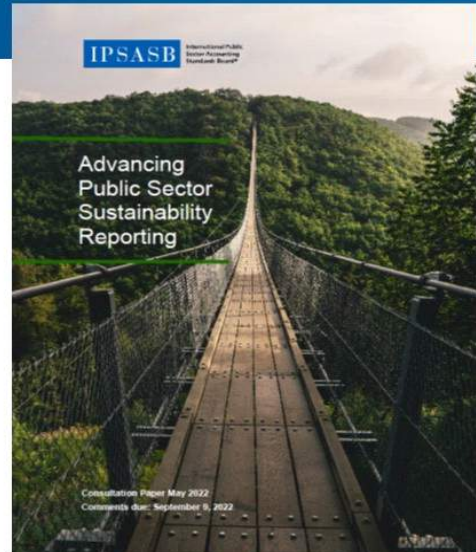
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Development at international level

May 2022: Consultation by the IPSASB

- Pressure from the WB's "Sovereign Climate and Nature Reporting" report
- Proposing that the IPSASB issue standards on sustainability and climate disclosures
- With focus on "General Disclosure Requirements for Financial Information on Sustainability" (~S1) and "Climate-related Disclosures" (~S2)
- Issue standards until end of 2023

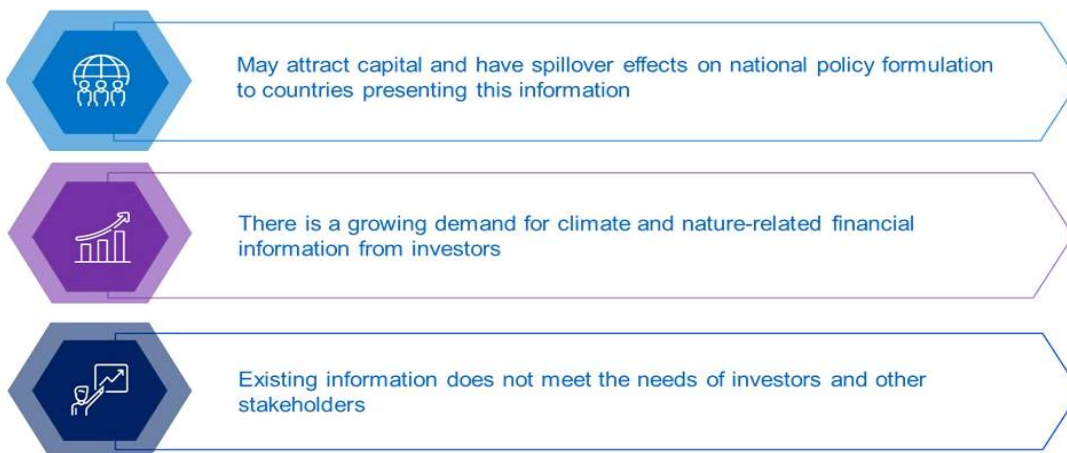
→ Results: Mostly favourable, but doubts about IPSASB capacity



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Development at international level

The rationale for developing a sovereign climate and nature information framework



Source: ZHAW based on Sovereign Climate and Nature Reporting (World Bank, 2022)

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Development at international level

Benefits of preparing and presenting sovereign climate and nature information

Users	Potential benefits
Government s	<ul style="list-style-type: none"> Improved access to capital from a wide range of investors. Internal compression of climate and nature-related risks, bringing benefits in governance and cost of capital. Endow the country with the ability to shape the narrative on risk and opportunity management. Increased country capacity to identify, prioritize and invest public capital in ways that enhance resilience. Lead by example to help disseminate private sector sustainability reporting.
Investors	<ul style="list-style-type: none"> Increased ability to price climate and nature-related risks more accurately. Increased ability to identify opportunities for investment in adaptation and resilience projects and services. Increased information with which to collaborate with governments to foster improved risk management and opportunity utilization.
Other users	<ul style="list-style-type: none"> Better information on credit risks affecting the country, subnational entities and companies. Better visibility on the measures taken by countries to improve their resilience and attract investor capital.

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Development at international level

2023: IPSASB confirms next steps

- March 2023: Approval of the updated RPG 1 and 3
 - June 2023: Decision to start standard setting work
 - September 2023: Approval of project brief for the development of standard on “Climate-related disclosures” and kick-off
- Exposure Draft expected Q3 or Q4/2024

IPSASB International Public Sector Accounting Standards Board		Agenda Item 13	For <input type="checkbox"/> Approval <input checked="" type="checkbox"/> Discussion <input type="checkbox"/> Information
Meeting:	International Public Sector Accounting Standards Board		
Meeting Location:	Zürich, Switzerland		
Meeting Date:	September 12-15, 2023		
CLIMATE-RELATED DISCLOSURES			
Project summary	The project objective is to develop a public sector climate related disclosures standard, separate from the current suite of IPSAS, to meet the needs of users of public sector sustainability reports (investors and resource providers) and ensure better transparency, accountability and enable improved decision-making.		
Project staff lead	• Chief Chair, Senior Manager		
Task Force members	The IPSASB agreed to establish a Climate Topic Working Group. Members of the group will be confirmed after the September 2023 Board meeting and will begin meeting in October 2023.		
Meeting objectives	Paper:	Agenda Item	
Project management	Climate related Disclosures - Exposure Draft Dashboard	13.1.1	
	Instructions up to Previous Meeting	13.1.2	
	Decisions up to Previous Meeting	13.1.3	
	Climate related Disclosures - Project Roadmap	13.1.4	
Decisions required at this meeting	Climate related Disclosures - Project Plan and Timeline	13.2.1	
	Key Public Sector Sustainability Reporting Concepts and Terms	13.2.2	
Other supporting data	Climate SDG 8 - Climate related Disclosures	13.3.1	

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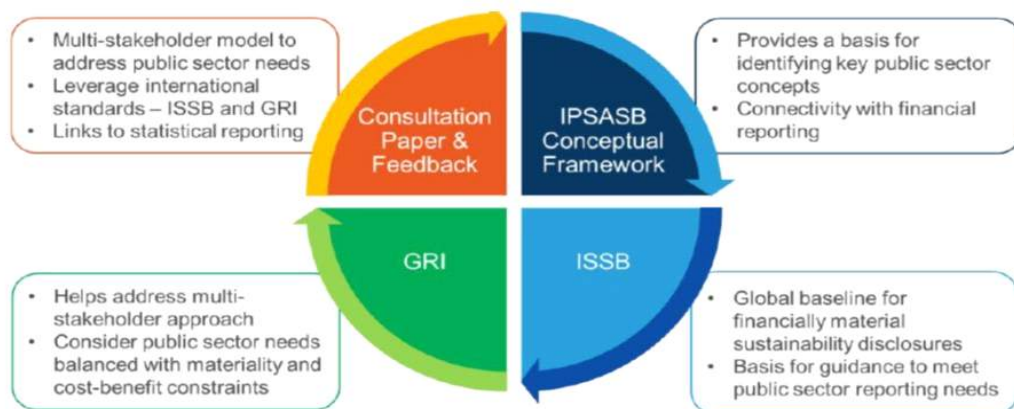
Reporting entity and its characteristics as a key issue



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Reporting entity and its characteristics as a key issue

IPSASB considers Conceptual Framework as one of the key inputs



Source: IPSASB, Agenda Item 13, September 2023

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Reporting entity and its characteristics as a key issue

Characteristics of the Reporting Entity and Reporting entity as the key conceptual issues for presenting sustainability-related financial information

- IPSASB-Conceptual Framework
 - **Preface: Characteristics of Public Sector Entities**
 - Chapter 1: Role and authority of the conceptual framework
 - Chapter 2: Objectives and users of general-purpose financial reporting
 - Chapter 3: Qualitative characteristics
 - **Chapter 4: Reporting Entity**
 - Chapter 5: Elements of Financial Statements
 - Chapter 6: Measurement of assets and liabilities in Financial Statements
 - Chapter 7: Presentation in General Purpose Financial Reports (GPFR)
- Entity is key because it defines the **scope** and responsibility as a **preparer**

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Reporting entity and its characteristics as a key issue

Methodology

- Theoretical analysis, in particular analysis of the Basis for Conclusions (BC) and the IPSASB meeting minutes
- 3 country cases of countries which are advanced in using IPSAS (or IFRS) as the conceptual basis of their financial reporting and have a history of preparing (broader) GPFR presenting sustainability-related information

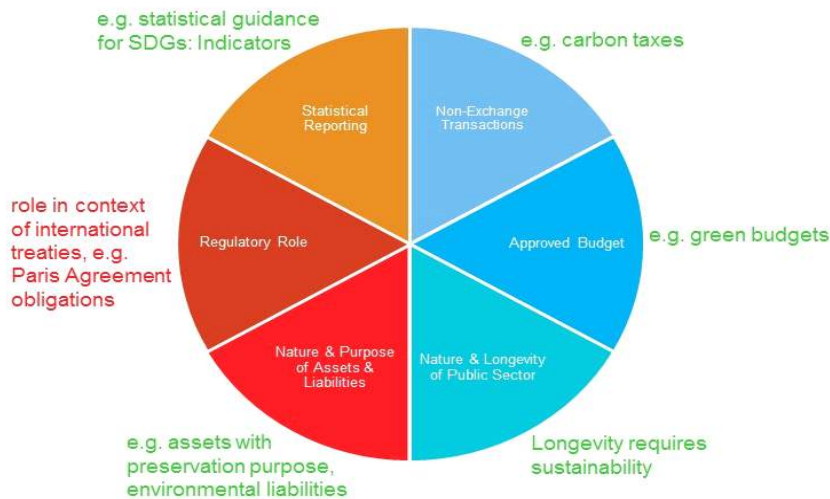
- United Kingdom
- New Zealand
- Switzerland



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Reporting entity and its characteristics as a key issue

Characteristics of public sector entities



1. Are all relevant in the context of sustainability-related financial information.

Most relevant

- Approved Budget
- Non-exchange Transactions

... while

- Regulatory Role

falls short in its current description.

2. IPSASB did not consider sustainability reporting when developing them

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Reporting entity and its characteristics as a key issue

Characteristics of public sector entities: International experience

- None of the three jurisdictions explicitly considers IPSASB-CF characteristics for sustainability reporting



- Consider characteristics **not at all** in national regulation



- Considers the **characteristics for financial reporting**, but not for sustainability-reporting



- Does not consider characteristics in national regulation, but sustainability reports are based on statistical sector → dominant role of **statistical reporting for sustainability reporting purposes**

Bottom line: Quite different, despite very similar conceptual basis!

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Reporting entity and its characteristics as a key issue

Reporting Entity

- Considerations for determining the reporting entity:
 - Key characteristics: Cumulative requirements
 - Constituents provide resources or constituents receive benefits; and
 - User need: Recipients of information depend on this source
 - Additional considerations:
 - Jurisdictional factors, e.g., legislation/regulation
 - Responsibilities and capacities

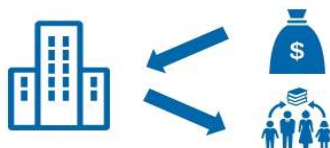


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Reporting entity and its characteristics as a key issue

Reporting Entity

- Distinction between reporting entity and economic entity
 - Reporting entity: Single entity or group of entities, complying with key characteristics



- Economic entity: Group of controlling entity and controlled entities



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Reporting entity and its characteristics as a key issue

Reporting Entity: International experience

- Reporting Entity for sustainability reporting purposes



- Group of entities, but different from financial reporting



- Group of entities, same as for financial reporting
- Hybrid approach: Entity plus entire Economy



- Statistical sector, rather than reporting entity
- With reference to IPSAS RPG1

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Recommendations

To both national and international authorities and standard setters

- R1: Use SDG as a reference point
- R2: Apply a broad definition of stakeholders (similar to GRI or CSRD)
- R3: As a consequence of the broad definition of stakeholders, use double-materiality. However, be cautious about inclusion of up- and downstream activities in the value chain because of public sector characteristics.



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Recommendations

To both national and international authorities and standard setters



- R4: Sustainability reporting was not the focus when developing the IPSAS-CF and its Preface, resulting in a narrower use of the term sustainability. Therefore, revisit the IPSAS-CF and its Preface.
- R5: Despite having a similar conceptual basis, the three country cases show relevant differences in the way sustainability-related information is presented. This shows the need for clarification at standards level.

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Recommendations

To both national and international authorities and standard setters

- R6: Given the legal obligations governments entered in the name of the entire country, elaborate at the relationship between jurisdictional reporting and entity reporting.
- R7: Consider presenting information about both, the jurisdiction and the entity
- R8: Review RPG1, in respect of the use of yet another concept of reporting entity (General Government Sector)



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The 4th KIPF Public Sector Accrual Accounting International Symposium
In Search of Climate-related ESG Reporting in the Public Sector

제4회 KIPF 발생주의 회계 국제심포지엄
공공부문 기후변화 ESG 보고

[Session 1]
Developing Climate-Related ESG Reporting Guidance
in the Public Sector

[세션 1]
공공부문 기후변화 ESG 보고 기준 개발

ESG reporting by U.S. public sector entities:
An update on ESG reporting guidance

Scott Showalter Professor (North Carolina State University)

미국 공공부문의 ESG 보고 지침 및 시사점

Scott Showalter (노스캐롤라이나 주립대학교 교수)



4th KIPF Public Sector Accrual Accounting International Symposium

ESG Reporting by U.S. Public Sector Entities: An Update on ESG Reporting Guidance

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Department of Accounting

Research Questions

- Status of U.S. public sector accounting and financial reporting related to ESG.
- Identify requisite fundamentals, objectives, and decisions for the establishment of public sector ESG-related reporting standards.



NC STATE Poole College of Management

Department of Accounting

Status of U. S. Public Sector ESG Reporting

- Neither U.S. public sector standard setter has issued specific ESG-related reporting standards
- Current standard-setting agendas include limited ESG-related reporting standards



Key ESG-related Reporting Issues

- Authority to issue ESG-related standards
- Define and identify the type of information encompassed in ESG reporting
- How ESG-related information fits within the conceptual framework and governing documents
- Clarify materiality and criteria for recognizing, measuring, and disclosing ESG information
- How ESG information affects general purpose financial reports of public sector entities
- Public opinion about ESG

Authority to Issue ESG-related Standards

- Enabling governance document specifies the scope of authority of standard setter, including the subject matter (e.g., financial or non-financial) of standards to be issued
- Standard setter needs to determine their authority to establish ESG-related standards in a manner consistent with their conceptual frameworks and governance documents

Type of Information in ESG Reporting

- Risks and opportunities associated with ESG-related information should be reflected in the GPFRs



Fits Within Conceptual Framework and Governing Documents

- Conceptual frameworks guide the standard setter in deciding the elements to be reported and how they should be measured, recognized, and reported
- Over time, it may be necessary for standard setter to expand the conceptual framework to accompany or complement ESG-related reporting



Materiality and Criteria for Recognizing, Measuring, and Disclosing ESG Information

- Criteria for defining and measuring the ESG-related information to ensure consistency and comparability of ESG information
- Conceptual fundamentals and decisions on materiality are important in establishing boundary for developing ESG-related reporting requirements



How ESG Information Affects General Purpose Financial Reports



- Inclusion may include identification of financial statement elements and/or financial statement disclosure
- Standards setters may also have to explore ways of disclosing the ESG-related information outside of the basic financial statements section of GPFRs

FASAB Activity



Develop federal climate-related financial disclosure framework based on ISSB S2, *Climate Related Disclosures*



<https://fasab.gov/projects/active-projects/climate-impact-and-risk-reporting/>

GASB Monitoring Activities

- Monitor development of ESG reporting guidance by other standard setters
- Consider need to develop specific accounting and financial reporting standards for environmental credits programs, such as emissions trading



<https://www.gasb.org/techplan>



- Develop Public Sector Sustainability Reporting Standard, *Climate-related Disclosures*
- IPSAS Potential recognition and measurement of natural resources
- IPSAS alignment with IFRS 6, *Exploration for and Evaluation of Mineral Resources*, and IFRIC 20, *Stripping Costs in the Production Phase of a Surface Mine*

<https://www.ipsasb.org/consultations-projects/work-plan>



Key Takeaways



- ESG reporting standards by U.S. public sector standard setters is uncertain.
- Identified key components to developing standards:
 - Authority of standard setter
 - Type of ESG information
 - Consistent with conceptual framework
 - Define measurement criteria and materiality
 - Inclusion in general purpose financial statements

Session 2

Promoting Climate-Related
ESG Reporting in the Public Sector
공공부문 기후변화 ESG 보고 촉진 방안

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[Session 2]

Promoting Climate-Related ESG Reporting in the Public Sector

[세션 2]

공공부문 기후변화 ESG 보고 촉진 방안

**Establishing a system for ESG disclosure and
evaluation in the public sector**

Dong Sook Han Professor (Chungnam National University)

공공부문의 ESG 공시와 평가제도 구축 방안

한 동 숙 (충남대학교 행정학부 교수)

KIPF Public Sector Accrual Accounting
International Symposium

Establishing a system for ESG disclosure & evaluation in the public sector

Dongsook Han

Contents

1. Introduction
2. Changes in ESG-related public institutions
3. ESG framework in Disclosures
4. ESG management in public institutions' evaluation
5. Conclusion

I. Introduction

1. What is ESG?

- ▶ Non-financial elements (environmental, society, and governance) of a company.
- ▶ The philosophy of sustainable development can be achieved by considering transparent management such as eco-friendliness, socially responsible management, and governance improvement in corporate activities.
- ▶ The discussion on entrepreneurs' social responsibility was expanded to the public sector, and the effect of implementation would spread in a mutual direction between the public and private sectors.

2. Background of introduction of ESG management

- ▶ Starting from awareness of sustainable development in the financial sector
 - Responsible investment: Considering the impact of economic activities through investment
 - Social impact investment: Developed based on the principle of investment that brings about the necessary results or impact on society through funds.
- ▶ Definition of sustainability by the World Commission on Environment and Development in 1987
 - Fair use of natural and existing resources between current and future generations, and ways for economic development and the environment to coexist without conflict

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2. Background of introduction of ESG management

- ▶ Emerging importance of ESG management in the private sector
 - Reducing investment in companies that do not adopt ESG business strategies
- ▶ ESG as an issue in the administrative sector
 - The Biden administration in the United States has issued its first executive order on climate change.
 - Identify and manage physical risks and present renewable energy growth as an economic stimulus measure
 - Pursuing racial equity, supporting labor unions, raising the minimum wage, and supporting workplace safety issues

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2. Background of introduction of ESG management

- ▶ Declaring the 'Great Transformation of the Republic of Korea'
 - Planning to make fundamental changes
 - from a catch-up economy to a leading economy
 - from a carbon-dependent economy to a low-carbon economy
 - from an unequal society to an inclusive society
 - Ministry of Trade, Industry & Energy release "K-ESG Guidelines V. 1.0" in 2021
- ▶ Public institutions are expected to play a leading role in Korea
 - Establishing management system for financial risk institutions and Announcing of public institution innovation guidelines
 - Responsible management introduced ESG disclosure, internal audit committee, activating the board of directors

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II. Changes in ESG-related public institutions

1. Changes in public institutions due to ESG

- ▶ Public institutions are operating ESG committees and working to expand ESG management in accordance with public institution ESG disclosure.

- ▶ The ESG Steering Committee: composed of internal and external experts
 - Deliberating on the institution's ESG strategy, task derivation and implementation performance review, risk inspection and makes decisions related to ESG management.

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1. Changes in public institutions due to ESG

- ▶ Public institutions develop their own ESG guidelines, provide capacity building training, and build a network for ESG management
 - Korea Asset Management Corporation: Establishing the ESG Management Committee in 2020, and introducing and operating Kamco ESG guidelines in 2021

 - Korea Southern Power Company: Establishing ESG Management Committee in May 2021, developing an ESG management strategy, and operating an ESG department

 - Korea Hydro & Nuclear Power: Launching ESG Committee in 2021 and discussing ESG management plans by sector.

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1. Changes in public institutions due to ESG

- ▶ Large public enterprises take the lead in publishing annual “Sustainability Reports” and “Social Value Realization Reports” prepared in accordance with international standards in order to share the organization's sustainability management vision, activities, and performance with stakeholders
- ▶ The world's major public pension funds request companies to transition to ESG management by establishing their own evaluation standards
 - National Pension Fund's ESG integrated strategy (investment decisions considering ESG factors) expanded asset class (domestic → overseas stocks and bonds)
- ▶ Policy financial institutions (Korea Development Bank) expands ESG financial support using Carbon Net Zero Program and Carbon Spread

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III. ESG framework in Disclosures

1. Changes in revision of ESG-related integrated disclosure items

- ▶ The comprehensive disclosure classification system for public institutions has been implemented since 2007.
- ▶ Leading ESG management of public institutions through integrated disclosure
 - In order to shift the paradigm toward sustainable growth the Ministry of Strategy and Finance has significantly expanded the ESG disclosure items of public institutions and prepared a revision to the “Standards for Integrated Disclosure of Public Institutions”. (2022)

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1. Changes in revision of ESG-related integrated disclosure items

- ▶ (E, Environment) To respond to the climate crisis, ‘environmental protection’ items such as energy usage, waste generation, and water usage have been significantly expanded.

- ① (Energy usage) Announcement of total annual energy usage by public institutions (April)
- ② (Waste generation amount) Announcement of annual waste generation performance by public institutions (April)
- ③ (Water usage) Announcement of annual water (water) usage by public institutions (April)
- ④ (Status of violations of environmental laws and regulations) Disclosure of violations of environmental laws and regulations (regularly)
- ⑤ (Status of low-emission vehicles) Announcement of purchase status of low-emission vehicles (July)

- ▶ (S, Society) Expand information disclosure on information protection, human rights, and win-win growth performance

- ① (Personal Information Protection) Announcement of personal information protection diagnosis results of public institutions by the Personal Information Committee (July)
- ② (Human Rights Management) Announcement of establishment and implementation status of the institution’s human rights management system (July)
- ③ (Win-win growth evaluation results) Ministry of SMEs and Startups announces public institution win-win growth evaluation results (July)

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1. Changes in revision of ESG-related integrated disclosure items

(G, Governance) Addition of disclosure items for 'Status of self-audit department' and 'Integrity evaluation results' necessary for diagnosing ethical management of public institutions

- ① (Status of self-audit department) Announcement of institution's self-audit department establishment and operation status (April)
- ② (Integrity evaluation results) Announcement of the results of the comprehensive integrity evaluation of public institutions by the Civil Rights Commission (July)

Complete reorganization of public institution integrated disclosure (2023.2.3.)

- ① Reflecting changes in the new disclosure environment
- ② Supporting the promotion of policy tasks such as national tasks
- ③ Integrated disclosure inspection standards strengthen policy inspection functions

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1. Changes in revision of ESG-related integrated disclosure items

I. General Information		I. Institutional operation	
1. General status	1. General status	General Information	1. General status
2. Number of executives and employees	2. Number of executives and employees	Human Resources Management	2. Internal regulations
3. Executive status	3. Executive status	Wage Management	3. Number of executives and employees
4. New recruitment status	4. New recruitment status	welfare benefits	4. Executive status
5. Officer/employee recruitment information	5. Officer/employee recruitment information	Union	5. New recruitment status
6. Executive salary	6. Executive salary	Litigation and Advisory	6. Executive/employee recruitment information
7. Average employee compensation	7. Average employee compensation	ESG Status	7. Re-employment status of retired executives and employees
8. Agency head business expenses	8. Agency head business expenses	E(Environment)	8. Disciplinary status
9. Welfare and welfare expenses	9. Welfare and welfare expenses	S (Society)	9. Executive overseas business trip details
10. Operation status of other welfare systems, etc.	10. Operation status of other welfare systems, etc.	G (Governance)	10. Executive salary
11. Safety management and information protection	11. Safety management and information protection	financial performance	11. Average employee compensation
12. Environmental protection	12. Environmental protection	business and investment	12. Agency head business expenses
13. Social contribution activities	13. Social contribution activities	Mid- to long-term financial management	13. Welfare expenses
14. Human rights management	14. Human rights management	Internal and external evaluation	14. Operation status of other welfare systems, etc.
15. Board of Directors Meeting Minutes	15. Board of Directors Meeting Minutes	Disclosure	15. Labor union-related status
16. Status of operation of work-family balance support system	16. Status of operation of work-family balance support system		16. Status of litigation and legal advice
17. Details of executive overseas business trips	17. Details of executive overseas business trips		17. ESG management status (new)
18. Labor union-related status	18. Labor union-related status		18. Environmental protection
19. Internal regulations	19. Internal regulations		19. Safety management and information protection
20. Disciplinary status	20. Disciplinary status		20. Social contribution activities
21. Status of litigation and legal advice	21. Status of litigation and legal advice		21. Human rights management
22. Summary Statement of Financial Position	22. Summary Statement of Financial Position		22. Status of operation of work-family balance support system
23. Summary income statement	23. Summary income statement		23. Mutual growth evaluation results
24. Income and expenditure status	24. Income and expenditure status		24. Employment status of the disabled (new)
25. Capital and shareholder status	25. Capital and shareholder status		25. Purchase performance (new)
26. Short-term and long-term borrowings status	26. Short-term and long-term borrowings status		26. Board of Directors (new)
27. Audit report	27. Audit report		27. Current status of self-audit department
28. Tax payment information status	28. Tax payment information status		28. Integrity evaluation results
29. Main business	29. Main business		29. Summary statement of financial position
30. Investment execution details	30. Investment execution details		30. Summary income statement
31. Status of investment and contribution/contribution	31. Status of investment and contribution/contribution		31. Income and expenditure status
32. Management burden cost estimate	32. Management burden cost estimate		32. Capital and shareholder status
33. Mid- to long-term financial management plan	33. Mid- to long-term financial management plan		33. Short-term and long-term borrowings status
34. Detailed debt information of 12 major institutions	34. Detailed debt information of 12 major institutions		34. Audit report
35. Management evaluation results	35. Management evaluation results		35. Tax payment information status
36. Mutual growth evaluation results	36. Mutual growth evaluation results		36. Main business
37. Integrity evaluation results	37. Integrity evaluation results		37. Investment execution details
38. External evaluation by the National Assembly, etc.	38. External evaluation by the National Assembly, etc.		38. Investment and contribution/contribution status
39. Customer satisfaction survey results	39. Customer satisfaction survey results		39. Management burden cost estimate
40. Contract information	40. Contract information		40. Mid- to long-term financial management plan
41. Research report	41. Research report		41. Detailed debt information of 12 major institutions
			42. Management evaluation results
			43. External evaluation by the National Assembly, etc.
			44. Customer satisfaction survey results
			45. Contract information
			46. Research report

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1. Changes in revision of ESG-related integrated disclosure items

▶ Reflecting changes in the disclosure environment where the importance of ESG disclosure is increasing domestically and internationally, the existing 5 categories were reorganized into 4 major categories, including the establishment of a new ESG operation major category.

(Current) Subjects (5): General status, institutional operation, major business and management performance, internal and external evaluation, information disclosure

(Reorganization) Major categories (4): Institutional operation, **ESG operation**, management performance, internal and external evaluation

▶ In order to improve the convenience of use for the public, the current 10 middle categories are subdivided into 15 major categories based on the public's areas of interest and similarities between items.

▪ General status, human resources management, compensation management, welfare benefits, labor union, litigation and consulting, ESG status, E (environment), S (society), G (governance), financial performance, business and investment, mid- to long-term financial management, internal and external Evaluation, information disclosure

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1. Changes in revision of ESG-related integrated disclosure items

▶ (ESG management status) disclosure ESG management goals, strategies, implementation system, and performance once a year in the form of a management report.

▶ (E, Environment) In consideration of strengthening climate disclosure, etc., disclosure of greenhouse gas reduction performance items will be gradually expanded from the current direct and indirect emissions (Scope 1·2) to external emissions (Scope 3).

- (Scope 1) Direct emissions from the product production stage (fossil fuel, use of transportation, etc.)
 - (Scope 2) Indirect emissions generated from energy use (electricity, heat, water) at business sites, etc.
 - (Scope 3) Other indirect emissions (external emissions or financial emissions) arising from facilities (partners, etc.) and supply chain (transportation, etc.) that are not owned or controlled by the company as a result of corporate activities.

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1. Changes in revision of ESG-related integrated disclosure items

▶ (S, Society) In order to strengthen ESG disclosure by public institutions, new measures such as employment rate of disabled people and purchase performance of small and medium-sized business products, which have been raised as a necessity in the National Assembly, etc.

- (Employment rate of the disabled) Announcement of mandatory employment rate of the disabled in public institutions in accordance with the “Employment Promotion and Vocational Rehabilitation Act for the Disabled” (July)

- (Purchase performance of small and medium-sized business products) Announcement of the purchase rate of small and medium-sized business products by public institutions in accordance with the Act on Promotion of Purchase of Small and Medium Business Products and Sales Support (July)

▶ (G, Governance) Activities of non-executive directors that require reinforcement in relation to transparency of institutional operation and ESG promotion system and establishment of ESG Steering Committee

- (Non-executive director activity details) Disclosure of non-executive director activity details (attendance rate, status of pros and cons for each agenda, etc.) of public institutions to strengthen transparency in institutional operation (annual disclosure)

- (ESG Steering Committee) Announcement of ESG promotion system and ESG committee establishment and operation status of related public institutions (list of members, basis regulations, meeting minutes, etc.) (April)

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2. Environmental information disclosure for public institutions

▶ The environmental information disclosure system is operated in accordance with the ‘Environmental Technology and Environmental Industry Support Act’

- A system designed to encourage green management by promoting environmental information disclosure by companies and public institutions.

▶ Enhancing companies voluntarily pursue environmental management and activating environmental communication with the public, creating a foundation for environmental management across society

- Contribute to green credit and green investment activities of financial institutions for eco-friendly companies by providing verified environmental information to financial institutions

▶ Applying obligatory and voluntary indicators separately

(composed of 8 obligatory and 11 voluntary items out of a total of 19 items)

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2. Environmental information disclosure for public institutions

Division	Division	Public Items
Mandatory	Company Overview	Business status
	Strategy and green management system	Vision , strategy , policy , goal
		Dedicated organization , education and training , internal review, etc.
		Water usage , basic unit , recycling amount
	Greenhouse gas / environmental pollution	Energy usage , basic unit
	Green products / services	Waste generation amount , basic unit , recycling amount
Social / Ethical Responsibility	Green Purchasing Guidelines Operation Status	
Autonomous	Company Overview	Current status of violations of domestic and international environmental laws and regulations
	Resources / Energy	Status of environmental awards and agreements
		Reduced investment and technology introduction
	Greenhouse gas / environmental pollution	Investment in new and renewable energy and introduction of technology
		Greenhouse gas reduction investment and technology introduction
		Greenhouse gas management level and emissions , basic unit
		Environmental pollution reduction investment and technology introduction
		Current status of environmental pollution control facilities and monitoring systems
	Social / Ethical Responsibility	Water pollutant emissions / basic unit
		Chemical emissions per unit
Environmental (Sustainability) Report Publication Status		
	Status of responses to requests for environmental information from stakeholders	

IV. ESG management in public institutions' evaluation

1. ESG in public institution management evaluation

▶ By looking at the relevant items reflected in the government's management evaluation of public institutions, we can find some answers to the question of how to view the management of public institutions from an ESG perspective.

▶ Management evaluation items include ESG-related matters to reflect changes in the social environment.

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1. ESG in public institution management evaluation

	Metrics	Environment	Social	Governance
Business strategy	Leadership		●	●
	Strategic Planning and Business Transformation		●	●
	Public Affairs		●	●
Social responsibility	Jobs and Equal Opportunity		●	
	Safety and disaster management	●	●	
	Green and carbon neutral	●		
	Win-Win Cooperation and Regional Development	●	●	
	Ethical Management			●
Financial Performance Management	Financial Budgeting			
	Financial Budgeting Performance			
Organization and Human Resources	Organization and Human Resources Management, general		●	●
	Labor Relations		●	●
Manage compensation and benefits	Compensation and benefits		●	●
	Manage Total Labor Costs			●

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V. Conclusion

▶ Institutionalizing ESG in Korea is meaningful to unify the various discussions and align with more macro-level, international standards.

▶ Disclosure and evaluation systems provide feedback on enforcement along the continuum of an individual agency's activities as a way to implement accountability.

▶ Guidelines developed initially are not permanent, but continuously improved through use, so cooperation from multiple stakeholders is necessary to improve usability.

▶ Efforts must be made to ensure consistency with macro-level norms for standards discussed internationally or nationally at a more narrow administrative level.

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공공부문 기후변화 ESG 보고

[Session 2]

Promoting Climate-Related ESG Reporting in the Public Sector

[세션 2]

공공부문 기후변화 ESG 보고 촉진 방안

Case studies of climate-related ESG reporting in the public sector

Kyu Hun Shim Head of CSR Department (Korea Gas Corporation)

Ki Jong Jeong Department Manager, Planning Team (Korea District Heating Corporation)

Ji Hyun Lee Sr. Portfolio Manager, (National Pension Service Investment Management)

공공부문 기후변화 ESG 보고 사례

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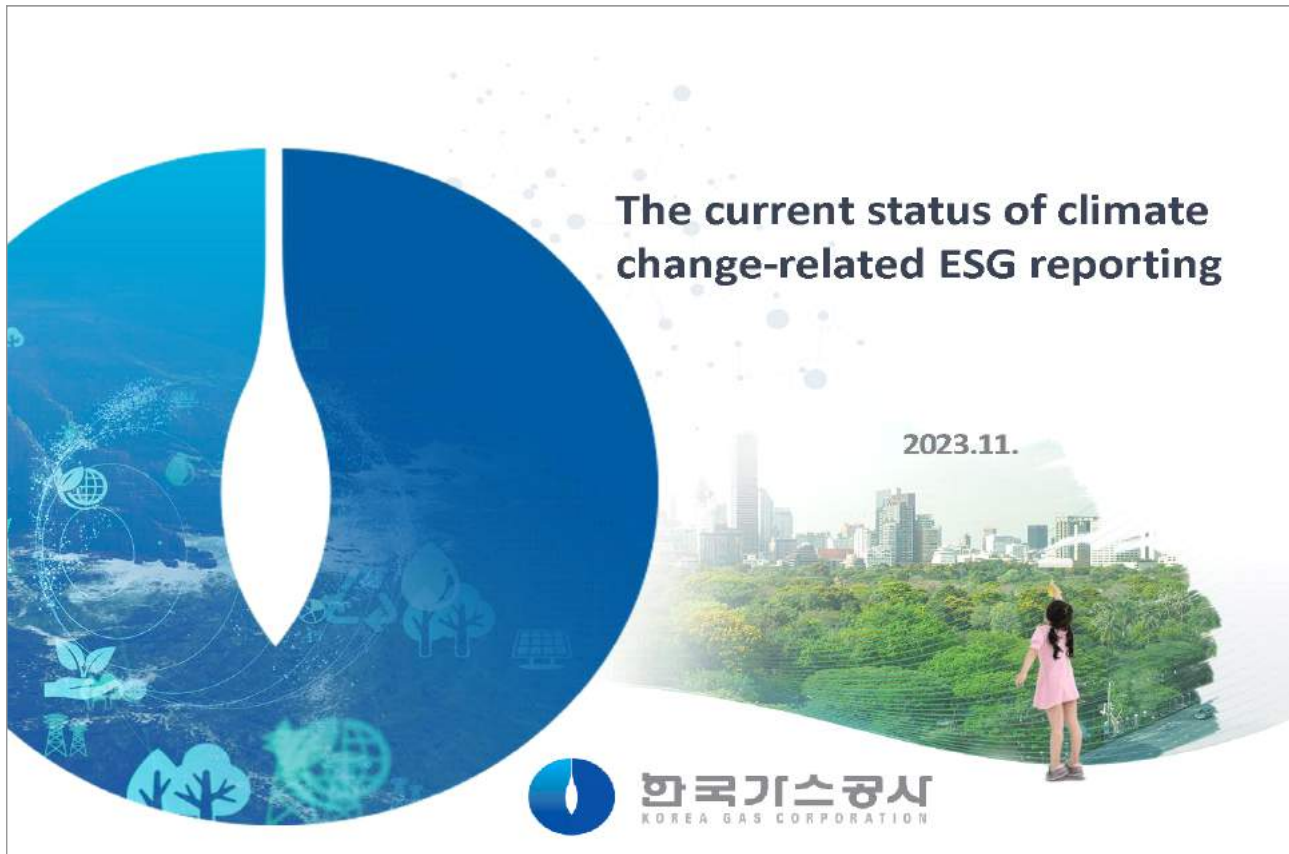
이지현 (국민연금공단 책임운영역)



The current status of climate change-related ESG reporting
기후변화 관련 ESG 보고 현황

Kyu Hun Shim Head of CSR Department (Korea Gas Corporation)

심규헌 한국가스공사 상생협력처장



CONTENTS

1. Introduction of the organization.
2. Business Environment
3. ESG Management - Overview
4. ESG Management Implementation Framework
5. ESG Management Strategies
6. Climate-Related ESG Reporting

1. Introduction of the organization

한국가스공사

- ▶ Korea Gas Corporation (KOGAS) was established in 1983 to enhance national welfare through the safe and reliable supply of natural gas. Currently, KOGAS operates five production bases, 152 distribution points (management offices), and a pipeline network of approximately 5,140 kilometers
- ▶ KOGAS engages in various activities, including natural gas import and sales, infrastructure construction and operation, overseas resource exploration and development, overseas LNG infrastructure operation, LNG bunkering, and hydrogen-related projects

National Natural Gas Production and Supply Facility Operational Status

Seoul District Division, Incheon District Division, Gangwon District Division, Gyeonggi District Division, Daejeon Chungcheong District Division, Jeonbuk District Division, Gwangju Jeonnam District Division, Jeju LNG, Busan Gyeongnam District Division, Daegu Gyeongbuk District Division, KOGAS 본사, and various regional branches.

Major businesses

- Manufacturing and Supply of City Gas, as well as Byproduct Refining and Sales
- Construction and Operation of Natural Gas Receiving Terminals and Distribution Networks
- Development, Transportation, and Import/Export of Natural Gas
- Development and Import/Export of Liquefied Petroleum Gas (LPG)
- Manufacturing and Supply of Hydrogen Energy
- Development and Import/Export of Hydrogen Energy
- Research, Technological Development, and additional Facilities for the Related Projects
- Overseas Projects Related to the Above-mentioned Operations

- ▶ A workforce of 4,092 employees
- ▶ Asset size of 62 trillion won
- ▶ Listed on Stock Exchange in 1999

한국가스공사
1
기후변화 관련 ESG 보고 현황

1. Introduction of the organization

한국가스공사

Natural Gas Business Value Chain

해외 생산국		도입국(대한민국)			
탐사·개발·생산	LNG 액화	LNG 수송	하역·저장·기화, 배관수송		판매(고객)
		연간 39백만톤 도입 (19개국)	5개 생산기지 저장용량 12백만㎥	배관량 5,105km 공급관리소 425개	26개 발전사 34개 도시가스사

Functions of Gas Sector Institutions

한국가스공사	한국가스기술공사	한국가스안전공사
핵심기능 천연가스의 안전하고 안정적인 공급을 통해 국민생활의 편의 증진 (천연가스 도매사업 수행기관)	핵심기능 천연가스설비 책임경비 및 안전관리 등을 통해 국가 경제발전 기여 (천연가스설비 정비 전문기관)	핵심기능 가스의 위험으로부터 국민의 소중한 생명과 재산을 보호 (가스안전관리 총괄기관)
주요사업 천연가스 도입 및 판매 사업 천연가스 설비 건설·운영 사업 해외자원 개발 사업 수소 및 미래 에너지 사업	주요사업 천연가스설비 정비 사업 엔지니어링 사업 해외 정비 사업 친환경에너지 사업	주요사업 가스시설 검사 진단 가스제품 검사 시설제품 인증 사업 기타 가스안전 관련 사업

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2
기후변화 관련 ESG 보고 현황

2 Business Environment ▶ 한국가스공사

Trends in the energy industry

Expansion of renewable energy

- ☑ Utilizing renewable energy, such as solar power or hydropower, and recycling existing fossil fuels as a primary means of reducing greenhouse gas emissions
- ☑ **RE100** An international campaign pledging to fully transition 100% of corporate electricity consumption to renewable energy by 2050



EU Fit for 55

- ☑ Legislation aiming to reduce EU average carbon emissions to 55% of 1990 levels by 2030
- ☑ **CBAM** Measures to impose taxes on products imported into the EU that have higher carbon emissions than domestically produced products



U.S. IRA

- ☑ Enacted in 2022 to address soaring U.S. inflation, focusing on climate change mitigation, medical cost support, and corporate tax increases
- ☑ With a goal to reduce greenhouse gas emissions by 40% by 2030, a planned investment of 369 billion dollars, equivalent to half of the IRA budget, is earmarked for environmentally friendly energy production and climate change adaptation



Efforts are needed for the transition to eco-friendly energy. + Ensuring energy security (amid international uncertainties such as the Russo-Ukrainian war)

Key ESG Standards

- ▶ DJSI(Dow Jones Sustainability Indices)
- ▶ MSCI assessment, K-ESG guidelines, and evaluation by Korea Institute of Corporate Governance and Sustainability

Government Policy

- ▶ Strengthening ESG management disclosure
- ▶ Leading ESG management by public institutions including supporting ESG management of SMEs
- ▶ Preventing industrial accident including establishing the roadmap for serious disaster prevention
- ▶ Implementing environmental management for achieving carbon neutrality and responding to climate change

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3
기후변화 관련 ESG 보고 현황

3 ESG Management Overview-the Importance of ESG Management ▶ 한국가스공사

Corporate Goal

- ▶ ESG should be an essential element embedded in a company's strategic goals, as it represents the social value required to enhance corporate value in the future

Capital Acquisition

- ▶ ESG has become a crucial element in corporate finance, given its emergence as a core value among investors from various sectors

Sustainability

- ▶ Under the comprehensive concept of sustainability, ESG factors have evolved as essential tools for risk management for the sustainable growth of the company

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4
기후변화 관련 ESG 보고 현황

3 ESG Management Overview - Purpose of ESG Disclosure

▶ 한국가스공사

(Objective 1) Providing information to investors as a publicly traded company

Disclosure	Publishing sustainability management reports since 2006 and beginning disclosure on the Korea Exchange in 2021			
Key content	Sustainable Management Framework	Environment	Society	Governance
	ESG Strategic Framework and Key Achievements, ESG Governance, Assessment result of Double Materiality, among others.	Greenhouse gas reduction, Energy efficiency improvement and reduction of energy consumption, among others	Expansion of mutual cooperation for shared prosperity and Job creation and sharing, among others	Composition and operation of sound board of directors, and human rights management, risk management strategies, among others

(Objective 2) Actively implementing government policies as a public institution

Disclosure	Integrated ESG Disclosure through ALIO.			
Key content	ESG Status	Environment	Society	Governance
	Institution-specific ESG initiatives, business strategies, implementation systems	Greenhouse gas reduction, green procurement, environmental law compliance	Safety management, social contributions, human rights management	Composition and operation of Board of directors, status of internal audit department

▶ 한국가스공사 5 기후변화 관련 ESG 보고 현황

3 ESG Management Overview and Key ESG Information by Category

▶ 한국가스공사

Key ESG Disclosure Standards

<p>Domestic</p> <ul style="list-style-type: none"> ▶ Evaluation criteria by Korea Institute of Corporate Governance and Sustainability ESG assessments on domestic publicly listed companies, encompassing corporate governance, social responsibility, and environmental management, since 2011. ▶ K-ESG Guidelines (Ministry of trade, industry and energy) The ESG Management Corporate Guidelines jointly developed by the Ministry of trade, industry and energy and relevant government agencies in 2021. 	<p>International</p> <ul style="list-style-type: none"> ▶ DJSI(Dow Jones Sustainability Indices) Index published by S&P Global that comprehensively evaluates company's economic, environmental, and social aspect ▶ MSCI ESG Ratings Morgan Stanley Capital International (MSCI) conducts ESG assessments based on company ESG disclosures and related risks
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By reviewing domestic and international ESG standards that serve as standards, principles, and evaluation indicators, 20 common disclosure items are identified in total.

Sector	Common items (20 items)
Environment(8)	Environmental management, climate change mitigation, greenhouse gases, biodiversity, resource circularity, environmental pollution/hazardous substances, waste reduction, and water usage
Society(6)	Labor practices/workforce management, health and safety, contributions to community, human capital development, supply chain management, and inclusive growth
Governance(6)	Board of directors, corporate governance, ethical management, information release/disclosure, personal data protection/information security, and human rights

▶ 한국가스공사 6 Current status of climate-related ESG reporting

3 ESG Management Overview_Other ESG-related Information (Aligned with UN SDGs) ▶ 한국가스공사

Application of Multiple Standards to KOGAS Sustainable Management Report

The company publishes and discloses its sustainability management report by additionally incorporating major global standards such as SASB, TCFD, UNGC, UN SDGs, in addition to the currently applied GRI standards

▶ UN SDGs (UN Sustainable Development Goals)

- The shared vision of humanity created by the United Nations to achieve genuine

▶ 한국가스공사7Current status of climate-related ESG reporting

3 ESG Management Overview_Other ESG-related Information (Aligned with UN SDGs) ▶ 한국가스공사

Example of disclosure efforts towards compliance with UN SDGs

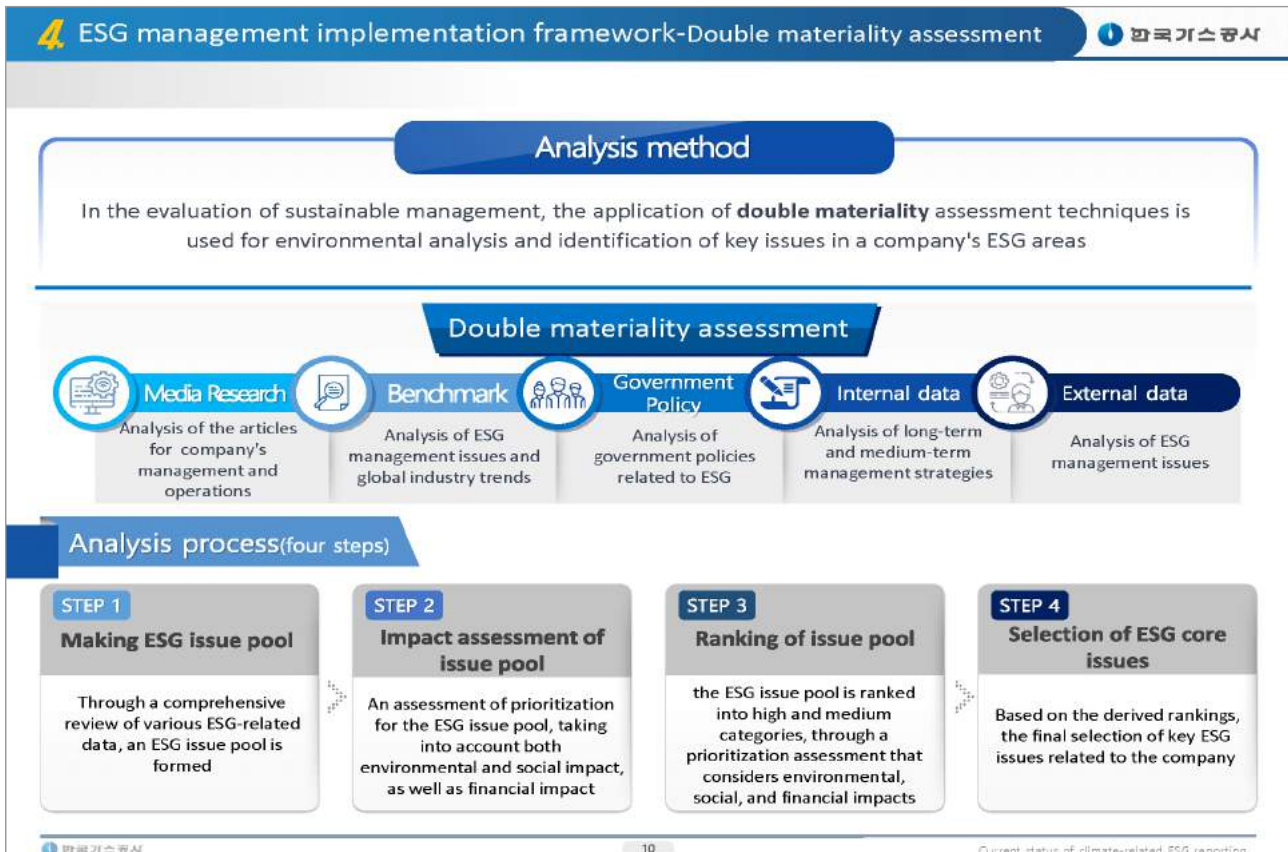
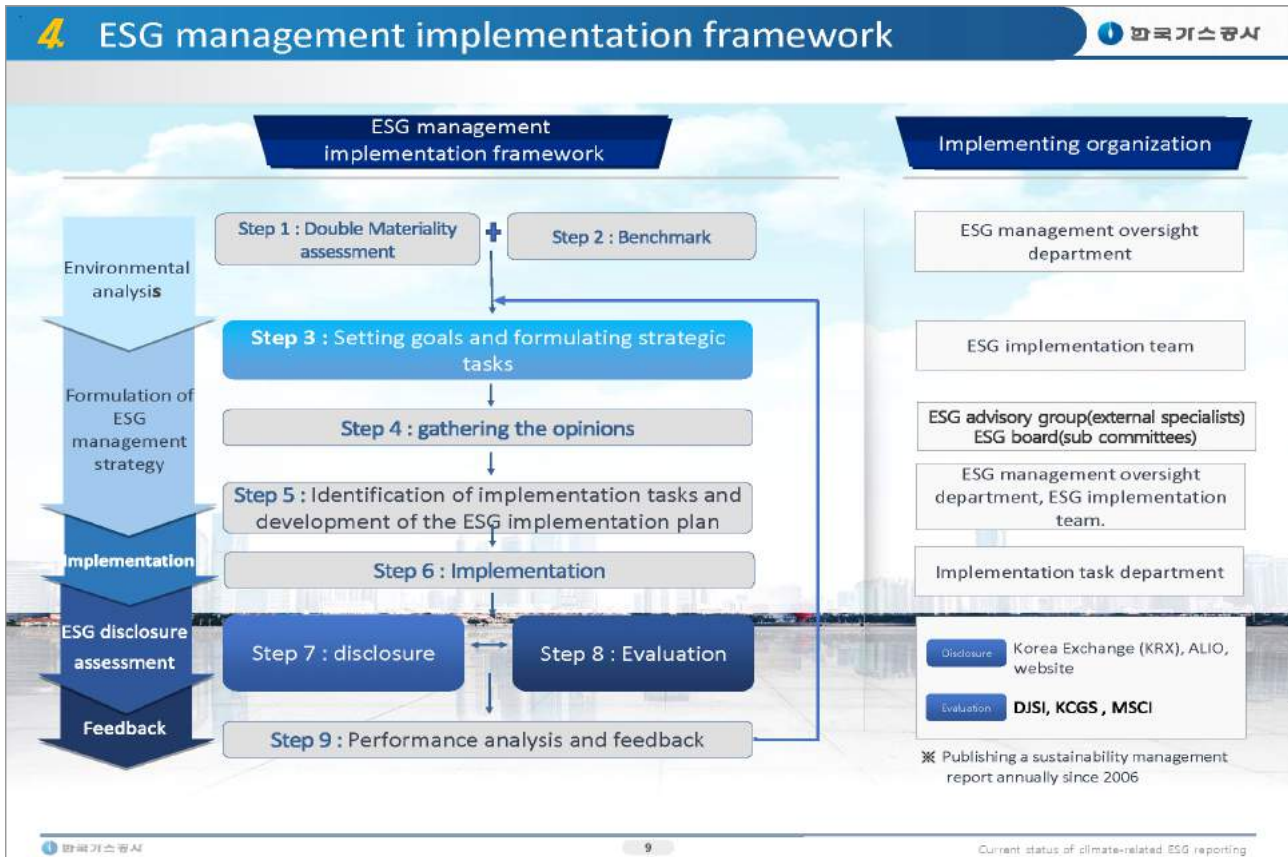
UN SDGs(UN Sustainable Development Goals)

SUSTAINABLE DEVELOPMENT GOALS

UN SDGs는 유엔과 국제사회가 2030년까지 공동 목표로 추진 중인 인류의 보편적 문제와 지구 환경문제, 경제 사회문제를 다루고 있습니다. KOGAS는 UN SDGs와 공사의 다양한 사회적 가치 창출 사업을 연계하여 기업의 사회적 책임을 다하고자 노력하고 있습니다.

<p>01 No Poverty 빈곤 퇴치</p> <ul style="list-style-type: none"> • 코로나 취약계층 도시가스요금 납부 유예 • 가스이용 효율화 등 에너지 빈곤 해결 • 온누리 펀드 조성 후 소외 취약계층 대상 우선 지원 • 저소득층 미래세대 장학금 지원 	<p>02 Zero Hunger 기아 종식</p> <ul style="list-style-type: none"> • 취약 계층 대상 생수, 아이스박스 등 에너지 키트 지원 • 임직원 기금 모집 조성 후 소외 취약계층 대상 우선 지원 • 한국국제기아대책기구, 대한적십자사 등 지속 지원을 통한 국내외 기아종식 노력 	<p>03 Good Health and Well-Being 건강과 웰빙</p> <ul style="list-style-type: none"> • 코로나 확산방지 마스크, 긴급 생계물품 지원 • 아동: 지역아동센터 복지향상 지원, 중증장애아동 및 찾아가는 R-BANK 지원, 중증환아 의료 지원 • 청소년: 고교-대학생 장학금 • 한-장단: 영혼을 계승사업, 창업대회 주관 사회적 경제조직 지원, 간혹아카데미 등 • 노년: 시니어 아카데미, 실버카드 보급
<p>04 Quality Education 양질의 교육</p> <ul style="list-style-type: none"> • 노숙인, 목민촌 거주민 등 대상 일자리 마련을 위한 건설기술 무료 교육 • 한부모 자녀 돌봄·교육 지원 • 미혼모 교육 지원 • 저소득 가정 대상 장학사업, 장년갑도서관 	<p>05 Gender Equality 양성 평등</p> <ul style="list-style-type: none"> • 여성기업 입찰 및 계약 참여 지원 • 경력단절 여성 및 미혼모 육아 병행 일자리 제공 (장년갑 도서관 전담 인력) • 가족친화기업 인증 	<p>06 Clean Water and Sanitation 식수 및 위생시설 접근 보장</p> <ul style="list-style-type: none"> • 수질개선을 위한 환경 개선활동 추진 • 하천정화활동 등 환경보존활동 수행 • 취약계층의 주거위생상태 개선 지원

▶ 한국가스공사8Current status of climate-related ESG reporting



5 ESG management implementation strategy-ESG management strategic framework 한국가스공사

Goal	Contributing to the promotion and enhancement of public welfare through the safe and stable supply of natural gas.		
Corporate philosophy	Better Energy, Better World		
VISION 2030	KOGAS, The Leader of Energy Innovation		
ESG vision	Achieving clean energy for a sustainable future with KOGA		
ESG target	40% greenhouse gas reduction, top safety rating, and top Integrity rating		
Strategic direction (Keyword)	Environment	Social	Governance
Strategic Initiative	climate change mitigation measures	Safety responsibility management	ESG decision-making body
	Environmental management and biodiversity	Strengthening public nature of natural gas	Culture of integrity
	Promotion of a circular economy and reduction of environmental pollutions	Coexistence and cooperation	Compliance management system
	Establishing a hydrogen business infrastructure	Job creation and sharing	Fair trade culture
MSCI assessment	Environmental improvement through new business initiatives	Employee competency and inclusiveness	Operation of the board of directors
	① climate change ② natural capital ③ pollution/waste ④ environmental opportunity	⑤ human capital ⑥ product responsibility ⑦ conflict of interest ⑧ equal opportunity	⑨ Governance ⑩ corporate behavior
Task(52)	16 tasks, including establishment of carbon-neutral facilities	20 tasks, including enhancement of Technology Development Collaboration for SMEs	16 tasks, including establishment of a Management System Based on ESG

(Transform) ['21~'22]

- Top-Down Approach to ESG Management Implementation
- ESG Management Assessment and Improvement Goal Setting

(Internalization) ['23~'24]

- Bottom-up Approach to ESG Management Implementation
- Enhancement of ESG Management Implementation System

(Value Creation) ['25~]

- Dissemination of the Company's ESG Management Model to Other Organizations
- Establishing a Collaborative Framework with cooperative for Sustainability Assurance

한국가스공사 11 기후변화 관련 ESG 보고 현황

5 ESG management implementation strategy - strategic framework 1.Environment 한국가스공사

Sustainable Environment

1	2	3	4	5
Strengthening climate change resilience.	Environmental management and biodiversity	Promotion of the circular economy and environmental pollutants reduction	Establishing the foundation for hydrogen-related projects	Environmental improvement through the pursuit of new business initiatives
<input checked="" type="checkbox"/> Development of climate change adaptation measures <input checked="" type="checkbox"/> Establishment of carbon-neutral facilities	<input checked="" type="checkbox"/> Establishment of specialized ESG specialized environmental management system <input checked="" type="checkbox"/> Systematic management of biodiversity and forest conservation	<input checked="" type="checkbox"/> Improving Construction Waste Recycling <input checked="" type="checkbox"/> Developing CCLS technology	<input checked="" type="checkbox"/> Establishing a Hydrogen Mobility Network <input checked="" type="checkbox"/> Establishing a Hydrogen Safety Compliance System	<input checked="" type="checkbox"/> Improving Air Quality by Ship Fuel Conversion <input checked="" type="checkbox"/> Installation of Fuel Cells Utilizing BOG at Production Facilities

Background

- Government Policy** Developing a scientific plan for carbon neutrality and creating a resilient aquatic environment and natural ecosystems in the face of the climate crisis
- Economic Environment** Increasing global demands for a low-carbon and eco-friendly economy with the advent of the era of climate crisis
- Social Environment** Growing concerns about environmental issues such as global warming, climate change, environmental pollution, and fine dust matter

Business strategies

- Strengthening Climate Change Response Framework** Establishing Climate Change Response Strategies, Building on Low-Carbon and Eco-Friendly Energy-centered Carbon-Neutral Facilities, and Expanding Renewable Energy Adoption
- Environmental management and biodiversity** Establishing Environmental Management System specialized in ESG, Systematic Management of Biodiversity and Forest Conservation,
- Promotion of the circular economy and environmental pollutants reduction** Enhancing Construction Waste Recycling rates and the Utilization of recycled Construction Materials, and Advancing CCUS Technology Development
- Establishing the foundation for hydrogen-related projects** Establishing a Hydrogen Mobility Network and Developing a Hydrogen Safety Compliance System
- Establishing a Hydrogen Mobility Network and Developing a Hydrogen Safety Compliance System** Improving Air Quality by Ship Fuel Conversion, Installing Fuel Cells Utilizing BOG, and Promoting LNG Cold Energy Utilization Project

한국가스공사 12 기후변화 관련 ESG 보고 현황

5 ESG management implementation strategy - strategic framework 2 Social

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Sustainable community

Job creation and sharing

- Expansion of Public Investment in the Natural Gas Industry
- Support for Inclusive Job Creation and Job Quality Improvement

Enhancing collaborative coexistence and cooperation

- Supporting and Strengthening Collaboration for Small and Medium-sized Enterprises (SMEs)
- Expanding Domestic Production through Mutual Cooperation

Strengthening employee competencies and inclusiveness

- Nurturing specialized workforce for future growth industries
- Promoting and Expanding Female Executives

Safety responsibility management

- Ensuring safety in the daily life of the public
- Enhancing Disaster Response Capabilities

Strengthening the public nature of natural gas

- Expanding City Gas Distribution to Underserved Areas
- Accessible One-Stop Service

Background

- Government Policy**: request for a Leading Role of Public Institutions in the Spread of Inclusive Growth and Support for Private Sector Innovation-Driven Growth
- Economic Environment**: Transition to Stakeholder Capitalism, Emphasizing Social Responsibility from profits
- Social Environment**: Increasing Social Demands for Corporate Social Responsibility and Safety

Business strategies

- Safety responsible management**: Creating a Safe Environment and Strengthening Disaster Preparedness and Response Systems to reduce Disasters and Incidents
- Enhancing mutual cooperation**: Creating a Sustainable Mutual Cooperation Model through the expanding Inclusive Growth
- Strengthening public nature of natural gas**: Mitigating Energy Supply Disparities across regions and Expanding Energy Welfare
- Job creation and sharing**: Creating Sustainable and High-Quality Jobs Based on the Construction Industry
- Strengthening employee competencies and inclusiveness**: Enhancing Job Competencies through Employee training and development, Promoting and Expanding Female Managers

한국가스공사 13 기후변화 관련 ESG 보고 현황

5 ESG management implementation strategy - strategic direction 3 Governance

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Transparent Governance

11 ESG-driven Decision-making

- Establishing a Management System Based on ESG
- Reviewing ESG Management Within the Investment Project Approval Process

12 Promotion of business ethics and integrity

- Ethical Leadership Driven by Management
- Strengthening Ethical Activities with the Public

15 Strengthening Public Disclosure and Information Security

- Enhancing ESG Management Disclosure Oversight
- Establishing an Information Asset and Personal Data Protection System

14 Establishment of a fair trade culture

- Establishing a Culture of Bullying Prevention
- Establishing Standards for Handling Bid Rigging Activities

13 Compliance Management system

- Establishing a Comprehensive Anti-Corruption and Integrity Innovation Framework.
- Promoting Systematic Human Rights Management

Background

- Government Policy**: System Improvement to eradicate unethical behavior in Public Institutions, emphasis on management transparency, including policies to prevent abuse of power
- Economic Environment**: Domestic and international credit rating agencies, investment banks, and others evaluate a company's value by considering its ESG management and more.
- Social Environment**: Increased Societal Expectations for Transparency and Fairness in the Policy Decision-Making Process

Business strategies

- ESG Decision-Making Body Operations**: Operation of ESG Decision-Making Bodies for Establishing ESG Management System
- Compliance Management System**: Establishing a Compliance Management System for the Promotion of Human Rights Management and a Culture of Legal Compliance
- Promotion of culture of integrity**: Expanding Transparent and Trustworthy Ethical Management and Culture
- Establishing Fair trade culture**: Establishing an Ecosystem of Fair Trade Based on Equality and Trust
- Strengthening information disclosure and information security**: Enhancing ESG Disclosure and Establishing Information Asset and Personal Data Protection Systems

한국가스공사 14 기후변화 관련 ESG 보고 현황

6 Climate related ESG reporting - Climate related Disclosure

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- ▶ KOGAS discloses climate-related ESG information through the ALIO integrated disclosure system and additionally publishes an annual sustainability management report, which is voluntarily disclosed on the Korea Exchange.

▶ KOGAS Disclosure Status

NO	Key disclosure items	management disclosure	ALIO disclosure	Sustainability management report
1	Greenhouse Gas Emissions	✓	✓	✓
2	Energy Consumption		✓	✓
3	Waste Disposal Volume		✓	✓
4	Water Usage		✓	✓
5	Environmental Law and Regulation Violations		✓	✓
6	Greenhouse Gas Reduction Targets			✓
7	Carbon Neutrality Implementation Plan			✓
8	Climate Change Response Organization			✓
9	Climate Change Risk Management			✓
10	Climate Change Response Strategy			✓
11	Renewable Energy Installation Status			✓
12	Greenhouse Gas Emission Reduction activities			✓
13	Air pollutant emission volume			✓
14	Water pollutant emission volume			✓
15	Waste recycling volume			✓
16	Biodiversity assessment status			✓
17	Eco-friendly procurement status			✓

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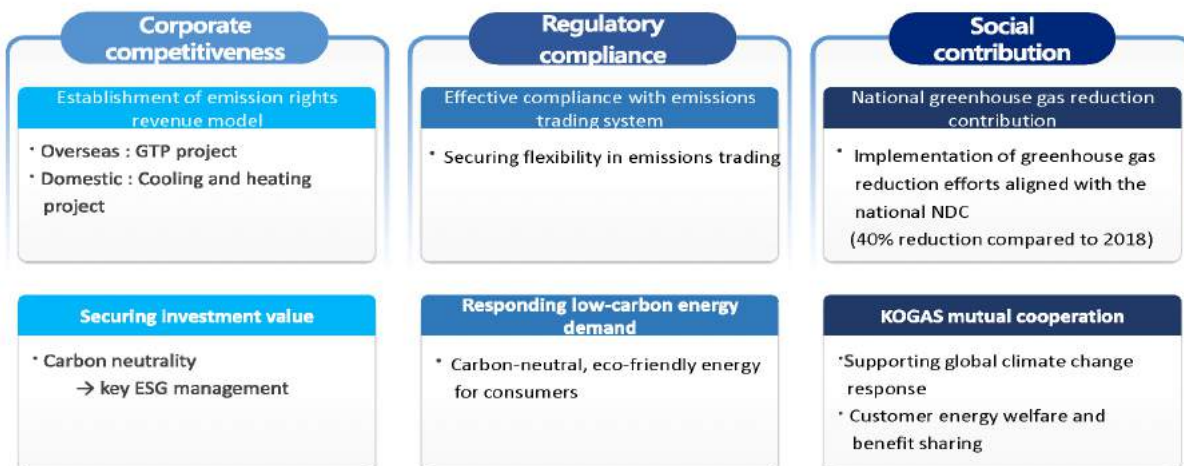
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기후변화 관련 ESG 보고 현황

6 Climate-Related ESG Reporting - KOGAS Carbon Neutrality Initiative Plan

한국가스공사

- ▶ KOGAS actively participates in national efforts for climate change mitigation and carbon neutrality, proactively responding to greenhouse gas reduction and the transition to an eco-friendly society to secure ongoing corporate competitiveness



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기후변화 관련 ESG 보고 현황

6 Climate-Related ESG Reporting - Climate Change Response Implementation Organization 한국가스공사

- ▶ Operational committee : Discussions on operation of climate change response and energy management
- ▶ Climate change/energy committee : Review and consultation of climate change issues reported by the Operational Committee
- ▶ ESG Management committee : Consultation of key climate change response issues reported by the Climate Change/Energy Committee
- ▶ ESG committee : Advice and consultation of mid-to-long-term management strategies for climate change and environmental matters

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기후변화 관련 ESG 보고 현황

6 Climate-Related ESG Reporting - climate change risk management and response 한국가스공사

▶ Climate Change Risk Management Process

Research risk

Analysis of Requirements from Key Stakeholders (UNFCCC, IPCC, IEA, FSB, etc.), Data Collection through Brainstorming, workshop, SWOT analysis and interview with specialists

Identify risk

Enhanced Regulation of Fossil Fuels, Consumer Preferences, Introduction of New Technologies/ New Business Ventures, Expansion of Hydrogen Initiatives, Strengthened Emission Trading Schemes, Extreme Climate and Weather Events

Evaluate risk

Materiality assessment and Climate Change Adaptation Measures, Assessment of the Potential Scale and Scope of Risks, Priority Determination

Manage risk

Each department performs risk management tasks for identified and assessed risks, while the central department supports and reports

▶ Climate Change Response Strategy

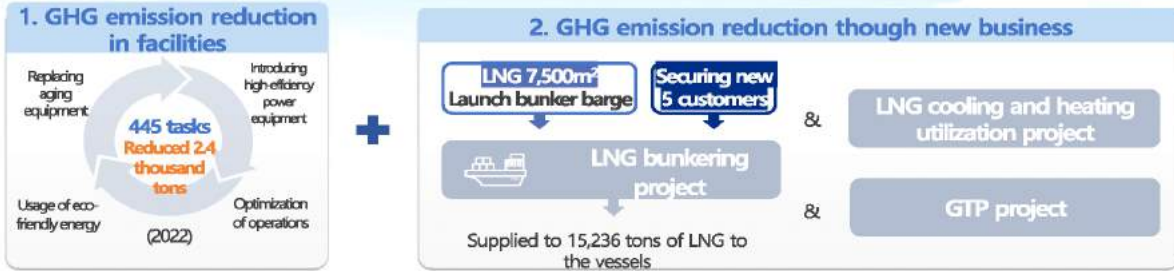
Materiality assessment	Risk/opportunity	Financial impact	Response strategies
	<ul style="list-style-type: none"> • Enhanced Regulation of Fossil Fuels • Consumer Preference Change 	<ul style="list-style-type: none"> • Rising Fossil Fuel Prices, Increased Revenue from New Business • Reduced Uncertainty in Low-Carbon Technology Investments 	<ul style="list-style-type: none"> • Expanding new development demand including GTP project • improving LNG carbon intensity
	<ul style="list-style-type: none"> • Introducing new technology and business 	<ul style="list-style-type: none"> • Reducing financial stability by developing new technology and business • Reducing exposure to fossil fuel price hikes 	<ul style="list-style-type: none"> • Securing technologies for new business
	<ul style="list-style-type: none"> • Strengthening emissions trading systems 	<ul style="list-style-type: none"> • Inclusion in paid allocation during the third planning period and an expected increase in proportion of paid allocation 	<ul style="list-style-type: none"> • Improved energy efficiency and saving energy • Obtaining emissions rights through external reduction projects
	<ul style="list-style-type: none"> • Extreme climate and weather events 	<ul style="list-style-type: none"> • Increased financial burden when purchasing external natural gas • Increased operating costs due to equipment breakdown and weakened supply pipelines 	<ul style="list-style-type: none"> • Development of 'climate change adaptation measures' applying RCP 8.5 scenario

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기후변화 관련 ESG 보고 현황

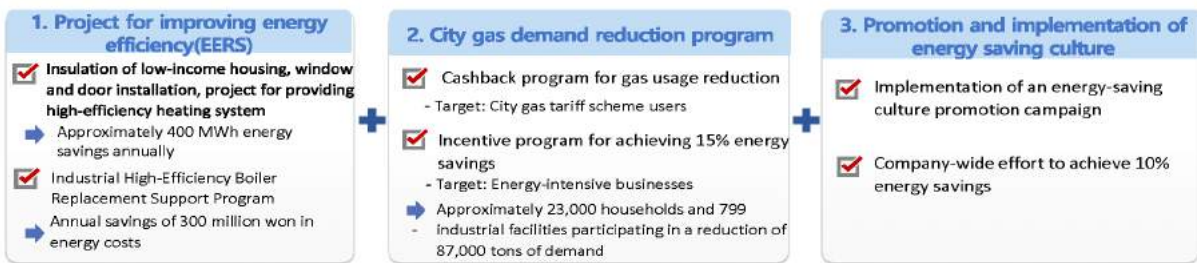
6 Climate-Related ESG Reporting - KOGAS GHG emission & saving energy

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GHG emission reduction



Improvement in energy efficiency and consumption reduction



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기후변화 관련 ESG 보고 현황

6 Climate-Related ESG Reporting _ KOGAS environmentally pollutant emission and environmental impact minimization

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Enhanced management of environmental pollutant emissions



Minimization of environmental impact



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기후변화 관련 ESG 보고 현황

6 Climate-Related ESG Reporting _ Biodiversity and ecosystem conservation ▶ 한국가스공사

📍 Biodiversity conservation

1. Biodiversity conservation activities

- ☑️ "International conservation project for endangered species (e.g., spoon-billed sandpiper)"
 - Habitat improvement, promotion, and education initiatives
- ➡️ ('22) Breeding 250 pairs, predation rate 16%
→ ('23) 280 pairs, 0%

2. Efforts to prevent biodiversity degradation



- ☑️ Environmental and ecosystem impact during project implementation
- ☑️ assessment and monitoring during operation"

1. Conducting environmental and wildfire impact assessment

- ☑️ Wildfire impact assessment for gas facilities
- ☑️ KOGAS wildfire disaster response system

2. Forest conservation activities

- ☑️ Declaration of KOGAS forest preservation policy
- ☑️ Implementation of the Daegu Carbon-neutral city forest creation project

▶ 한국가스공사
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기후변화 관련 ESG 보고 현황

6 기후 관련 ESG 보고 _ '22년 주요 환경 성과 ▶ 한국가스공사

<div style="background-color: #00a68a; border-radius: 50%; width: 100%; height: 100%; display: flex; flex-direction: column; justify-content: center; align-items: center; color: white;"> <p style="font-size: small;">환경예산 증가율 (전년 대비)</p> <hr style="border: 0; border-top: 1px dotted white; width: 80%;"/> <p style="font-size: 2em; font-weight: bold;">25%</p> </div>	<div style="background-color: #00a68a; border-radius: 50%; width: 100%; height: 100%; display: flex; flex-direction: column; justify-content: center; align-items: center; color: white;"> <p style="font-size: small;">공공설비 개선 온실가스 감축량</p> <hr style="border: 0; border-top: 1px dotted white; width: 80%;"/> <p style="font-size: 2em; font-weight: bold;">2.4만 톤</p> </div>	<div style="background-color: #00a68a; border-radius: 50%; width: 100%; height: 100%; display: flex; flex-direction: column; justify-content: center; align-items: center; color: white;"> <p style="font-size: small;">고효율 기자재 구매율</p> <hr style="border: 0; border-top: 1px dotted white; width: 80%;"/> <p style="font-size: 2em; font-weight: bold;">99.8%</p> </div>	<div style="background-color: #00a68a; border-radius: 50%; width: 100%; height: 100%; display: flex; flex-direction: column; justify-content: center; align-items: center; color: white;"> <p style="font-size: small;">에너지 소비효율 1등급 제품 구매율</p> <hr style="border: 0; border-top: 1px dotted white; width: 80%;"/> <p style="font-size: 2em; font-weight: bold;">85.2%</p> </div>
<div style="background-color: #00a68a; border-radius: 50%; width: 100%; height: 100%; display: flex; flex-direction: column; justify-content: center; align-items: center; color: white;"> <p style="font-size: small;">LNG 병커링 사업 미세먼지 저감</p> <hr style="border: 0; border-top: 1px dotted white; width: 80%;"/> <p style="font-size: 2em; font-weight: bold;">2,537톤</p> </div>	<div style="background-color: #00a68a; border-radius: 50%; width: 100%; height: 100%; display: flex; flex-direction: column; justify-content: center; align-items: center; color: white;"> <p style="font-size: small;">도시가스 수요절감 프로그램 감축 수요량</p> <hr style="border: 0; border-top: 1px dotted white; width: 80%;"/> <p style="font-size: 2em; font-weight: bold;">8.7만 톤</p> </div>	<div style="background-color: #00a68a; border-radius: 50%; width: 100%; height: 100%; display: flex; flex-direction: column; justify-content: center; align-items: center; color: white;"> <p style="font-size: small;">물 자급화 시스템 물 자원 절감</p> <hr style="border: 0; border-top: 1px dotted white; width: 80%;"/> <p style="font-size: 2em; font-weight: bold;">7,500톤</p> </div>	<div style="background-color: #00a68a; border-radius: 50%; width: 100%; height: 100%; display: flex; flex-direction: column; justify-content: center; align-items: center; color: white;"> <p style="font-size: small;">건설 폐기물 재활용률</p> <hr style="border: 0; border-top: 1px dotted white; width: 80%;"/> <p style="font-size: 2em; font-weight: bold;">90%</p> </div>

▶ 한국가스공사
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기후변화 관련 ESG 보고 현황

Appendix (Environmental data)

한국가스공사

KOGAS GHG Emission

Items		Unit	2020	2021	2022
Natural Gas Sales Volume		thousand tons	32,367	36,914	38,397
Total Greenhouse Gas Emissions(Scope 1+2)	Emission Amount	tCO _{2eq}	595,262	687,667	752,041
	won	tCO _{2eq} /thousand tons	18.391	18.629	19.586
Direct Emission(Scope 1)		Emission Amount tCO _{2eq}	206,510	279,215	324,820
Indirect Emission(Scope 2)		Emission Amount tCO _{2eq}	388,752	408,452	427,221
Other Indirect Emission(Scope 3)*		Emission Amount tCO _{2eq}	102,469,800	117,254,384	121,863,755

Energy Usage

Items		Unit	2019	2020	2021	2022
Natural Gas Sales Volume		thousand tons	33,597	32,367	36,914	38,397
Total Energy Consumption	Consumption	TJ	12,775	11,384	13,254	14,503
	won	TJ/thousand tons	0.380	0.352	0.359	0.378
Direct Energy(Fuel consumption)		TJ	4,926	3,351	4,686	5,561
Indirect Energy (electricity consumption)		TJ	7,849	8,033	8,523	8,871
Steam consumption ¹⁾		TJ	-	-	51	78

Items		Unit	2019	2020	2021	2022
Total non-renewable energy consumption		MWh	2,192,650	1,777,673	2,203,777	2,490,861
non-renewable fuel consumption (Purchased or consumed for energy purposes)		MWh	1,368,395	930,820	1,301,740	1,544,920
Non-renewable purchased electricity		MWh	811,414	830,706	887,773	924,057
Steam/heating, cooling, and other energy purchases		MWh	12,841	16,147	14,264	21,884
Total renewable energy consumption ¹⁾		MWh	2,699	3,199	3,201	3,970
Total energy consumption cost		Hundred Million won	1,538	1,347	1,512	1,538

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기후변화 관련 ESG 보고 현황

Appendix (Environmental data)

한국가스공사

Water usage

Item	Unit	2019	2020	2021	2022
Total Water Usage ¹⁾	Thousand m ³	1,392,986	1,568,931	1,769,849	1,863,085
Seawater	Thousand m ³	1,392,325	1,568,327	1,769,101	1,862,338
Water Supply	m ³	644,245	589,917	732,893	736,537
Others(surface water, ground water)	m ³	17,365	14,556	14,535	11,026

Chemical Usage

Item	Unit	2019	2020	2021	2022
Chemical Usage ¹⁾	ton	34,248	2,091	1,906	1,808

Environmental law and Regulation violations

Item	Unit	2019	2020	2021	2022
Legal obligation/regulatory violation	quantity	0	0	0	0
Fine amount	won	0	0	0	0

Status of waste

Item		Unit	2019	2020	2021	2022	
Natural Gas Sales Volume		thousand tons	33,597	32,367	36,914	38,397	
By type ¹⁾	General	ton	4,575	10,878	1,829	1,336	
	지정	ton	289	98	118	4,092	
	Construction	ton	129,366	77,132	123,838	46,731	
	sum	Emission Amount	ton	134,230	88,108	125,785	52,159
		Won	ton/thous and tons	3.99	2.72	3.41	1.36
By treatment	recycling/reuse	ton	70,811	33,408	98,719	43,932	
	Waste	ton	63,419	54,700	27,066	8,227	
	Landfill	ton	-	-	-	-	

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기후변화 관련 ESG 보고 현황

Appendix (Environmental data)

한국가스공사

Air and Water quality			Item	Unit	2019	2020	2021	2022
Natural Gas Sales Volume				thousand tons	33,597	32,367	36,914	38,397
Air pollution ¹⁾	NOx	Emission Amount	kg	192,398	148,880	198,868	227,152	
		won	kg/thousand tons	5.73	4.60	5.39	5.92	
	SOx	Emission Amount	kg	1,239	743	1,062	1,319	
		won	kg/thousand tons	0.04	0.02	0.03	0.03	
	Dust	Emission Amount	kg	3,729	2,229	3,187	3,956	
		won	kg/thousand tons	0.11	0.07	0.09	0.10	
Water pollution	Individual wastewater treatment facility	BOD	ppm	6.2	10.5	9.6	4.2	
		SS	ppm	5.9	9.0	9.8	3.6	
		T-N	ppm	13.1	14.9	55.3	47.1	
		T-P	ppm	2.4	2.1	7.1	5.3	
	wastewater discharge facility ⁴⁾	coliform bacteria count	Emission concentration	quantity/ml	37.3	64.6	62	5
		COD	ppm	3.6	-	-	-	
		TOC	ppm	-	9.2	39	24	
		SS	ppm	1.2	7.1	19	26	

Item		Number of facilities	Area(Hectares)
Total number of facilities and area		15	793
(Evaluation) Facilities that have conducted a biodiversity impact assessment on their operational activities		5	505
(Exposure) Facilities with significant impact on biodiversity among facilities assessed		5	505

Item	Unit	2019	2020	2021	2022
Eco-friendly procurement²⁾	Thousand won	-	-	6,962,483	1,294,515
Percentage of Eco-friendly procurement¹²⁾	%	-	-	49	20

한국가스공사
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기후변화 관련 ESG 보고 현황

Appendix (Environmental data)

한국가스공사

- Calculation methods for major carbon emission
 - ✓ (Scope1) ① Emission quantity + ② Discharge quantity
 - ① Emission quantity = Fuel consumption × National emission factor or IPCC emission factor
 - ② Discharge quantity = Natural gas supply volume & storage volume × National emission factor
 - Discharge emission : Leakage in the processing, transmission, storage, distribution of natural gas, as well as leaks and venting in storage and supply systems
 - ✓ (Scope2) External electricity or heat consumption × Electricity or heat emission factor
 - ✓ (Scope3) Emission source-specific activity data × Applied emission factor

Major emission sources	Activity data	Applied emission factors
Purchased products and services	LNG import volume	IPCC Guidelines
	Water usage	환경성적표지 배출계수
Capital goods	Computer and monitor purchase quantity	환경성적표지 배출계수
Upstream transportation and delivery	LNG maritime transportation distance	환경부 탄소성적표지 국가LCI 배출계수
Waste	Waste landfill, incineration, and recycling quantity	
business travel	Domestic and international business travel distance	GHG protocol
Commute	Commute distance for all employees	환경부 저탄소형 녹색행사 가이드라인
City gas sales, investments	Sales volume of gas for power generation and city gas, Performance in resource development through investments	IPCC Guidelines

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기후변화 관련 ESG 보고 현황

The Korea Gas Corporation (KOGAS) will continue to strive to meet the expectations of its stakeholders through relentless innovation and the realization of social values. We will do our best to achieve our ESG management vision, "Clean Energy for a Sustainable Future," in the future as well





ESG Disclosures of Korea District Heating Corporation
한국지역난방공사 ESG 정보공시 사례발표

Ki Jong Jeong Department Manager, Planning Team (Korea District Heating Corporation)

정기종 한국지역난방공사 기획부장

The 4th KIPF Accrual Accounting International Symposium

ESG Disclosures of Korea District Heating Corporation

Planning department, Planning Office
Department Manager, Ki Jong Jeong

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- 01** Introduction of KDHC
- 02** Establishment of ESG Management Framework
- 03** Sustainability Reporting
- 04** ESG Disclosure Channel
- 05** Conclusion

깨끗한 에너지로
세상을 따뜻하게

Introduction of KDHC

Integrated Energy Business
Major Business and Facility

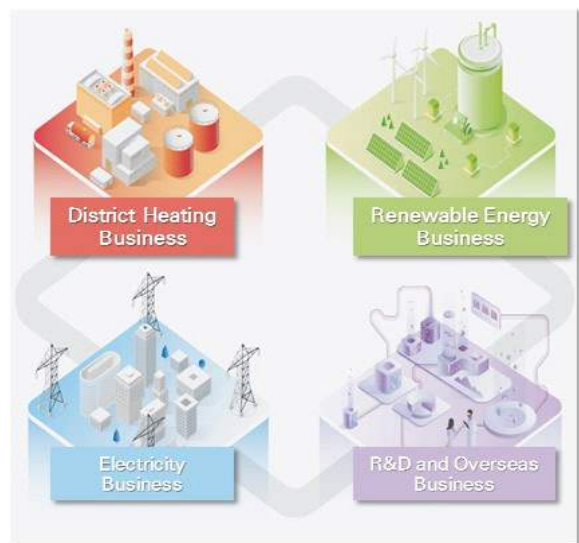
한국지역난방공사

깨끗한 에너지로
세상을 따뜻하게

Major Business of KDHC

KDHC was established in accordance with Article 29 of the Integrated Energy Supply Acts to **promote energy savings and enhance national welfare through the efficient supply of Integrated energy**

President	Yong Ki Jeong
Legal Foundation of establishment	Integrated Energy Supply Act Article1, 29
Date of Establishment	November 1 st , 1985
Head office Location	368 Bundang-ro, Bundang-gu, Seongnam-si, Gyeonggi-do
Major Business	Integrated Energy Business (District Cooling and Heating, Electricity), Renewable Energy Business
Organization and number of people	Vice President, 4 Divisions, 14 Office, 19 branches 2,065 employees
Financial Status	Asset : 7 trillion 4,781 hundred million won Sales : 4 trillion 1,730 hundred million won (December in 2022)

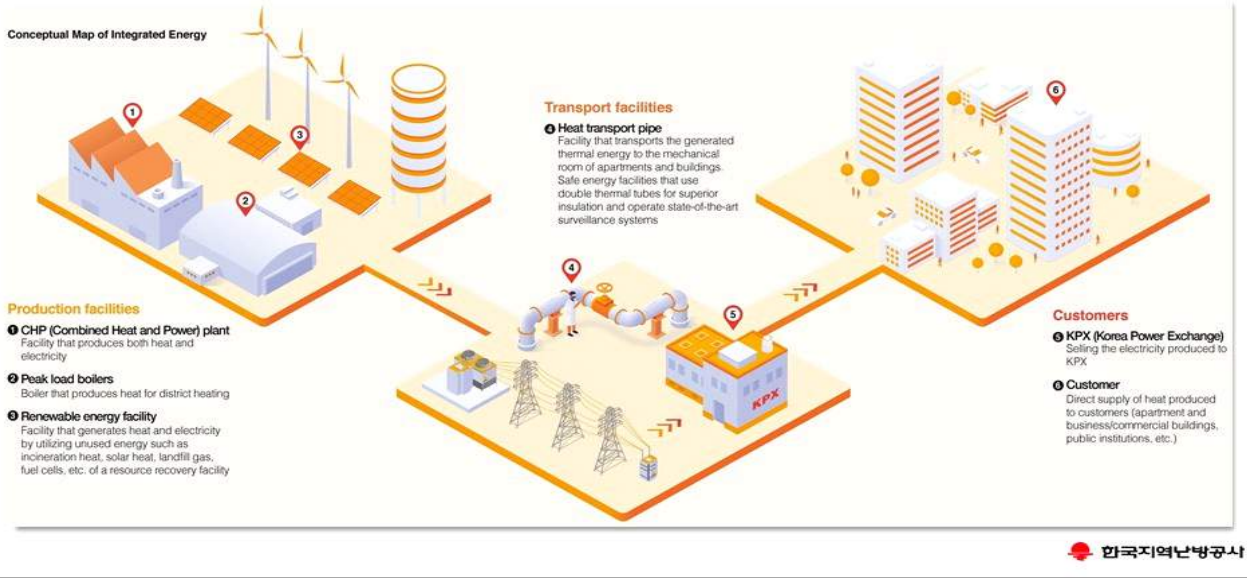


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깨끗한 에너지로 세상을 따뜻하게

Introduction of Community Energy Business

Multiple users including residential complexes and buildings receive heat and electricity generated from large-scale energy production facilities such as combined heat and power (CHP) generation plants, peak-load boilers, and renewable energy facilities

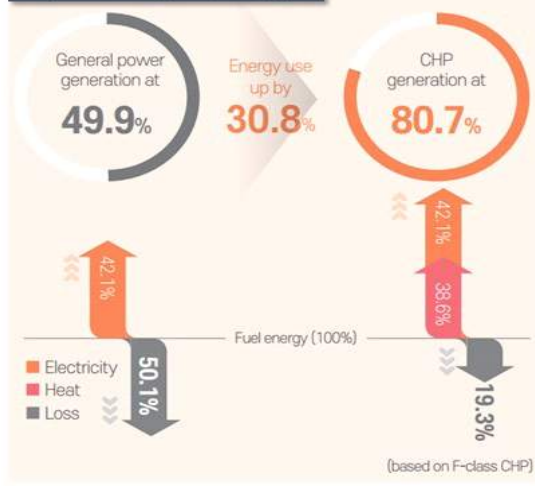


깨끗한 에너지로 세상을 따뜻하게

Community Energy Benefits

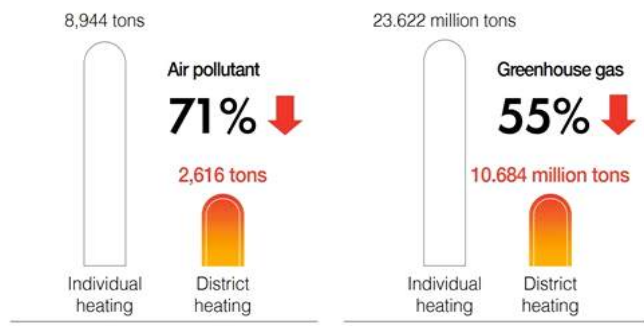
Combined heat and power (CHP) facilities for district heating provide an energy efficiency approximately 30.8% higher than that of conventional power generation facilities

Impact of Integrated Energy



Atmospheric Environment Enhancement by District Heating

Compared to individual heating methods, district heating systems achieve a reduction of approximately 70% in air pollutants and over 55% in greenhouse gas emissions



한국지역난방공사

깨끗한 에너지로 세상을 따뜻하게

Major Facility Status

By establishing a metropolitan area interconnection network (193km², 2 lines), we ensure the stability and cost-effectiveness of heat supply. Additionally, we maximize efficiency by connecting 13 substations from Paju to Pyeongtaek through a network

Facility Status

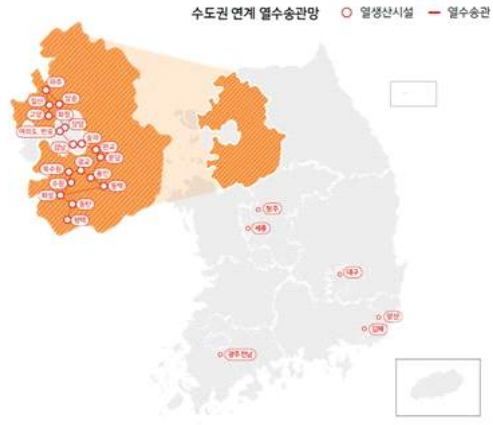
Combined heat and power generation	- Electricity : 2,424MW - Heat : 2,083Gcal/h
Heat production facility	- Total : 4,406Gcal/h - Heat storage : 31Unit(2,633Gcal/h)

Heat Transmission Pipeline Network Status

Total Length **2,426km × 2 row** (2022.12.31.)

Feature

- 13 branches/offices located in the metropolitan area from Paju to Pyeongtaek
- 6 branches/offices located in the provinces, including Cheongju, Daegu, and Sejong



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깨끗한 에너지로 세상을 따뜻하게

Major Eco-friendly Facility

We are reducing air pollutants through the establishment and operation of environmentally friendly facilities (TMS) and actively promoting research and development of urban CCUS to mitigate CO2 emissions

TMS(Tele-Monitoring System)
Continuous Monitoring System for Measuring Air Pollutant Concentrations with Automatic Sensors and Transmitting Emission Data to Environmental Control Center

CCUS(Carbon Capture, Utilization, and Storage)
Technology for Capturing and Liquefying CO2 Emissions in Power Generation Processes to Enhance Carbon Reduction Utilization

한국지역난방공사

깨끗한 에너지로
세상을 따뜻하게

Establishment of ESG Management Framework

ESG Management Strategies
ESG Management Implementation Organization

한국지역난방공사

깨끗한 에너지로
세상을 따뜻하게

Establishment of ESG Management Framework

Global ESG Management Continues to Expand... The Korea District Heating Corporation ?

1

Domestic and International
Environmental Changes

2

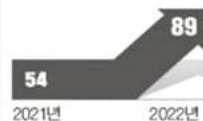
Establishment of ESG
Management Framework

3

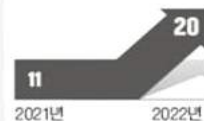
Enhancing ESG
Implementation Capabilities

확산하는 ESG 경영 (단위:%)

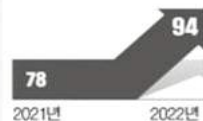
회사 내 별도
ESG 조직 꾸렸다



ESG 조직 총괄책임자가
사장급 이상이다



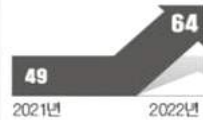
ESG 관련 목표 및
계획 수립하고 있다



이사회 내 별도의
ESG 위원회가 있다



ESG 경영계획 위해 외부
컨설팅을 받은 적이 있다



2021년 ESG 사업 및 연간 계획에 포함된 항목

2021년	2022년
온실가스배출량 감축(75%)	1위 온실가스배출량 감축(84%)
지배구조 투명성 강화(74%)	2위 안전사고 예방(73%)
친환경 제품 및 서비스 개발(70%)	3위 친환경 제품 및 서비스 개발(68%)
지역 사회 기여(70%)	4위 기후변화(63%)
안전사고 예방(62%)	5위 지배구조 투명성 강화(62%)

출처 : 한국경제

한국지역난방공사

>> Domestic and International Environmental Changes

Emphasizing the importance of non-financial performance in Environmental, Social, and Governance aspects to achieve sustainability in corporate management

CSR
Corporate Social Responsibility

기업이 영리 활동을 하며 발생시키는 사회 불평등, 환경오염 등에 대한 사회적 책임감

CSV
Creating Shared Value

사회적 가치를 창출하면서 동시에 경제적 수익을 추구하는 기업 활동

ESG
Environment, Social, Governance

기업 경영에서 지속가능성을 달성하기 위한 환경, 사회, 지배구조 측면에서의 비재무적 성과를 의미함

경제적 수익 추구 내 사회적 가치 창출

환경가치 확산, 지배구조 건전성 강조

출처 : EonESG, 「Point of No Return」

한국지역난방공사

>> Linkage between KDHC's business activities and ESG

Core activities (development and construction of integrated energy, production and operation, transportation and distribution) are centered on the environmental (E) and social (S) sectors, while support activities are focused on the social (S) and governance (G) sector

Core Activities	Development and construction of integrated energy	Production and management of integrated energy	transportation and distribution of integrated energy
	Development of core business	Facility production and management	Transportation business
Development of future business	Facility maintenance	Distribution and sales business	
Supply facility construction	Establishing Management System, Organizational Culture, Human Right, Ethics, Integrity, Anti-Corruption		
Supporting Activities			

한국지역난방공사

깨끗한 에너지로 세상을 따뜻하게

Establishment of ESG Management Framework

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3

Enhancing ESG Implementation Capabilities

As a public institution and a publicly listed company, we need to address the demands of various stakeholders, including the government and the capital market

<p>ESG 정보 공개 가이드선스</p> <p>2021. 8. 26.</p> <p>KRX 한국거래소</p>	<p>친환경·포용·공정경제로의 대전환을 위한 ESG 인프라 확충 방안</p> <p>2021. 8. 26.</p> <p>관계부처 합동</p>	<p>기업 경쟁력 제고와 지속가능 경제구축을 위한 ESG 인프라 고도화 방안</p> <p>2022. 12. 27.</p> <p>관계부처 합동</p>	<p>업무협조 2023. 2. 22.</p> <ul style="list-style-type: none"> <input type="checkbox"/> 주 소 : 공공기관 차등 ESG 통합관리 방안 <input type="checkbox"/> 목 적 : ESG 통합관리 체계 구축을 위한 ESG 통합관리·연계 강화 <input type="checkbox"/> 목 적 : 공공기관의 통합관리 체계 구축을 위한 ESG 통합관리·연계 강화 <p>☐ 이 기관의 주요한 발전을 기원합니다.</p> <p>☐ 기획재정부 ESG 등 새로운 공시원칙 변화 반영 및 국정과제 수행 관련 지원 필요성 제고를 위해 ESG 통합관리·연계 강화 관련 협력을 기원합니다.</p> <p>☐ "공공기관의 통합관리 체계 구축, 정부-기업간 ESG 협력 강화"를 위한 ESG 통합관리·연계 강화 방안 마련을 위한 협력을 기원합니다.</p> <p>☐ ESG 통합관리 체계 구축을 위한 ESG 통합관리·연계 강화 방안 마련을 위한 협력을 기원합니다.</p> <p>☐ ESG 통합관리 체계 구축을 위한 ESG 통합관리·연계 강화 방안 마련을 위한 협력을 기원합니다.</p>
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한국지역난방공사

깨끗한 에너지로 세상을 따뜻하게

>> Establishment of ESG Management Strategies

To achieve the vision of being an ESG leader for the environment and people, we have established 3 strategic directions, 12 strategic objectives, and 6 core KPIs

ESG leader towards the environment and people

Our Energy, Save Green Value

ESG Evaluation Rating S

<p>E Environment To keep our environment clean for the future</p> <p>01 Advance the environmental management system</p> <p>02 Control greenhouse gas and air quality to reduce environmental impact</p> <p>03 Convert to eco-friendly, renewable energy</p> <p>04 Enhance efficiency via energy/resource control</p>	<p>S Social To realize a safe and inclusive society</p> <p>05 Drive inclusive growth with sustainable jobs</p> <p>06 Provide a safe and inclusive workplace with respect for others</p> <p>07 Create an ecosystem of co-prosperity based on integrated energy</p> <p>08 Create a safe society by responding in advance</p>	<p>G Governance To lead sustainable management</p> <p>09 Strengthen expertise and transparency in governance</p> <p>10 Spread the culture of integrity and fairness</p> <p>11 Establish an ESG management system</p> <p>12 Promote communication and disclosure of material information</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Performance Management by P-D-C-A Cycle

<p>PLAN</p> <p>Set up a five-year strategy system and mid to long term roadmap Devise annual action plans (yearly)</p>	<p>DO</p> <p>Perform ESG tasks by division Manage tasks by linking them with business plans</p>	<p>CHECK</p> <p>Performance check twice a year (Reporting to the BOD once a year)</p>	<p>ACTION</p> <p>ESG Assessment and Performance Measurement Publish the ESG report (yearly)</p>
-----------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

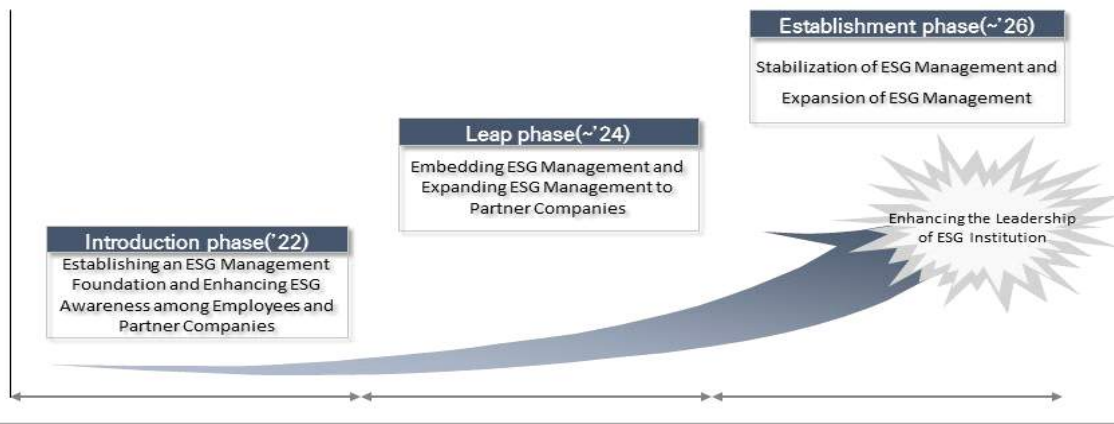
한국지역난방공사

깨끗한 에너지로 세상을 따뜻하게

>> Mid-term to long-term Roadmap for ESG Management

The Korea District Heating Corporation has developed a medium to long-term roadmap for ESG management strategies, systematically organizing the content for each sector in order to drive ESG initiatives

Mid-term to long-term roadmap for ESG Management



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Establishment of ESG Management Framework

Global ESG Management Continues to Expand... The Korea District Heating Corporation?

1

Domestic and International Environmental Changes

2

Establishment of ESG Management Framework

3

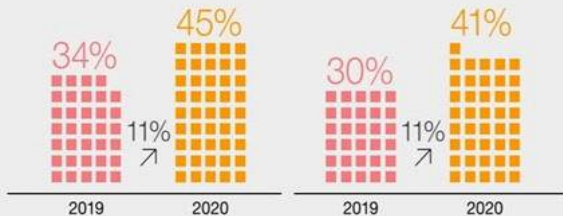
Enhancing ESG Implementation Capabilities

국내 기업 또는 그룹 ESG 위원회 등 설치 사례

- 삼성전자** -2017년 4월부터 기존 CSR 위원회 확대한 거버넌스위원회 설치
-거버넌스위원회와 별도로 ESG 강화 차원에서 지난해 말 CEO 직속 지속가능경영추진센터 격상 설치-제품 기획, 연구개발, 마케팅, 애프터서비스 등 전 제품 생애주기 걸쳐 지속가능성 추구
- LG** -올해 3월 상장 계열사들에 ESG 위원회 신설 계획 밝혀
-환경안전, CSR, 고객가치, 주주가치, 지배구조 등 분야별 전사 차원 주요 정책 심의에 이사회 보고하는 역할
- 현대차 그룹** -올해 2월 이사회 내 '투명경영위원회'를 '지속가능경영위원회'로 확대 개편함
-회사 내 안전보건 계획 등에 대해서도 사전 검토하는 권한 가지
- SK이노비오** -이사회 산하 기존 거버넌스위원회와 별도로 ESG 위원회 추가 설치
-회사 경영전략, 중요 투자 관련 사항은 ESG 위원회 검증 거쳐야
-사내이사 1명과 사외이사 1인이 참여토록
- 포스코** -올해 2월 이사회 산하 ESG위원회를 출범...기업시민으로 사회적 책임 더 강화한다는 의지
- GS** -올해 2월 계열 최고환경책임자(CGO)들로 구성된 '친환경협의회' 출범...
ESG 경영과 친환경 신사업 추진 등 상의의결 담당
-친환경협의회는 GS 이사회 산하 ESG위원회가 설치할 조직
- 우원화** -3월 이사회 내 ESG 위원회 설치
-위원회 과반수를 사외이사로 구성...전 계열사 확산 예정
- 현대물류 그룹** -가상현 한국조선해양 사장을 그룹 최고지속가능경영책임자(CSO)로 둔 ESG 실무위원회 신설
-그룹 내 각 계열 이사회에 ESG 관련 성과, 이슈 보고 프로세스 구축 계획 내놔

출처:머니투데이

ESG에 대한 이사회 관심 증가



ESG 문제는 정기적으로 이사회 안건에 포함된다.

ESG 문제에 대한 회사의 활동을 공개하는 것이 경영진의 우선순위가 되어야 한다.

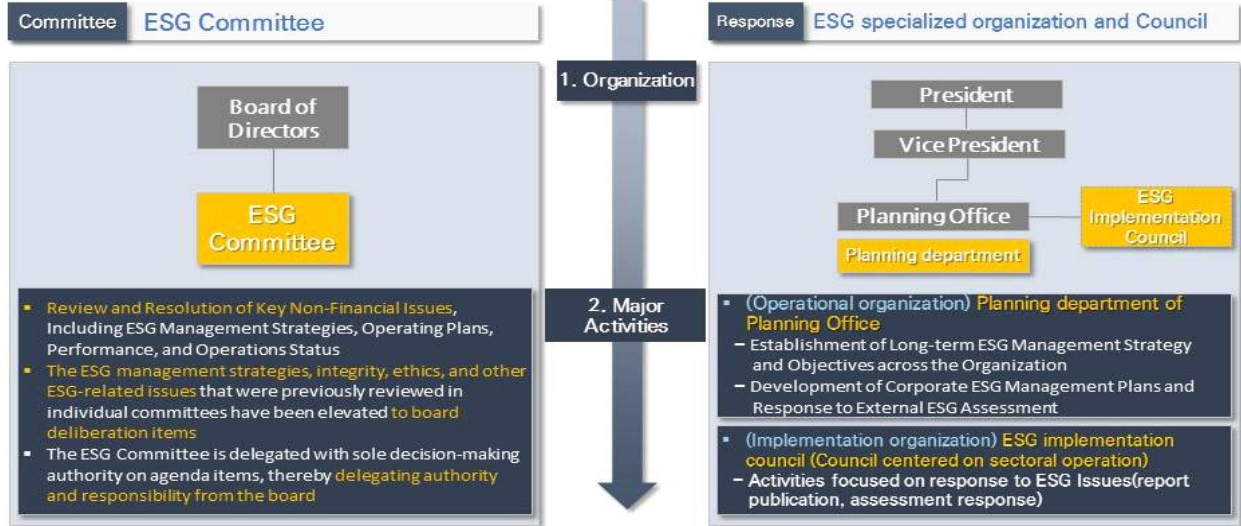
출처: 임팩트온

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>> ESG Management Implementation Organization

To internalize and efficiently manage ESG management, a new ESG committee was established within the board of directors, signifying the company's proactive commitment to ESG management



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Sustainability Reporting

Publishing Sustainability Management Report
Identifying Double Materiality Issues

한국지역난방공사

깨끗한 에너지로 세상을 따뜻하게

Sustainability Management Disclosure

Sustainability Management Report(2007~2012)

1

Sustainability Management Report

2

UNGC COP Report

3

Corporate Social Responsibility Report

4

ESG Report



2007 2008 2009

2010 2011~2012

Sustainability Management Report

- Initial publication in 2007 (reporting year : 2006)
- Reporting Framework : GRI G3, BSR, ISO26000
- Publishing schedule : Annual & Biannual

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Sustainability Management Disclosure

UN Global Compact Communication on Progress Report(2013~2016)

1

Sustainability Management Report

2


UNGC COP Report

3

Corporate Social Responsibility Report

4

ESG Report



2016 2015 2013~2014

UNGC COP Report

- COP Report by joined in UNGC replaced sustainability management report
- Title : Sustainability management report → COP Report
- Reporting Framework : UNGC COP
- Publishing schedule : Annual publication after first publication

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Sustainability Management Disclosure

Corporate Social Responsibility Report(2017~2019)

1

Sustainability Management Report

2

UNGC COP Report

3

Corporate Social Responsibility Report

4

ESG Report



2018~2019



2017

Corporate Social Responsibility Report

- In accordance with the national governance principles, enhancing public accountability and externally disclosing achievements in achieving social values
- Title : COP Report → Corporate Social Responsibility Report
- Reporting Framework : GRI Standards Core Option
- Publishing schedule : Annual & Biannual

한국지역난방공사

깨끗한 에너지로 세상을 따뜻하게

Sustainability Management Disclosure

ESG Report(2020~2022)

1

Sustainability Management Report

2

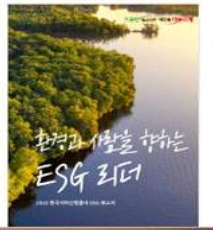
UNGC COP Report

3

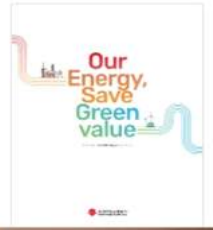
Corporate Social Responsibility Report

4

ESG Report



2022



2020~2021

ESG Report

- Change the title to ESG Report
- Title : Corporate Social Responsibility Report → ESG Report
- Reporting Framework : GRI Standards Core Option & GRI Standards 2021
- Publishing schedule : Annual publication after 2022

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>> Identification of Double Materiality Issues

With the adoption of GRI Standards 2021, we introduced a double-materiality assessment process and expanded the existing evaluation methodology, which had been primarily focused on risk management, to encompass key issues, taking into account external stakeholders

Assessment Process of Double Materiality

STEP 1	STEP 2	STEP 3
Formation of ESG Issue Pool Constructing an issue pool of 31 issues based on the analysis of international standards and ESG evaluation indicators, analysis of similar industry trends, analysis of relevant organizations, and media analysis	Analysis of Impacts (Social-Environmental, Financial) <ul style="list-style-type: none"> Review of international standards and guidelines requirements : Incorporation of international standard indicators such as ISO26000, GRI Standards, K-ESG Media analysis : Analyzing a total 8,655 articles related to environmental, social, and economic performance, as well as ESG issues (Analysis period : Jan. 1, 2022 ~ Apr. 7, 2023) 	Select Top 10 Significant ESG Issues <ul style="list-style-type: none"> Comprehensive evaluation conducted quantifying the social and environmental impact as well as the financial impact, including positive and negative assessments on an issue-by-issue basis Selection of the top 10 significant ESG issues based on the results

Assessment Framework of Double Materiality

STEP 1	Meaning	Evaluation criteria	ISO26000 relevance evaluation criteria
Relevance evaluation	Evaluation of various issues related to KDHC	<ul style="list-style-type: none"> Relevance assessment based on five process analysis results Selection of relevant issues that meet specific criteria as a result of analysis 	ISO26000 <ul style="list-style-type: none"> [Trend] Impact on the organization [Impact] Impact on stakeholders and sustainable development
Significance evaluation	Evaluation of the importance of the relevant issue to the KDHC and stakeholders	<ul style="list-style-type: none"> Quantitative evaluation of relevant issues by organizing questionnaires on a 5-point scale Rank the respondents by obtaining the average value [Materiality] Significance to stakeholders [Materiality] Significance to KDHC 	ISO26000 <ul style="list-style-type: none"> Stakeholder interest, Social expectations Degree of impact, Potential effects Review GRI <ul style="list-style-type: none"> Probability, Severity, Opportunity Crisis Factors, Long-term Performance Financial implications, Strategies, Impact on competitive advantage

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>> Assessment Result of Materiality *GRI Standards 2021*

Reporting year	Utilizing Financial materiality assessment(~'21)		Double materiality('22~)
	2018-2019년	2020-2021년	2022년
1	<i>Improved Energy Efficiency</i>	Strengthening Roles of board of directors and leadership	Strengthening Anti-Corruption and Ethical Management
2	Reduction of Work-Related Accidents and Incidence Rate of Disasters	<i>Expanding eco-friendly and low emission business</i>	<i>Optimal Resource Allocation and Operations for Cost Competitiveness Enhancement</i>
3	Compliance with Ethical Codes and Reduction of Anti-Corruption Issues	The Importance of Ethics and Integrity in Business	<i>Reduction of Carbon Emissions through Improved Energy Efficiency</i>
4	Creation of Quality Jobs and Cultivation of Outstanding Talent	<i>Operation of an Eco-Friendly Integrated Energy System</i>	Implementation of a Safe Workplace
5	<i>Energy Usage Reduction</i>	Fostering Organizational Culture for Employees	Financial Soundness
6	Discrimination-Free Workplace	<i>Enhanced Environmental Risk Management for Climate Change response</i>	<i>Minimization of Pollutant Emissions from Energy Facilities</i>
7	Enhanced Stakeholder Communication	ESG Integration in the Supply Chain	Establishment of a Disaster Crisis Response System
8	Strengthened Anti-Corruption Education for Employees	Collaborative Labor Relations	<i>Contribution to ESG Carbon Neutrality through Low-Carbon Certification for Heat Energy, etc</i>
9	Contributes to Local Community Employment and Income Enhancement	<i>Enhanced Environmental Regulatory Compliance</i>	Enhancement of Safety Management System
10	Expansion of Infrastructure Investment and Services for Public Benefit	Increased Customer Information Security Demands	<i>Strengthening ESG Environmental Management</i>

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>> Methods of identifying major ESG issues

Financial(Single) Materiality vs Double Materiality

The diagram compares two materiality frameworks. On the left, under the heading 'Financial Materiality', are the IFRS S1 and IFRS S2 standards, which focus on financial impacts. On the right, under the heading 'Double Materiality', are the GRI (Global Reporting Initiative) and CSRD (Corporate Sustainability Reporting Directive) standards, which consider both financial and non-financial impacts.

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ESG Disclosure Channel



Multiple Channels of ESG Disclosure

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ESG Disclosure Channel

Status of Major ESG Disclosure Channel

 <p>공공기관 경영정보 공개시스템 ALIO</p>	Integrated Disclosure	Mandatory Disclosure of ESG Management Status
 <p>대한민국 기업정보의 창 DART</p>	Integrated Disclosure	Voluntary Participation in sustainability management report
 <p>환경정보공개시스템 ENV-INFO SYSTEM</p>	Environmental Disclosure	Mandatory Disclosure of Major Environmental information
 <p>CDP DISCLOSURE INSIGHT ACTION</p>	Environmental Disclosure	Voluntary Participation in Climate Disclosure

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>> Multiple ESG Disclosure Channels – Public Institutions

ALIO(All Public Information In-One)

1

ALIO

2

DART

3

Environment Information System

4

CDP

ESG항목	ESG 현황	ESG 경영 현황	ESG관리제도 ESG관리실정 ESG관리실정 ESG관리실정
	E(환경)	환경정보	온실가스 감축실적 폐수처리 시설량 폐기물 발생량 우수 시설량 환경영향 평가 현황 자생력 저충자 현황 녹색채권 구매실적 안전경영책임보고서 온실가스 온실가스배출 환경영향정보
	S(사회)	안전관리 및 정보보호	사회공헌 활동 인권경영 안전사고 발생 현황 개인정보 관리현황 사내이사 임원이사 감사이사 자회 이사 자회 감사이사 자회 감사이사 자회 감사이사
	S(사회)	인력관리	ESG관리제도 ESG관리실정 ESG관리실정 ESG관리실정
	S(사회)	안전관리 및 정보보호	ESG관리제도 ESG관리실정 ESG관리실정 ESG관리실정
	G(거버넌스)	이사회	ESG관리제도 ESG관리실정 ESG관리실정 ESG관리실정

A system for disclosing key management information to the public to enhance transparency and oversight of public agencies

Legal basis	「ACT on the Management of Public Institutions」 Article 12(Consolidated Publication)
Disclosure schedule	Distinguished between regular disclosure and ad hoc disclosure based on disclosure items * ESG management status disclosure(fourth quarter)
Reporting entity	Management Disclosure Department (Management Division, Management Office)
Major Content	Organization Management, ESG Management, Business Performance, Matters related to internal and external evaluations

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세상을 따뜻하게

>> Multiple ESG Disclosure Channels – Voluntary Disclosure

CDP(Carbon Disclosure Project)



Korea District Heating Corp. CDP Climate Change Questionnaire 2023, 2023년 7월 24일 Monday

Welcome to your CDP Climate Change Questionnaire 2023

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

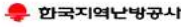
한국지역난방공사(KDHC)는 집단 에너지 사업의 효율적 수행을 통하여 에너지 절약, 환경 공해 개선 및 국민생활의 편의를 증진하고자 1985년 11월 1일 설립되었다. KDHC의 운영은 통합 에너지 공급 체계 1호 및 제 29호에 근거하고 있으며, 1989년 정부의 5개 신도시, 주역 200만 호 건설 계획 발표로 확대되었고, 이후 1992년 5월 23일 공공 법인으로 전환되었다. 경기도 분당에 본사를 둔 KDHC는 현재 19개 지사를 운영 중이며 지역난방, 지역냉방, 전력 사업, 신재생에너지 사업 등 다양한 사업을 운영하고 있다. 2022년 KDHC는 전국 약 180만 호의 공동주택 및 2,850개소의 건물에 청 난방을 공급하였다. 또한 수도권 전체 열수송관망을 구축하여 지역별 삶의 질을 높이고 열공급의 안정성을 확보하였으며, 전국적으로 설치된 2,509km의 열수송관망을 지속적으로 확대하고 있다.

KDHC는 12,789,000 MWh의 전력을 생산 및 판매하였으며, 소각열, 태양가스, 폐기물 재활용, 풍력, 태양광, 태양열, 수소 등 광범위한 신재생에너지 사업을 운영하고 있다.

KDHC는 회사의 비전을 다시 도약하는 한해, 따뜻하고 깨끗한 에너지 파트너로 설정하였으며, 혁신, 도전, 성장, 소통이라는 4가지 핵심가치를 기반으로 2028년도까지의 경영목표도 부채비율 150%, 세대수 230만호, ESG 평가 5등급 달성, 조직혁신지수 5등급 달성을 제시하였다.

Since our listing on the stock market in 2011, we have continuously participated and received the 'Carbon Management Sector Honors' award in the Energy & Utilities sector 10 times

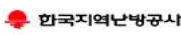
Purpose of disclosure	Responding to stakeholder demands for ESG management expansion and increased investment activity through information disclosure
Timing of disclosure	After information request received in March '23, CDP report submitted in July
Disclosure entity	Climate Change Response Department (Future Business Office, Carbon Neutrality Policy department)
Major Content	Management, Risk and Opportunity, Greenhouse Gas Emissions



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Conclusion...

Importance of ESG Disclosure Guidance in Public Sector



깨끗한 에너지로
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Thank You

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**Climate Changes and Responsible Investment
of the National Pension Fund**
국민연금기금의 책임투자과 기후변화

Ji Hyun Lee Sr. Portfolio Manager, (National Pension Service Investment Management)

이지현 국민연금공단 책임운영역

Climate Changes and Responsible Investment of the National Pension Fund



목차

- 1. Responsible Investment - Overview**
- 2. Responsible Investment and Climate Changes in the National Pension Fund**

1. Overview - ① Global Trends in Responsible Investment

Global increase in responsible investment size

- Global responsible investment assets have expanded to \$121.3 trillion, marking a 17% YoY increase in March 2023
- Number of PRI signatory institutions has increased to more than 3,826, marking a 26% YoY growth in March 2023

[Trends in PRI Member Institutions and AUM Growth]



Source: PRI

3

1. Overview - ② Overview of National Pension Fund

One of the world's top three pension fund (assets totaling KRW 890 trillion in December 2022)

- With an aim to secure financial resources necessary for the national pension program and serve as a reserve fund for pension disbursements, the **National Pension Fund** is managed in accordance with the resolution made by the National Pension Fund Management Committee (FMC) to maximize its returns.
- **National Pension Service Investment Management** consists of 3 department heads, 13 divisions, one office, and 3 overseas offices (New York, London, Singapore) under the leadership of the fund director as of Jan. 2023, with current staff of 385 employees, including 315 portfolio managers.

[Accumulated Fund Trends (trillion won)]



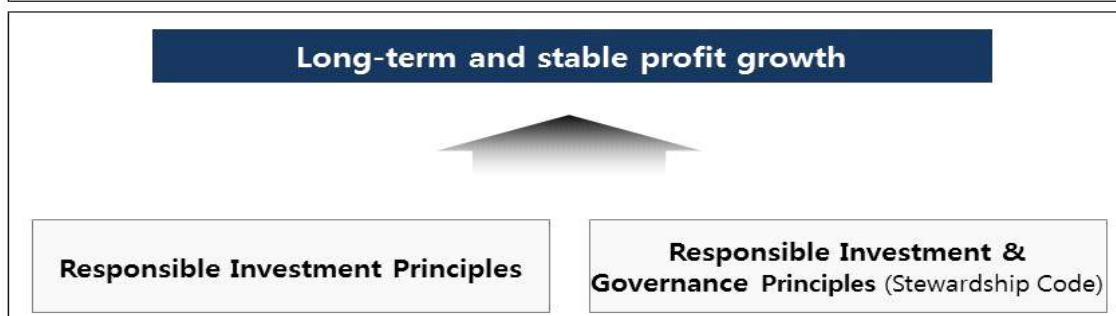
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1. Overview - ③ Purpose and Legal Basis for Responsible Investment in the National Pension Fund

▪ Implementing responsible investment for achieving long-term and stable growth

[Legal Basis for Implementing Responsible Investment in the National Pension Fund]

- **(Responsible Investment)**, He/she may take into account environmental, social, and governance factors related to investment targets, to achieve a long-term and stable revenue(National Pension Act Article 102④, Fund Management Guidelines Article 17)
- **(Principles on Responsible Investment & Governance)**, The principles on Responsible Investment & Governance were introduced and implemented for enhancing transparency and independence of stewardship activities and improve long-term returns(Guideline for National Pension Fund Management Article 17-2)
- **(Responsible Investment and Exercise of Shareholder Rights)** Responsible investment and the exercise of shareholder rights of the Fund are carried out with the aim of achieving stable growth of the fund assets (Guideline for National Pension Fund Management Article 17-3)



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1. Overview - ④ Status of Responsible Investment Implementation in the National Pension Fund

[Status of Responsible Investment Implementation in the National Pension Funds]

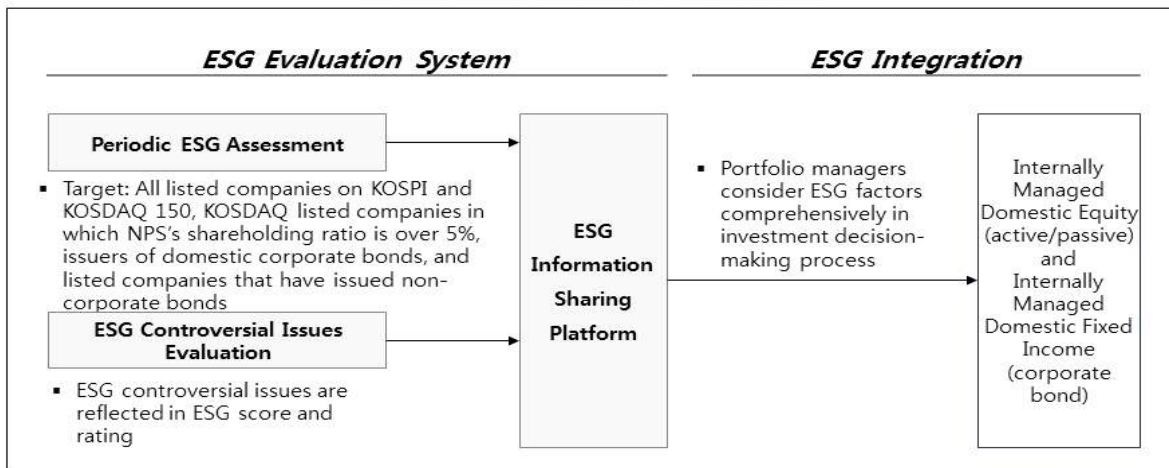
PRI Classification System	Definition	Implementation status	Notes
ESG Investment(ESG Incorporation)			
① ESG Integration	Considering both financial and non-financial factors, including ESG	Implementation	Incorporating ESG ratings in the management of equity and bond (corporate bond, etc)
② Screening	(Positive Screening) Including specific industries or sectors that are positively evaluated from ESG perspective in the pool of investment candidates. (Negative Screening) excluding specific industries or sectors that are negatively evaluated from ESG perspective in the pool of investment candidates	Scheduled implementation	Establishing implementation methods of a step-by-step investment restrictions in accordance with the National Pension Fund Management Committee(FMC)'s announcement on coal phase-out
③ Thematic Investment	Pursuing risk-adjusted returns and ESG performance simultaneously	Non-implementation	-
Active Ownership			
④ Proxy Voting	Exercise voting rights at shareholder's meeting	Implementation	Exercise of voting rights for domestic and international equity
⑤ Shareholder Engagement	Shareholder engagement without participating in management: Dialogues with companies (Confidential dialogues, Confidential focus, Public focus) Shareholder engagement with participating in management: Shareholder proposals(after Public focus) Legal actions: derivative suit and damage claim suit	Implementation	Engaging in dialogues with companies regarding issues of priority control related to domestic equity and unexpected concerns

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2. Key Activities- ① ESG Integration

- Evaluation system and internal system to consider company-specific ESG factors
- Portfolio managers comprehensively consider ESG factors alongside financial factors in investment decision-making process

[ESG Evaluation System and ESG Integration]



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2. Key Activities- ① ESG Integration

- ESG Evaluation System consists of 14 evaluation items and 61 metrics

	Items(14)	ESG Indicators(61)
Environ ment	Climate Change	Greenhouse Gas and Energy Management System, Voluntary Climate Change Response, Greenhouse Gas Emission Evaluation, Energy Usage Evaluation
	Environmental Impact Management	External Certification of Environmental Management System, Setting Environmental Management Objectives, Clean Production Management Activities, Water Usage, Emissions of Air Pollutants, Waste Emissions, Chemical Emissions
	Eco-Friendly Product Development	Eco-Friendly Product Development Activities, Eco-Friendly Patent, Eco-Friendly Product Certification, Enhancing Product Environmental Performance
Social	Human Resources Management and Human Rights	Wage, Human Resource Investment, Employment, Family-friendly Culture (for childbirth and childcare), Tenure, Human Rights, Labor Practices
	Industrial safety	Safety and Health System, Organization centered on Industrial Safety and Health, External Certification of Safety and Health Management System, Designation of High-Risk Workplace for Occupational Injuries
	Fair trade	Supplier Selection Process, Fair Trade Voluntary Compliance Program, Cooperative company Support Initiatives, Violations of Subcontracting Law, Anti-competitive Practices
	Product Safety and Consumer Protection	Product Safety and Consumer Protection System, External certification of Product Safety and Management System, incidents related to Product Safety and Consumer Protection, External Certification of Consumer-Centric Management, Operation of Consumer Complaint Handling Channels
Gover nance	Information Security	Information Security System, External Certification of Information Security System, Information Security Breach Incident
	Enhancement of Shareholder Rights	Management Rights Protection Mechanisms, Shareholder Engagement Mechanisms, Shareholder Meeting Disclosure Timing, Dividend Payments in the last 3 years
	Board Composition and Operation	Separation of CEO and Board Chairman, Independence of Board Structure, Composition of Independent Directors on the Board, Diversity in Board Composition, Board Activities, Appropriateness of Director Remuneration Policy
	Committee in board of directors	Establishment and Composition of the Independent Director Nomination Committee, Establishment and Composition of the Compensation Committee, Establishment of the ESG Committee
	Auditing System	Proportion of Independent Directors on the Audit Committee, Percentage of Long-Term Serving Auditors or Audit Committee Members, Ratio of Audit Service Costs to Non-Audit Service Costs
	Related-Party Risk	Proportion of Related-Party Contingent Liabilities to Net Assets, Percentage of Revenue from Related-Party Transactions, Percentage of Purchases from Related-Party Transactions
	Internal Controls and Compliance	Internal Control and Compliance Management System, External Certification of Anti-Corruption Management System, Non-Compliance with Internal Control and Compliance Management

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2. Key Activities- ① ESG Integration

- ESG evaluation results are utilized for the implementation of ESG integration strategies.
 - In the case of internally managing domestic equity and/or domestic fixed income (corporate bond, etc.), ESG evaluation results (score, rating, etc.) are considered in the investment decision-making process such as adding new securities to the investment universe (IU) and reviewing investment items.
 - ① **Domestic Equity**
 - When adding new securities to internally managed Active Investment Universe and Passive Basket Universe,
 - ✓ Portfolio managers provide written opinions and attach an ESG report in an examination report, and review the inclusion of low-grade securities (C, D) exceeded against BM
 - ✓ D-grade item, principally banning inclusion of securities that exceeded against BM
 - ② **Domestic Fixed Income**
 - When adding new securities to internally managed bond-issuing entity or investing in newly issued securities
 - ✓ Conducting a detailed examination and in-depth review of ESG information

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2. Key Activities- ② Shareholder engagement (priority management issues)

- **(Direction)** Enhancing shareholder value and the long-term profitability of the fund through shareholder engagement related to priority management issues of investment targets

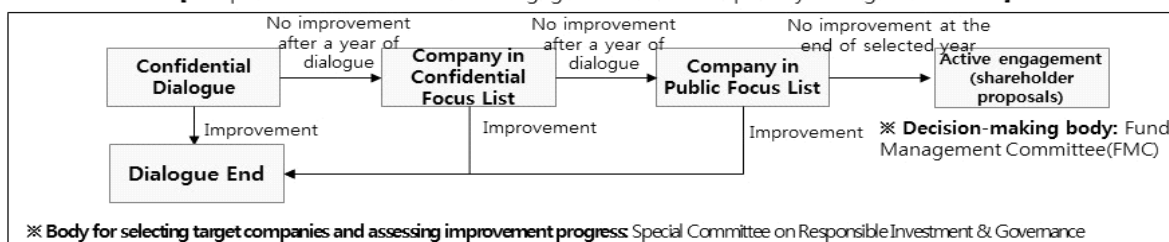
Priority management issues	Criteria for Selecting Target Companies
Establishing the Corporate Dividend Policy	Failure to establish a reasonable dividend policy or to pay dividends in accordance with a reasonable dividend policy
Appropriateness of Remuneration Cap for Directors	Proposing a remuneration cap for directors that is not linked to factors such as remuneration amounts and company performance, thus infringing upon shareholder interests
Potential legal violations leading to impairment of corporate value or infringement of shareholder value	Based on objective fact by investigations or findings by state authorities, the following circumstances apply ① Embezzlement and breach of trust acts related to the company in question ② Unjustly supporting a special relationship or another company (Unfair support actions) ③ Attributing undue benefits to a related party (Management's self-interest)
No improvement despite continuous negative voting rights exercise	Despite continuous opposition expressed by the fund, issues presented at the company's general shareholders' meeting remain unaddressed
Issues requiring climate change risk management	Companies with a significant impact of climate-related issues on their business value are evaluated as having insufficient improvements in their climate risk management, * Greenhouse gas emission-related ESG indicators, among others are considered in evaluation
Issues requiring industrial safety risk management	Companies with a significant impact of industrial safety-related issues on their business value are evaluated as having insufficient improvements in their industrial safety risk management. * ESG indicators related to industrial accidents, among other are considered in evaluation.

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2. Key Activities- ② Shareholder engagement(priority management issues)

- Selecting target companies falling under the criteria of the focus area, among companies with NPS's shareholding ratio exceeding 5% or the company's weight exceeding 1% in the portfolio and conducting shareholder engagement for the companies
 - **(Selection of a Company subject to Confidential Dialogue)** Sending confidential letters and having confidential dialogue for Verifying facts and demanding improvement measures
 - **(Selection of a Company in Confidential Focus List)** Designating the company showing no improvements, despite a series of dialogues for a certain period, in a confidential focus list and having a confidential dialogue with the company.
 - **(Selection of a Company in Public Focus List)** publicly listing the company showing no improvements among the companies in the confidential focus list and having a confidential dialogue with the company.
 - **(Follow-up)** If no improvements are made until a year-end selection of a company in the public focus list, procedures in accordance with the Guideline for Active Ownership, including exercising voting rights and sending open letters, if necessary, can be conducted.

[The procedures for shareholder engagement related to priority management issues]



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2. Key Activities - ③ Overseas Climate Change Initiative Activities

- Joined AIGCC (Asia Investor Group on Climate Change) in November 2020.
- Considered joining international forums to enhance responsible investment capabilities and expertise in accordance with the roadmap outlined in the National Pension Fund Responsible Investment Activation Plan
 - * Considered additional participation in overseas responsible investment initiatives (in 2020)
- Participated in AIGCC (Asia Investor Group on Climate Change) to improve understanding of environmental issues, and to engage with foreign institutional investors, emphasizing the role of institutional investors in responding to climate change and environmental issues
- **(Capacity Building for Responsible Investment)** Strengthened responsible investment capabilities and expertise by collecting research, investigative materials, and benchmarking best practices related to environmental issues such as climate change from an investor's perspective provided by AIGCC.
- **(Strengthening Global Network)** Enhanced global networking by participating in monthly meetings and collaborating with foreign pension funds and asset management companies through AIGCC



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