

2024 Fossil Fuel Finance White Paper



Korea Sustainability Inversting Forum

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Korea Sustainability Investing Forum(KoSIF), established in 2007 as a non-profit organization, is dedicated to contributing to the construction of sustainable communities by promoting Socially Responsible Investment(SRI). KoSIF engages in a variety of activities, including SRI research and development, promotion and dissemination, and policy development and legislative support. Furthermore, it has taken a leading role in organizing and operating the CDP Korea Committee to encourage environmental responsiveness among domestic financial institutions and corporations. KoSIF also contributes to enhancing sustainability by disseminating global initiatives such as TCFD, PCAF, RE100, EV100, and SBTi to financial institutions and corporations in South Korea.



Kim Hyun Jung, Member of the 22nd National Assembly

Kim Hyun Jung is a member of the 22nd National Assembly, currently serving on the National Assembly’s Political Affairs Committee. Having previously served as the president of the Korean Finance & Service Workers’ Union, he was elected to the National Assembly in 2024 after serving as the co-chair of the labor committee for presidential candidate Lee Jae-myung in 2021. Representative Kim strives to create a society of coexistence, solidarity, and mutual prosperity by resolving inequality and polarization. To this end, she is taking the lead in the 22nd National Assembly to foster a transparent capital market and vitalize capital through various related legislative efforts, including the “Doosan Bobcat Prevention Act” and amendments to the Commercial Act. To produce the 2024 Fossil Fuel Finance White Paper, Representative Kim Hyun Jung’s office requested and collected data on the status of fossil fuel assets from public and private financial institutions, securing the necessary materials for the report’s preparation.

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Contents

Preface

Kim Young-Ho, Chairman, KoSIF	04
Kim Hyun Jung, Member of the National Assembly, Democratic Party of Korea	05

The Climate Finance Transition: What are the Challenges for Korean Finance?

Yang Chun Seung, CEO, KoSIF	08
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Executive Summary

12

Status of Fossil Fuel Finance in South Korea

Comprehensive Analysis of Fossil Fuel Finance	16
Comprehensive Analysis of Coal Finance	21
Comprehensive Analysis of Natural Gas and Oil Finance	27
Comprehensive Analysis of Domestic Natural Gas Finance	32

Insurance Analysis and Energy Policy Trends

Comprehensive Analysis of Insurance	38
Energy Consumption and Policy Trends	42

From Coal Phase-Out to Renewable Energy

A Decade of Korea's Coal Phase-Out Declarations	48
The Future of Energy Transformed by Finance	53

Appendix

Total Fossil Fuel Investments of Major Financial Institutions	60
Status of Net-zero and Fossil Fuel Phase-Out Goal Setting	61
Status of Financed Emissions Calculation	65
Status of Membership in Global Initiatives	70

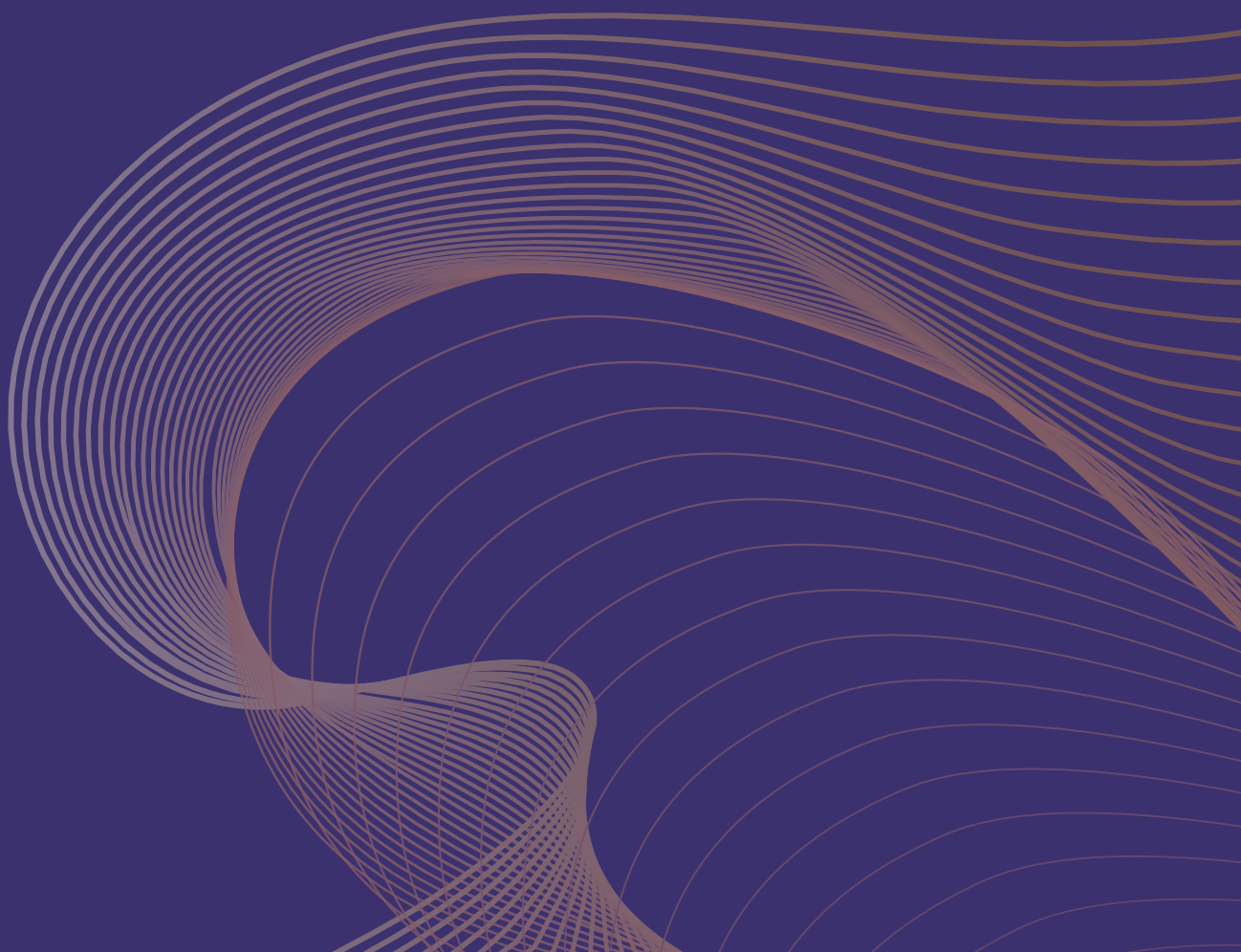
| Survey Overview |

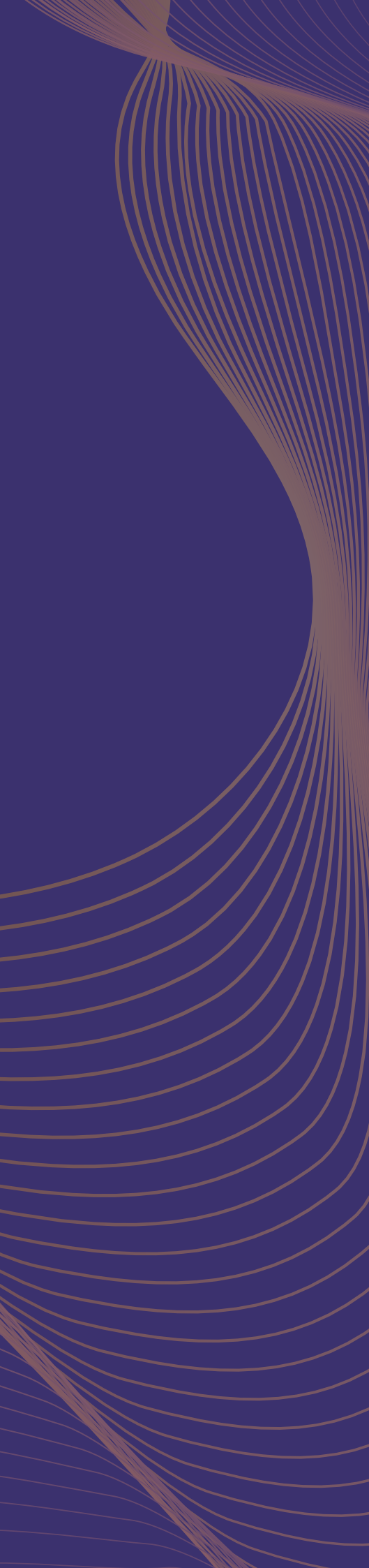
- **Survey Subject:** Korean public and private financial institutions (Respondents: 29 public, 83 private)
- **Survey Method:** (Public) Questionnaires were sent to the competent ministries of public financial institutions through the office of Assembly member Kim Hyun Jung
(Private) Data was requested from the Financial Supervisory Service through the office of Assembly member Kim Hyun Jung, and the Financial Supervisory Service compiled the data from each financial institution
- **Survey Period:** March – June 2025
- **Survey Contents:** (As of the end of June 2024) Asset Status | Annual Balance of Fossil Fuel Finance(Coal, Oil, Natural Gas, Renewable Energy) | Annual New Investments for Fossil Fuel Finance(Coal, Oil, Natural Gas, Renewable Energy) | Net-Zero Goals | Fossil Fuel Phase-Out Goals | Renewable Energy Finance Goals |
- **Target Asset Class:** Project Financing(PF), Corporate Loans, Corporate Bonds, Equity Investments, Insured Amount

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01





Preface

Kim Young-Ho, Chairman, KoSIF

Kim Hyun Jung, Member of the National Assembly,
Democratic Party of Korea

Kim Young-Ho

Chairman, KoSIF

Former Minister of Trade, Industry and Energy
Former President, Yuhan University
Former Chair Professor, Dankook University



“Only three years remain to limit warming to 1.5 degrees.”

This is the key message from a report published this past June in the international journal *ESSD*^{Earth System Science Data} by IGCC^{Indicators of Global Climate Change}, a global research project involving climate scientists, including authors of the IPCC report. In truth, this announcement is rather neutral. The WMO^{World Meteorological Organization} has already stated that in 2024, the global temperature had risen by 1.55 degrees compared to the pre-industrial era. Despite this urgency, humanity's climate action to prevent a 1.5-degree rise remains weak, and progress is slow. This is because the generation and use of fossil fuels have not been drastically reduced. For the third consecutive year, the COP^{Conference of Parties} has been held in oil-producing nations, representing the interests of fossil fuel exporting countries. Furthermore, the renewed withdrawal of the United States is encouraging defections from the Global South. In its current state, the 2015 Paris Agreement is signaling a potential collapse, much like the Kyoto Protocol. As UN Secretary-General António Guterres has warned, humanity is pressing the accelerator on a highway to climate hell.

Humanity is addicted to fossil fuels because they are profitable in the short term. Financial institutions hold the power to break this addiction. However, they also are pursuing short-term profits by providing financial support to fossil fuel companies. It is a form of collusion. Consequently, financial institutions are unwilling to exercise their power. The findings of the 2024 Fossil Fuel Finance White Paper, published by KoSIF, reveal in numerical terms just how strong this collusion is.

As of the end of June 2024, Korea's balance of fossil fuel finance stands at KRW 173.7 trillion (in bonds, loans, PF, and equity investments). Including the scale of insurance coverage, the total reaches KRW 372.3 trillion.

Compared to the end of June 2023, the combined total of 'bonds, loans, PF, and equity investments' decreased by KRW

2.3 trillion, but the insurance balance surged by a staggering KRW 60.5 trillion. This is due to the commencement of commercial operations of new large-scale coal power plants and increased insurance demand for oil and natural gas infrastructure. The Lee Jae-Myung administration pledged to phase out coal power plants by 2040, but a policy roadmap for other fossil fuels like oil and natural gas is absent. It appears Korea's addiction to fossil fuel finance will persist for a long time.

Without designing bold policies that create a structure for capital to flow into the climate economy—and thus, a sustainable economy—it will be impossible to sever this collusive relationship built on short-term profits. First, the channels for capital flowing into “Brown” industries must be narrowed. If support is provided, it should utilize a “transition finance” model stripped of greenwashing, while the channels for capital flowing into “Green” industries, such as renewable energy, must be further expanded. Various policies must be designed to compel capital to exit fossil fuel companies. From the perspective of achieving a net-zero asset portfolio, we can consider policies such as implementing a financed emissions target management system for public financial institutions, adding a provision to ‘consider climate risk in the evaluation of financial institutions’ asset soundness’ to the Financial Supervisory Service's current ‘Guidance on Managing Climate Risk,’ and mandating this guidance, and even policies on setting aside provisions.

The new administration has declared itself a “Climate Government.” Today's climate finance policies will determine the world we live in tomorrow. With the sense of urgency that “only three years remain to limit warming to 1.5 degrees,” I hope to see bold, finance-driven incentive policies that are distinct from the previous administration's and are based on the power and initiative of finance. It is my hope that this Fossil Fuel Finance White Paper will serve as a foundational resource for designing such policies.



Kim Hyun Jung

Member of the 22nd National Assembly

Current Member, National Assembly Political Affairs Committee

Current Floor Spokesperson, Democratic Party of Korea
Former President, Korean Finance & Service Workers' Union

Greetings, I am Kim Hyun Jung, a member of the National Assembly Political Affairs Committee, representing Pyeongtaek-Si of Gyeonggi Province for the Democratic Party of Korea.

The climate crisis is no longer a future warning but the most critical reality we face at this very moment. Unprecedented large-scale wildfires, heatwaves, and various extreme weather events are threatening our daily lives and the economy. At the center of this change, finance is establishing itself as the core engine driving the energy transition and the shift towards a decarbonized society. As the direction of capital determines the future of industries, jobs, and the realization of social responsibility, the role and accountability of financial institutions have become more important than ever.

As of the end of June 2024, the total balance of Korean fossil fuel finance reached KRW 173.7 trillion, a massive scale equivalent to about 26% of the 2025 government budget. Despite the persistent societal demand for an energy transition, a significant amount of capital continues to be concentrated in fossil fuel industries such as coal, oil, and natural gas. In contrast, the balance of renewable energy finance is only KRW 24.5 trillion, showing that the flow of finance for a sustainable future is still heavily skewed towards fossil fuels.

What is most important in this transition process is that the financial sector moves beyond declarations and demonstrates the executive power to substantively shift the flow of capital to eco-friendly, low-carbon industries. One-off declarations or short-term policies alone cannot solve the epochal challenges of responding to the climate crisis and achieving Net-zero. In particular, financial institutions must establish mid-to-long-term strategies that consider not only climate-related risks but also the social impacts of the transition process and establish their status as responsible financial institutions

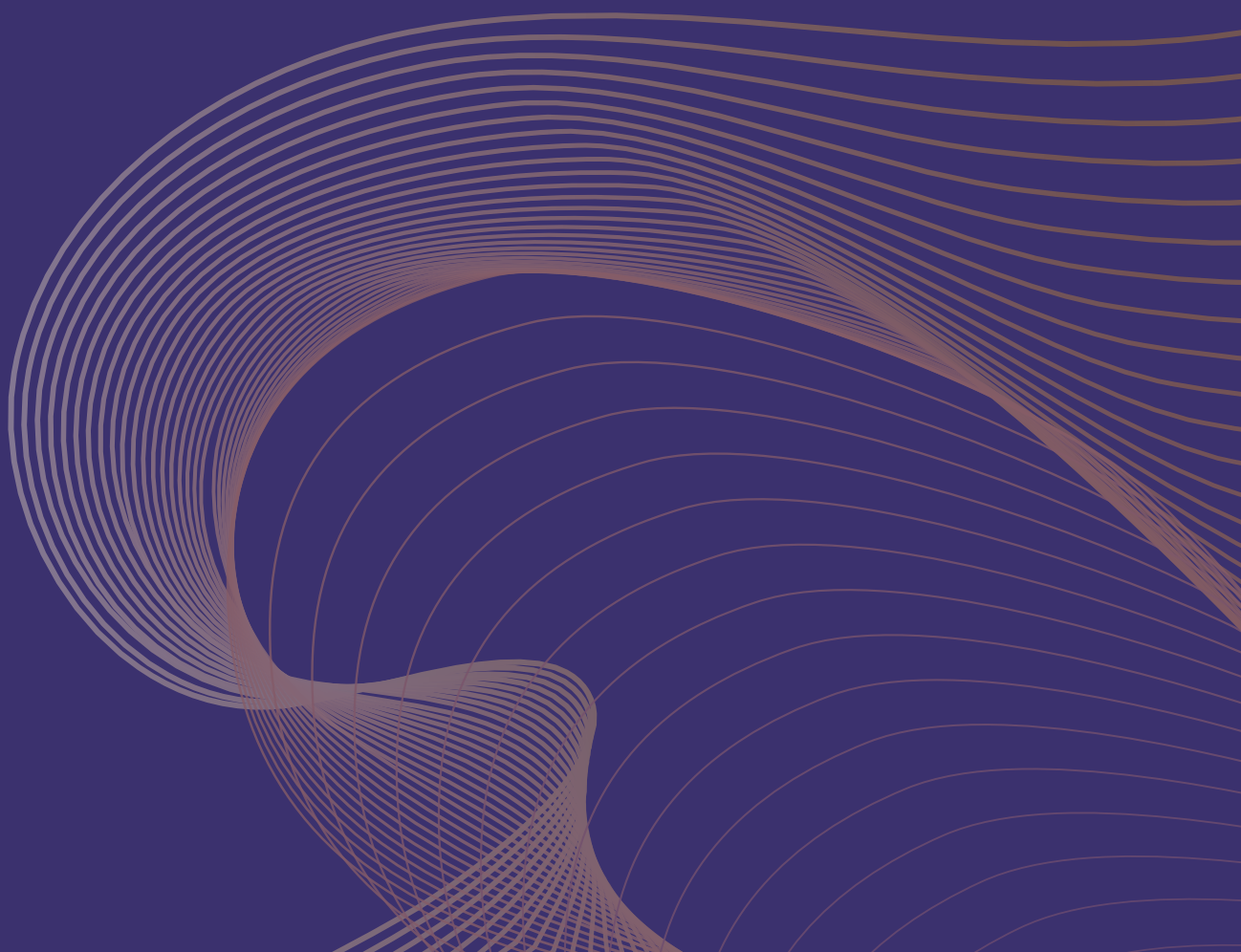
through continuous communication and disclosure with stakeholders.

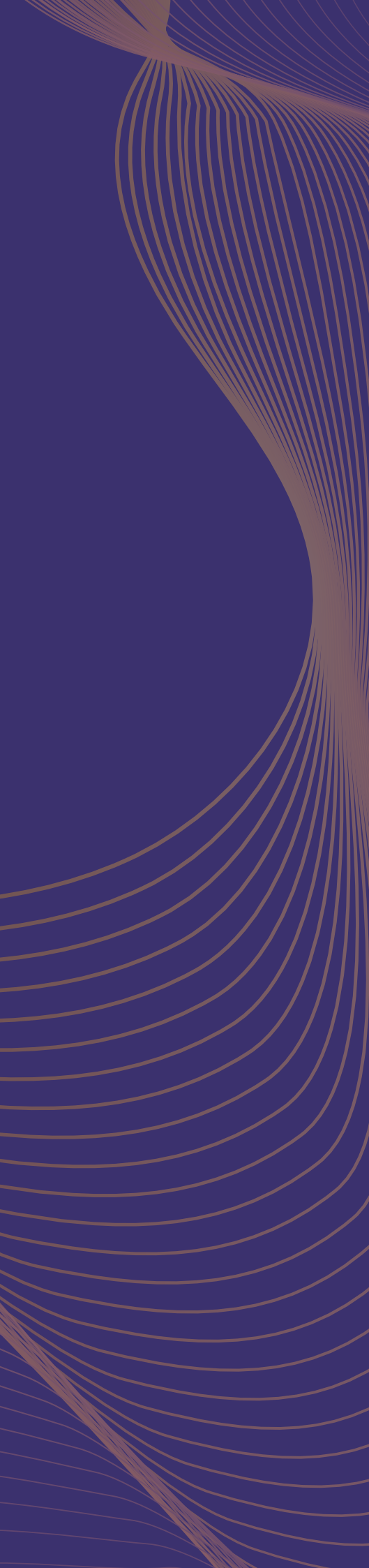
Financial institutions must treat climate risk as a core management task, actively adopt investment and lending policies linked to greenhouse gas reduction targets and ESG-compliant asset portfolios, and play a leading role in the energy transition by expanding financial support for renewable energy and green industries and developing green financial products. The government and policy authorities must also establish a legal and institutional foundation and clearly present a policy direction so that these efforts can spread throughout the financial market. PF must take the lead in achieving fossil fuel phase-out and Net-zero goals and cooperate with private finance to broaden the base of transition finance. When civil society, investors, and corporations all participate in responsible financial practices, Korean finance can establish itself as a key agent in realizing the energy transition and Net-zero.

This White Paper comprehensively examines the current state of Korean fossil fuel finance and illustrates its structural limitations and risk factors through concrete figures and data analysis. In particular, the reality that the growth of renewable energy finance is not providing as much support as expected suggests that the flow of finance for the energy transition has not yet entered a full-fledged transition phase. This analysis will serve as important foundational data for future policy design and the strategic planning of financial institutions.

I hope that the 2024 Fossil Fuel Finance White Paper will become a practical milestone that leads to change and transition in our society. In the National Assembly, I will do my utmost to ensure that ESG, climate crisis response, and a just transition do not remain mere slogans, by fulfilling my responsibilities through substantive policy tools such as legislation and budgeting.

02





The Climate Finance Transition: What are the Challenges for Korean Finance?

Yang Chun Seung, CEO, KoSIF

Yang Chun Seung, CEO

The Climate Finance Transition: What are the Challenges for Korean Finance?

Yang Chun Seung is an expert in climate policy and sustainable finance, holding a bachelor's degree in Economics from Seoul National University and master's and doctoral degrees in Climate and Energy Policy from the Graduate School of Energy and Environment at Seoul National University of Science and Technology. He has distinguished himself in the fields of Korean and international sustainable finance and climate policy through his roles as a founding executive director of KoSIF, vice-chair of the CDP Korea Committee, and the representative for RE100 and PCAF in Korea. Currently, he is also active as the chairman of the Institute for People's Sovereignty and co-representative of the National Congress of the Sovereign People, leading efforts to achieve Net-zero and social responsibility.



Q. What are the primary reasons that the fossil fuel finance structure persists within Korean financial institutions, and how does this compare to global trends?

The fossil fuel finance structure of Korean financial institutions is closely tied to the nation's electric power industry structure. Specifically, KEPCO^{Korea Electric Power Corporation} and its subsidiaries are heavily dependent on coal-fired power generation, and bond and equity investments in these entities constitute a substantial portion of financial institutions' assets. As of June 2024, the balance of fossil fuel finance from Korean institutions was KRW 173.7 trillion, a figure that exceeds KRW 372 trillion when including insurance coverage. This amounts to approximately 16% of the national GDP. Private financial institutions account for over 70% of this balance(including insurance), and the structure of large-scale guarantees provided by insurers and banks is a primary factor in its entrenchment.

Internationally, major countries like the EU and the UK have already legislated the establishment of coal phase-out strategies and climate information disclosure for financial institutions. Through regulations such as the SFDR^{Sustainable Finance Disclosure Regulation}, for example, financial institutions are publicly committing to reducing fossil fuel investments, and public funds are also rapidly adopting restrictions on such investments. In contrast, Korea's PF institutions have inadequate decarbonization strategies, and the transition efforts of private financial institutions are still in their nascent stages, positioning the country as a latecomer on the international stage.

Q. To reduce fossil fuel finance and promote investment in the energy transition, what are the most urgent tasks for Korean financial institutions, and what role should policy institutions play?

The most urgent task is to fundamentally shift the investment structure away from its focus on coal-fired power. Bond and equity investments in KEPCO and its subsidiaries still represent a large proportion of financial institutions' assets, which can amplify financial risks during the energy transition. Therefore, a portfolio transition is an essential strategy for managing climate risk.

Second, an integrated ESG risk system is needed to quantitatively measure the climate risks inherent in fossil fuel assets and incorporate them into internal risk management frameworks. This requires the adoption of greenhouse gas emissions accounting, stranded asset analysis, and stress testing based on transition scenarios.

Third, financed emissions reporting for financial institutions must be mandated to transparently disclose the climate

risks arising from lending, investment, and underwriting activities. This will enable financial institutions to recognize how they are facilitating industrial carbon emissions and foster a responsible transition.

The role of public institutions is also critical. The government and financial authorities need to provide active policy support, such as mandating climate information disclosure and establishing supervisory guidelines that reflect the climate risks embedded in investments and loans. Policy banks should send clear signals to the market by expanding policy finance in the energy transition sector, and public funds like NPS^{National Pension Service} should lead example by formulating coal divestment strategies.

Q. Compared to other major countries, what are the key differences and areas for improvement in Korea's policy and supervisory framework?

The EU, the UK, and Japan are already systematically pursuing policy efforts to integrate climate risk across their entire financial systems. The EU, for instance, mandates disclosures for asset managers and banks through the SFDR and the CSRD, while the UK is concurrently implementing climate stress tests and green finance policies at the central bank level. Japan is leading the implementation of a coal phase-out in PF by promoting transition finance through its policy banks.

In contrast, Korea still lacks integrated guidelines from financial supervisory authorities on climate risk, and its public financial institutions do not have clear fossil fuel phase-out strategies or implementation plans. Even the NPS maintains its existing assets without a clear classification or reduction strategy for coal and oil.

The tasks Korea must address are as follows: First, the establishment of climate risk assessment standards and supervisory guidelines by financial authorities. Second, the introduction of climate stress tests for financial institutions. Third, the formulation of leading coal divestment strategies by public institutions.

Q. What are the primary impacts of mandatory climate disclosure and participation in global climate initiatives on fossil fuel finance and Korean institutions, and what strategic preparations are needed in response?

Mandatory climate disclosure has a profound impact on all aspects of a financial institution's management by forcing the transparent reporting of climate risks associated with its fossil fuel assets. This can lead to asset value depreciation, changes in credit ratings, and a decline in investor confidence. Carbon-intensive assets, in particular,

face the added threat of a "carbon bubble" collapse, making systematic risk management essential.

In response, financial institutions must strengthen their internal systems. This includes calculating greenhouse gas emissions, adopting disclosure frameworks compliant with international standards like PCAF and TCFD, and establishing climate risk management structures at the Board and senior management levels. Furthermore, climate risk must be embedded throughout the investment review and risk management processes to genuinely inform executive decision-making.

KoSIF has played a key role in leading the participation of Korean financial institutions in global climate initiatives, promoting disclosure and risk management systems aligned with international standards such as CDP, PCAF, and RE100. Through customized support for joining initiatives, practitioner training, provision of Korean and international benchmarks, and collaboration with policy authorities, KoSIF actively supports the enhancement of climate risk response capabilities and the adoption of global standards. In doing so, it has established itself as a pivotal institution driving the sustainable development of Korea's financial industry.

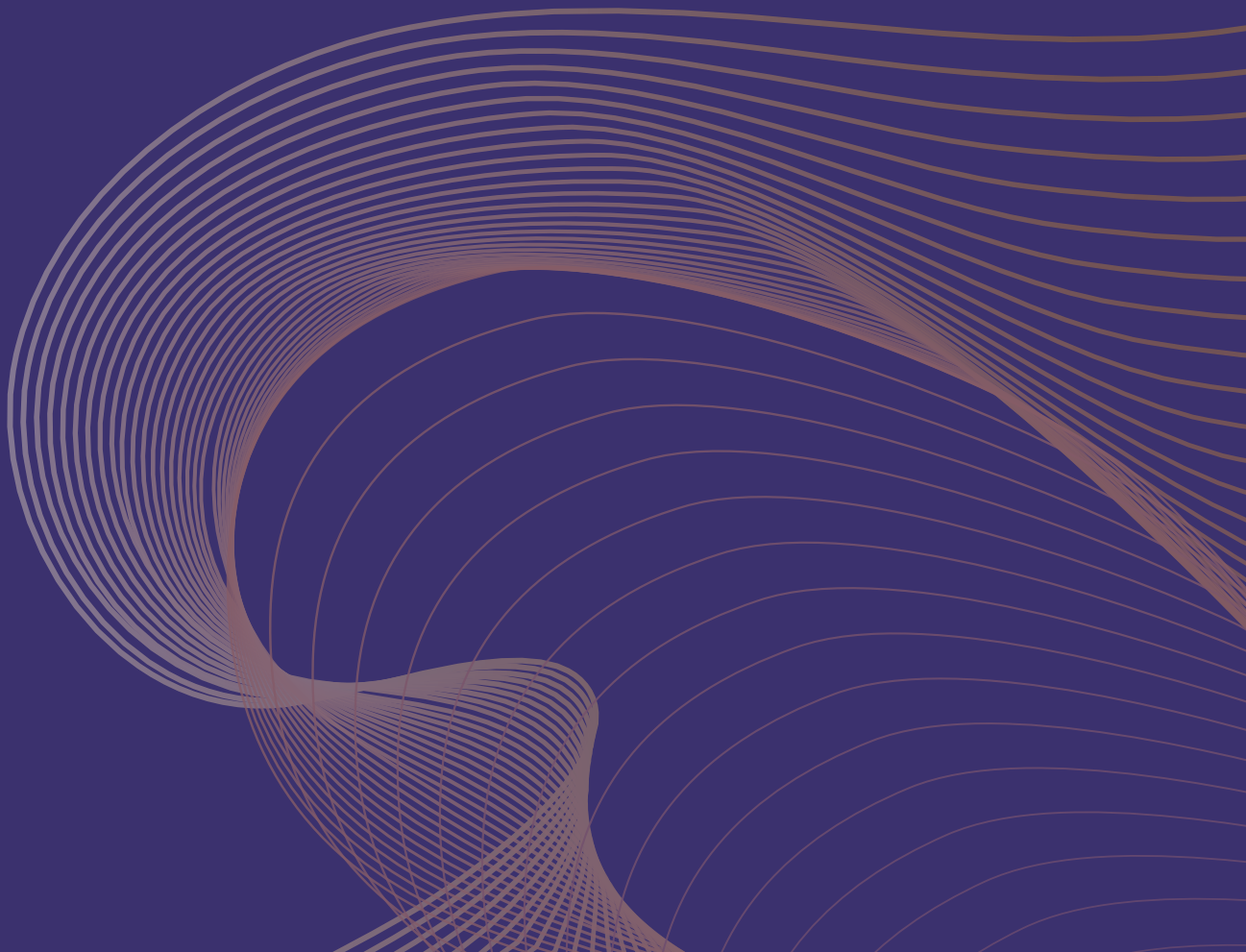
Q. What changes are necessary for Korean financial institutions to achieve leadership in climate finance?

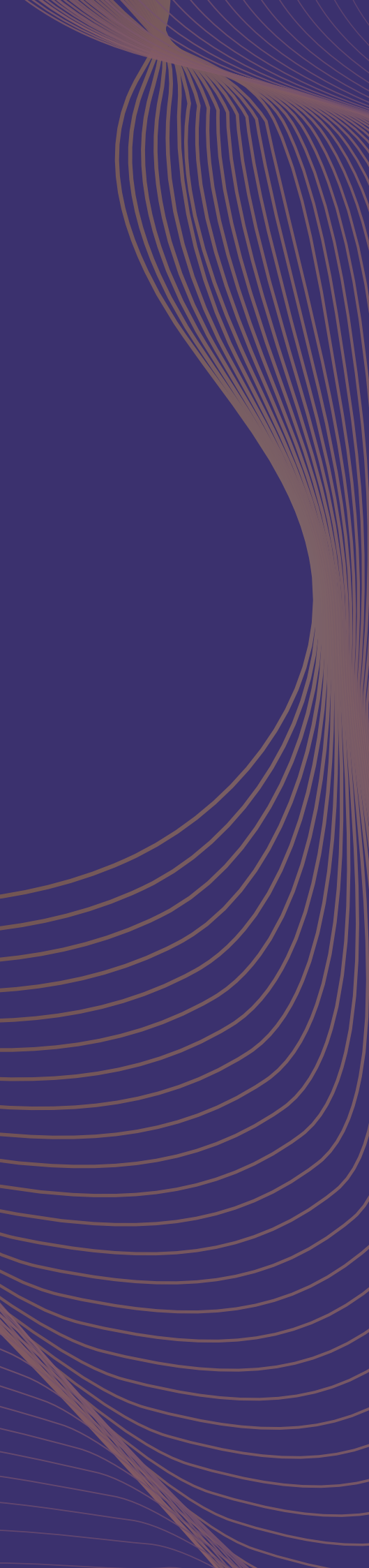
To demonstrate true leadership in the era of climate finance, financial institutions must move beyond simply avoiding risk and establish their identity as key agents driving the transition. The most critical factor is accountability at the executive level. Climate risk must be treated as a core strategic issue, and accountability across the entire organization should be strengthened through ESG-linked KPIs.

Additionally, a dual strategy is needed to simultaneously pursue the reduction of fossil fuel finance and the expansion of investment in renewable energy and energy transition infrastructure. This requires the development of transition finance products, the establishment of dedicated teams, and enhanced collaboration with policy institutions.

Finally, financial institutions must actively communicate their climate-related pathways and plans to society. Transparent disclosure and responsible actions, building stakeholder trust, are essential. Leadership in climate finance is not achieved through declarations alone. Only when backed by systematic strategy, quantitative targets, and organizational change can genuine leadership be established, enabling them to lead the global flow of finance.

03





Executive Summary

Executive Summary

2024 Fossil Fuel Finance White Paper at a Glance

| Status of Fossil Fuel Finance (as of June 2024)

Total Volume

KRW **173.7** trillion

Equivalent to
26% of Korea's total 2025 budget
Including insured amounts,
the total is KRW 372.3 trillion



Public Finance KRW 106.2 trillion (61.2%)
Private Finance KRW 67.5 trillion (38.8%)

58%
of Fossil Fuel Finance
is concentrated in
the power generation
industry

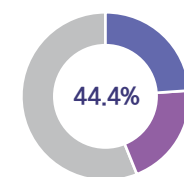
KRW 55.2 trillion
represents the scale of bond and
equity investments in KEPCO and its
subsidiaries

| Status of Coal Finance (as of June 2024)

Total Volume

KRW **77.1** trillion

Accounts for 44.4% of fossil fuel finance



Public Finance KRW 41.9 trillion (54.4%)
Private Finance KRW 35.2 trillion (45.6%)

-6.1%
Coal finance shifted
to a downward
trend in the first
half of 2024

This is attributed to a combination of factors,
including the maturity of existing investments
and awareness of stranded asset risk

The minimum balance projected
to remain even after 2050

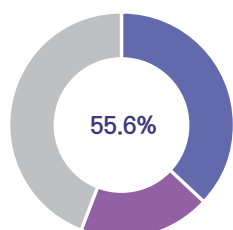
KRW **2.2** trillion

| Status of Natural Gas and Oil Finance (as of June 2024)

Total Volume

KRW **96.6** trillion

Accounts for 55.6% of fossil fuel finance



Public Finance KRW 64.3 trillion
Private Finance KRW 32.3 trillion

2023

-3.2% ↓ Shift to a
declining trend

2024

6.2% ↑ Shift to an
increasing trend

Concentrated Investment

Public: Overseas oil refining projects
Private: LNG power generation projects

Top Domestic Natural
Gas Investors are all

**Public
Financial
Institutions**

- NPS
- KEXIM
- KDB



| Status of Insurance(Insured Amount)

(as of June 2024)

Total Volume KRW **198.6** trillion

Rapid Growth for Two Consecutive years YoY **41.7%**  **UP**

This is due to new insurance underwriting after major domestic coal power plants began operations

92.0% of the insurance is held by non-life insurers.

They play a key role in sustaining the fossil fuel industry by providing essential insurance for construction and operation

| Status of Renewable Energy Finance

(Excluding NPS, as of June 2024)

Total Volume KRW **24.5** trillion

which is **1/5** Of Fossil Fuel Finance

Slowdown in Growth of Renewable Energy Finance

Growth Rate of Balance

Declined from

2020 **23.3%** 2023 **7.5%** 

Growth Rate of New Investment

Turned negative, shifting from

2020 **8.4%** 2023 **-11%**

| Policy Implications and Challenges

• Korean Finance is Biased Towards Fossil Fuels

- Concerns about expanding financial risk from stranded assets if the energy transition is delayed
- Urgent need to establish specific asset management and phased withdrawal strategies for decarbonization

• Concerns Over Remaining Coal Finance After 2050, Urgent Need for Policy Measures

- Current coal phase-out policies are limited to restricting new investments, which is insufficient for addressing the risks of existing assets
- The remaining balance of coal finance may be larger than estimated due to drawdowns and maturity extensions of existing commitments, making a phased withdrawal roadmap and asset management standards urgently necessary

• Expansion of LNG Investment to the Private Sector Runs Counter to the Transition Trend

- As LNG is classified as a transitional energy source, the investment trend led by public institutions is spreading to private institutions
- Domestic natural gas finance has shown continuous expansion over the past 5 years, increasing by 10.1% in the first half of 2024

• Need to Improve the NPS's Investment Restriction Criteria for the Coal Industry

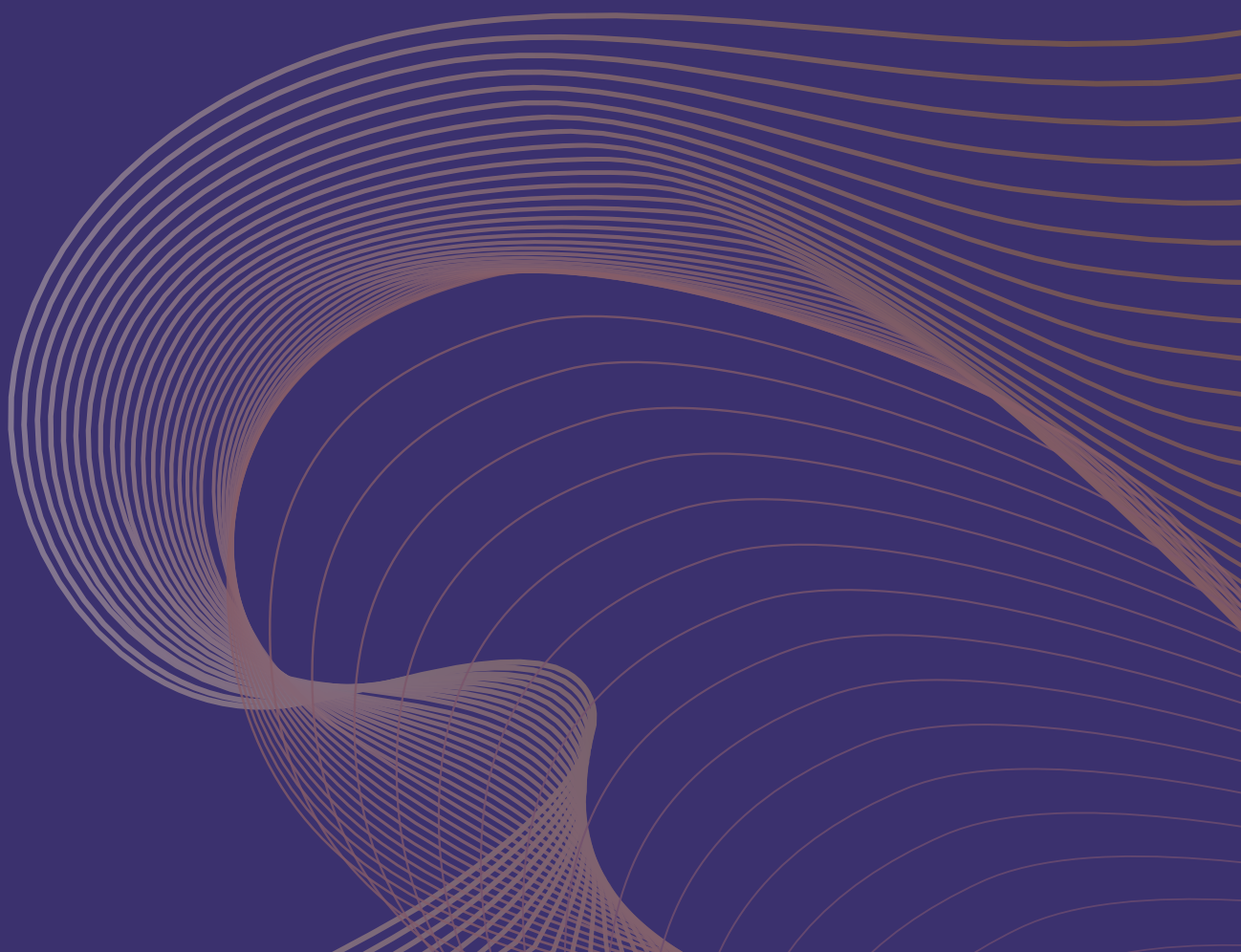
- The current 50% quantitative exclusion standard is ineffective
- The long-term(5-year) non-disclosure grace period delays the response to the climate crisis

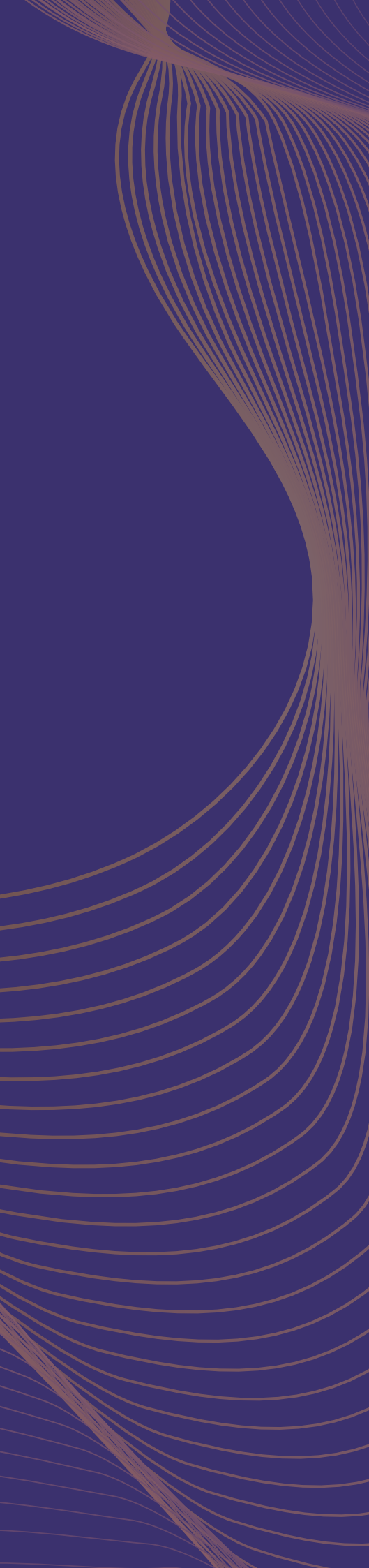
• Slowdown in the Growth of Renewable Energy Finance

- This trend contrasts with the global situation where approximately two-thirds of energy investment is focused on renewables
- Policy-driven capital injection and vitalization of the private market are necessary to accelerate the energy transition



04





Status of Fossil Fuel Finance in Korea

Comprehensive Analysis of Fossil Fuel Finance

Comprehensive Analysis of Coal Finance

Comprehensive Analysis of Natural Gas and Oil Finance

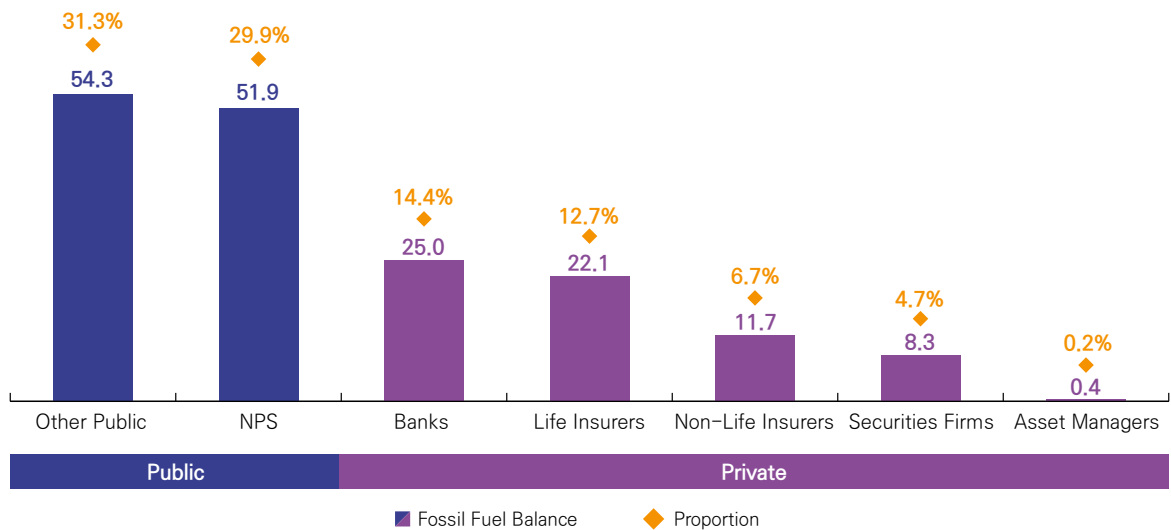
Comprehensive Analysis of Domestic Natural Gas Finance

Comprehensive Analysis of Fossil Fuel Finance

Fossil Fuel Finance: Balance and Proportion by Financial Sector

Graph 1 Fossil Fuel Finance Balance and Proportion by Financial Sector¹
(as of June 2024)

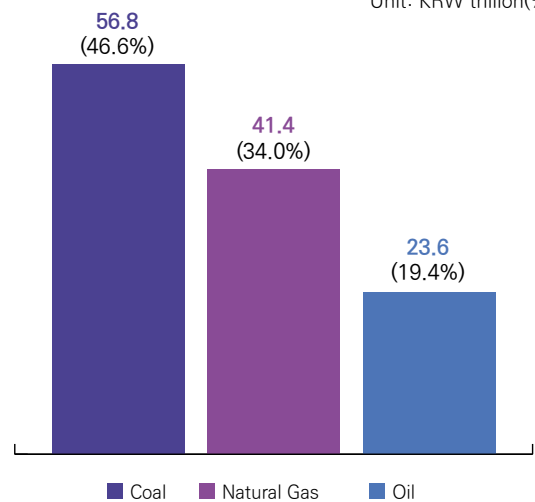
Unit: KRW trillion(%)



- As of June 2024, the total balance of fossil fuel finance held by Korean financial institutions through various financial products—including bonds, corporate loans, PF, and equity investments—amounts to KRW 173.7 trillion. This consists of KRW 96.6 trillion in natural gas and oil finance(55.6%) and KRW 77.1 trillion in coal finance(44.4%).
- Excluding NPS, which does not provide a detailed breakdown of its assets, the total fossil fuel finance balance is KRW 121.8 trillion. An analysis of this amount by fuel type reveals that coal is the largest component at KRW 56.8 trillion(46.6%), followed by natural gas at KRW 41.4 trillion(34.0%), and oil at KRW 23.6 trillion(19.4%).
- This highlights that coal finance remains the predominant component of Korean financial institutions' fossil fuel portfolios. In light of global coal phase-out trends and greenhouse gas reduction targets, analysis indicates a need for continuous reform of this coal-centric investment structure.

Graph 2 Fossil Fuel Finance Balance and Proportion by Fuel Type, Excluding NPS (as of June 2024)

Unit: KRW trillion(%)

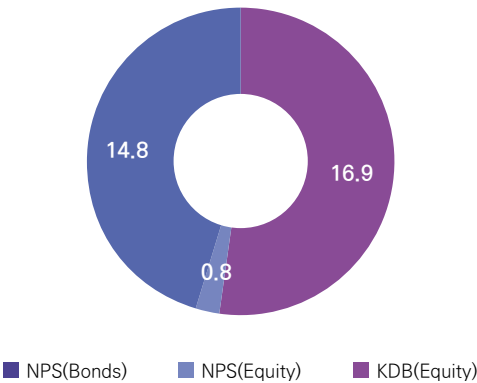


¹ NPS does not provide a detailed breakdown of its domestic fossil fuel investments by fuel type (coal, oil, natural gas). For this report, the fuel-specific breakdown for the NPS's domestic assets was estimated based on the classification standards of other financial institutions. Furthermore, its overseas assets are only categorized into 'coal' and 'natural gas & oil,' making a separate analysis of natural gas and oil impossible. Accordingly, this report analyzes the fossil fuel finance of all institutions under two main categories: coal, and natural gas & oil (combined).

Public Finance

- The fossil fuel finance balance of public institutions (Other Public Institutions and NPS) totals KRW 106.2 trillion (61.2%), which is larger than the KRW 67.5 trillion (38.8%) held by the private sector.
- By fuel type, the balance consists of KRW 41.9 trillion in coal finance (39.5% of Public Finance) and KRW 64.3 trillion in natural gas and oil finance (60.5%).
- In coal finance, the balance related to KEPCO totals KRW 32.8 trillion (78.3% of Total Public Finance's Coal Finance), representing the largest investment in a single entity. Over 99% of this, or KRW 32.5 trillion, is held by NPS and KDB^{Korea Development Bank} (see Graph 3 below).
- The NPS had been increasing its holdings of KEPCO bonds in line with the expanded issuance caused by KEPCO's persistent deficits, leading to a rise in its cumulative investment from KRW 11.9 trillion in 2021 to KRW 16.2 trillion in 2023. However, in the first half of 2024, the investment scale decreased slightly to KRW 14.8 trillion. This is analyzed to be the result of a reduction in KEPCO's bond issuance as it returned to profitability for the first time in four years due to electricity rate hikes and stabilized fuel costs, combined with the partial maturity and redemption of existing bonds.
- The KRW 64.3 trillion in PF for oil and natural gas is composed of domestic and overseas bonds and stocks held by the NPS (KRW 31.6 trillion), and PF/corporate loans and ship finance held by KDB and the KEXIM^{Export-Import Bank of Korea} (KRW 30.7 trillion), which together account for over 97% of the total.

Graph 3 The Balance Details of KEPCO Holdings by NPS and KDB (as of June 2024) Unit: KRW trillion



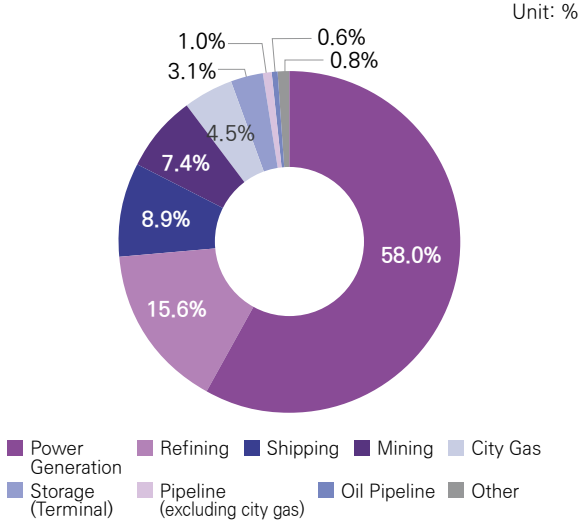
Private Finance

- Of the KRW 67.5 trillion in total private finance, coal finance accounts for KRW 35.2 trillion (52.2%), a larger proportion than the KRW 32.3 trillion (47.8%) for natural gas and oil combined. This is because the private sector also holds large-scale balances in KEPCO and its subsidiaries amounting to KRW 22.5 trillion, consisting of KRW 8.4 trillion from banks, KRW 6.9 trillion from life insurers, KRW 3.7 trillion from securities firms, and KRW 3.5 trillion from non-life insurers.
- By sector, banks hold the largest balance at KRW 25.0 trillion (37.1% of private finance), followed by life insurers at KRW 22.1 trillion (32.8%), non-life insurers at KRW 11.7 trillion (17.3%), securities firms at KRW 8.2 trillion (12.2%), and asset managers at KRW 0.4 trillion (0.6%). Notably, due to the large outstanding balance of investments in KEPCO and its subsidiaries' bonds (approximately KRW 8.4 trillion) and PF and corporate loans (approximately KRW 2.3 trillion), coal finance constitutes nearly half of the banks sector's portfolio at 45.0%.

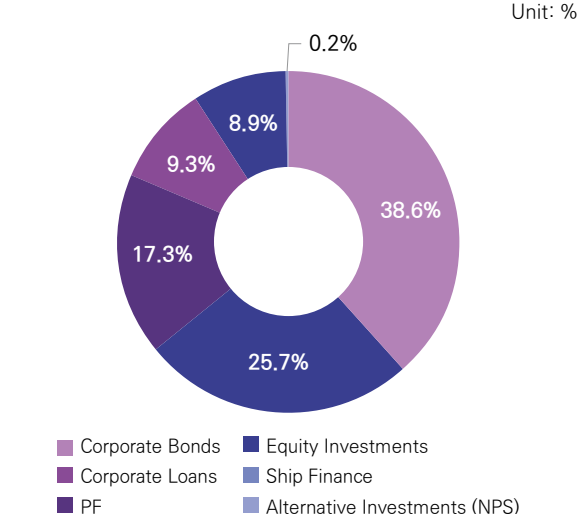
Comprehensive Analysis of Fossil Fuel Finance

Fossil Fuel Finance by Industry/Asset

Graph 4 Proportion of Fossil Fuel Finance by Industry
(as of June 2024)



Graph 5 Proportion of Fossil Fuel Finance by Asset
(as of June 2024)



Fossil Fuel Finance by Industry

- The industrial sectors for fossil fuel finance can be categorized into power generation, mining, refining, shipping, pipelines, and storage (terminals), among others. Of these, the 'power generation' sector accounts for the largest proportion at 58.0% (KRW 100.8 trillion) of total fossil fuel finance.
- Notably, 74.8% of the investment in the power generation sector is composed of coal finance, which includes continuous investments in the equity and bonds of KEPCO. This demonstrates that the investment structure of Korean financial institutions remains concentrated in the coal-fired power industry, suggesting a potential for increased asset risk if the energy transition is delayed. Therefore, it is urgent for financial institutions to reorganize their investment portfolios in the power generation sector and establish decarbonization and fossil fuel phase-out strategies.
- Following power generation, the refining accounts for KRW 27.2 trillion (15.6%), and the shipping for KRW 15.4 trillion (8.9%). The balance in the refining is centered on bonds, equity investments, PF, and corporate loans to crude oil refining companies, while the shipping industry's balances are primarily focused on ship finance related to the construction of vessels for transporting oil and natural gas.

Fossil Fuel Finance by Asset

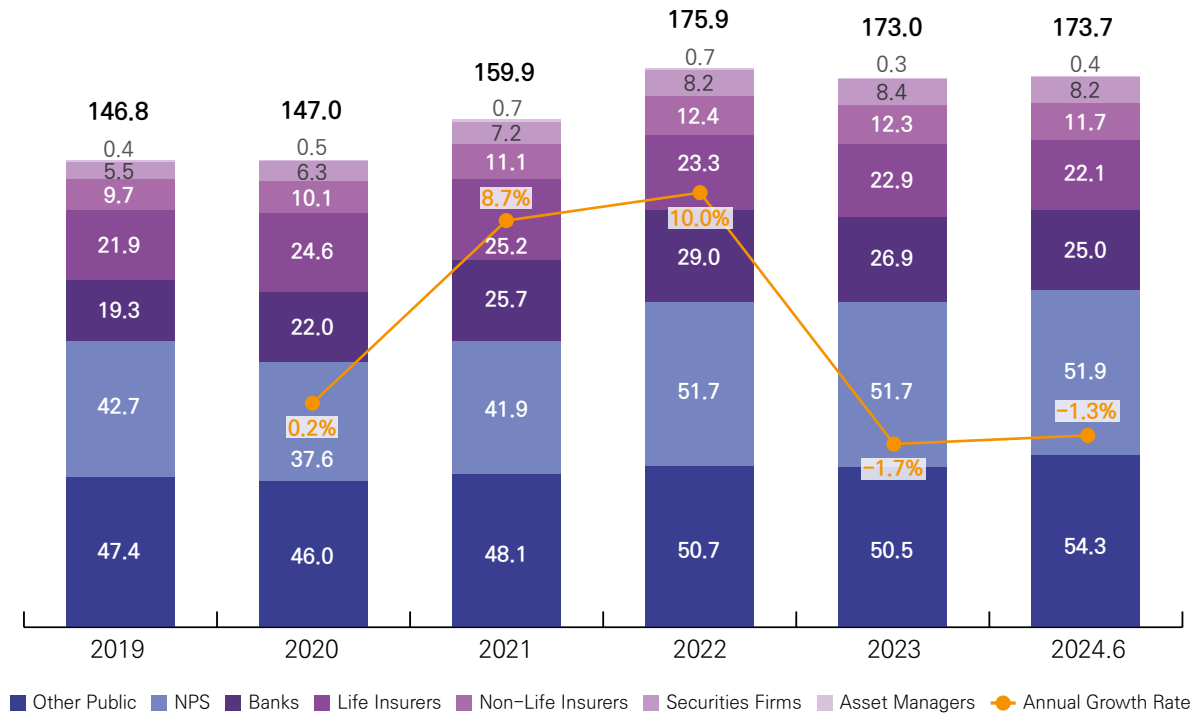
- An analysis of fossil fuel finance by asset as of June 2024 shows that corporate bonds account for KRW 67.0 trillion (38.6% of total fossil fuel finance), followed by equity investments at KRW 44.7 trillion (25.7%), PF at KRW 30.0 trillion (17.3%), corporate loans at KRW 16.2 trillion (9.3%), ship finance at KRW 15.4 trillion (8.9%), and alternative investments at KRW 0.4 trillion (0.2%—entirely from the NPS).
- For corporate bonds and equity, which rank first and second by proportion, balances related to KEPCO held by public and private financial institutions (bonds: KRW 37.5 trillion, equity: KRW 17.7 trillion) account for the largest portions of their respective assets at 56.0% and 39.6%. This indicates that balances in KEPCO and its subsidiaries continue to constitute a major part of the holdings of both public and private financial institutions.
- In the case of PF, the amount invested in recently constructed large-scale coal power plants (Goseong Hi-Power, Gangneung Anin Power, Samcheok Blue Power) accounts for the largest proportion at approximately 23%, with KRW 7.0 trillion. The remainder consists of investments in projects such as LNG combined cycle power generation, district energy projects, and oil refining projects.

Comprehensive Analysis of Fossil Fuel Finance

Trends in Fossil Fuel Finance Balance by Period

Graph 6 Trends in Fossil Fuel Finance Balance by Period

Unit: KRW trillion(%)



- According to the graph showing trends in the balance by period, the scale of fossil fuel finance, which had shown a continuous increase over the past three years (2020: 0.2%, 2021: 8.7%, 2022: 10.0%), recorded a slight decline of -1.7% in 2023.
- In 2022, the year with the sharpest recent increase, KRW 9.8 trillion, or 60.9% of the total fossil fuel balance increase of KRW 16.1 trillion, stemmed from the expansion of investment by NPS, of which the increase in KEPCO bonds accounted for KRW 4.9 trillion.
- Conversely, after 2023, the growth in the NPS's coal finance slowed down, and corporate loans in the oil sector by banks also decreased, causing the overall fossil fuel finance to decline by 1.7% compared to the previous year. A key driver of the reduction in coal finance was the NPS's investment in KEPCO bonds, which actually decreased by KRW 0.7 trillion in 2023.
- In the first half of 2024, the fossil fuel finance recorded a slight increase of 0.4% due to continued investment expansion in the natural gas and oil sectors by other public institutions. However, the balance of coal finance, which had been on a continuous rise, recorded its first decline in the first half of 2024, driven by a reduction in the NPS's KEPCO bond investments (-KRW 1.4 trillion) and strategic management of fossil fuel investments by private finance.

Graph 7 The Balance of NPS's KEPCO Bonds by Period

Unit: KRW trillion

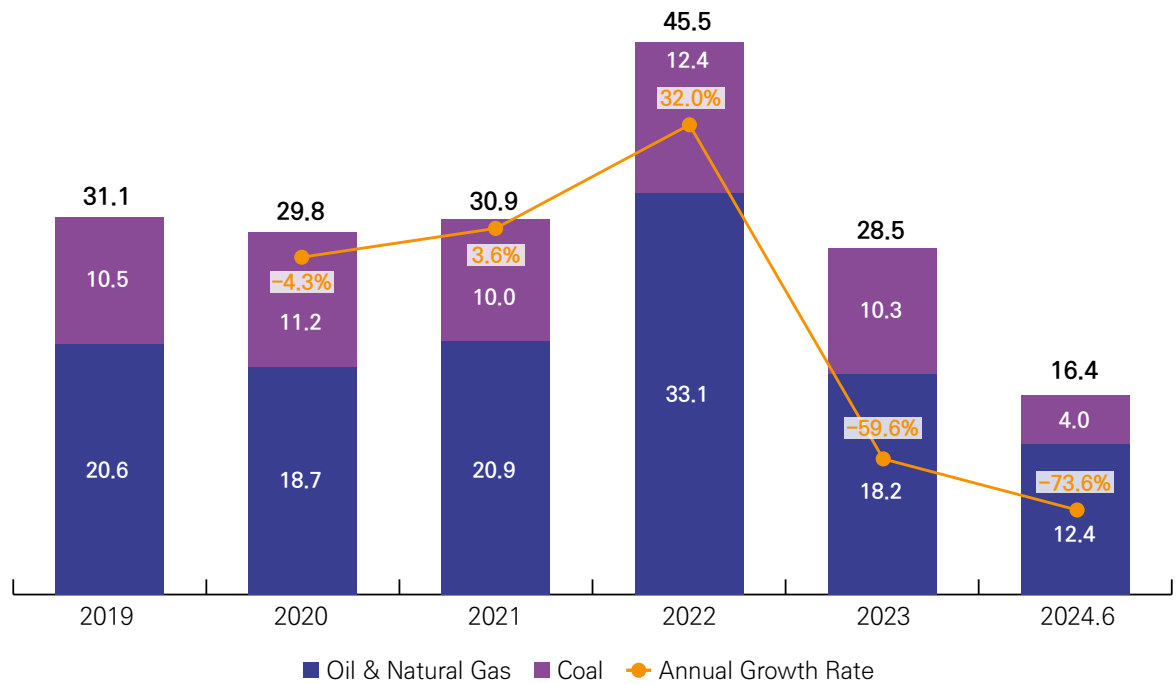
	2020	2021	2022	2023	2024.6
Amount	9.2	11.9	16.8	16.1	14.8

Comprehensive Analysis of Fossil Fuel Finance

Trends in New Investments for Fossil Fuel Finance by Period

Graph 7 New Investments for Fossil Fuel Finance by Period²

Unit: KRW trillion(%)

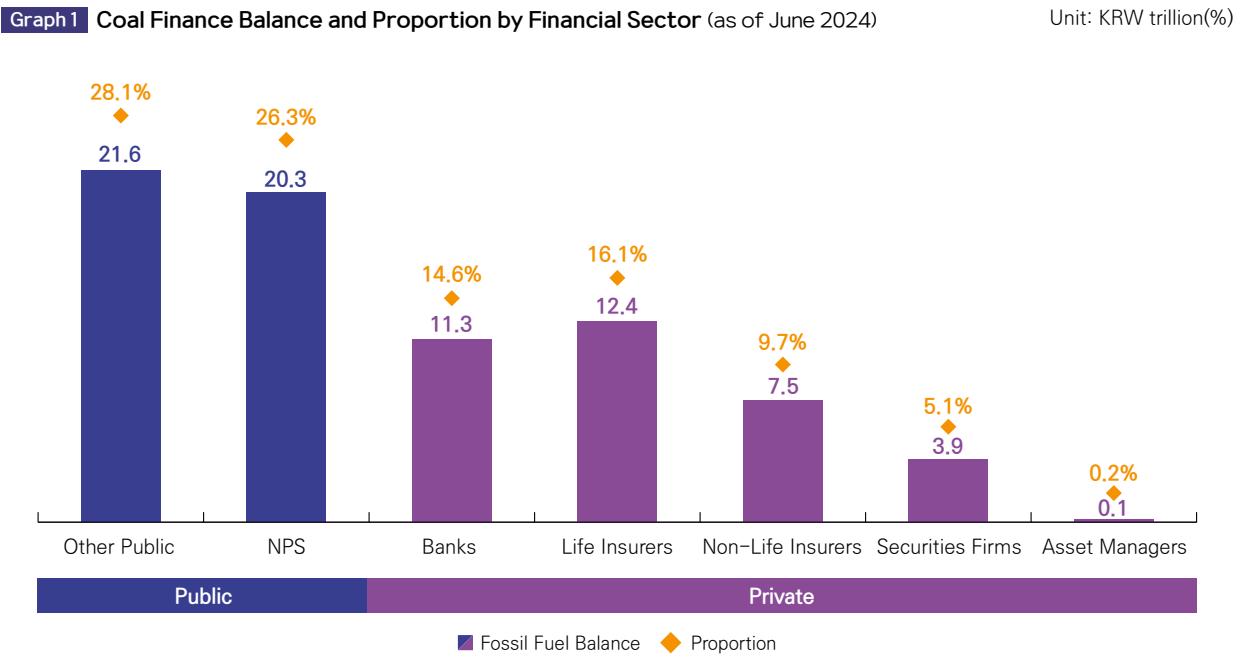


- The annual growth rate of new investments for fossil fuels showed a large increase of 32.0% in 2022, but has since continued to decline, falling by -59.6% in 2023 and -73.6% in the first half of 2024.
- In the case of coal finance, after a surge of 23.9% in 2022, it decreased by -16.6% in 2023 and -61.3% in the first half of 2024. The sharp increase until 2022 is attributed to a temporary concentration of factors, including drawdowns from commitment contracts signed before the coal phase-out declarations and securities firms' investments in Samcheok Blue Power bonds. The subsequent decline is analyzed to be the result of a reduction in these investments and a decrease in drawdowns from banks' commitment contracts.
- The new investments for oil and natural gas, which had surged until 2022, has also slowed since 2023 (2023: -45.1%, June 2024: -31.7%). This is due to a combination of factors, including a base effect from large-scale investments in district energy projects, a surge in demand due to rising energy prices in 2022, financial institutions' fossil fuel phase-out policies, and changes in policies and regulations.
- However, the new investments for the end of June 2024 reflect only six months of activity, and the scale of the decline is expected to be smaller by the end of 2024.

² NPS is excluded from this analysis as it did not provide data on new investments

Comprehensive Analysis of Coal Finance

Coal Finance Balance and Proportion by Financial Sector

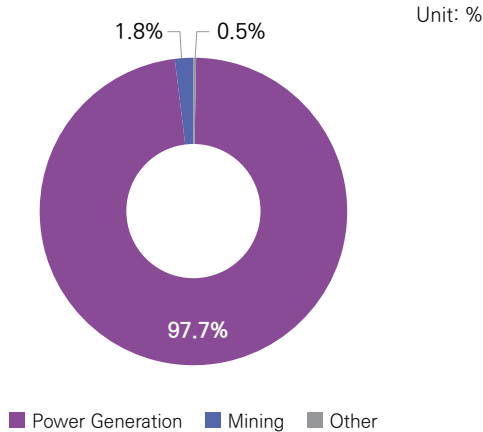


- The total balance of coal finance is KRW 77.1 trillion, with PF accounting for KRW 41.9 trillion(54.4%) and private finance for KRW 35.2 trillion(45.6%).
- Other Public Institutions hold a balance of KRW 21.6 trillion(28.1%), and NPS holds KRW 20.3 trillion(26.3%). Both institutions have a balance of over KRW 20 trillion, playing a key role in the coal finance market. Of the assets held by other public institutions, 98.2%(KRW 21.3 trillion) is concentrated in three policy banks: the IBK^{Industrial Bank of Korea}, the KDB, and the KEXIM. Their assets are primarily invested in PF, corporate loans, and equity, which is analyzed to be a result of the policy banks' role in supporting the stable operation of the Korean energy industry and related companies.
- In the private sector, life insurers hold the largest coal finance balance at KRW 12.4 trillion(16.1%), followed by banks at KRW 11.3 trillion(14.6%), non-life insurers at KRW 7.5 trillion(9.7%), securities firms at KRW 3.9 trillion(5.1%), and asset managers at KRW 0.1 trillion(0.2%). This distribution shows that life insurers and banks are managing relatively large amounts of capital in coal finance. Most of the balance in these two sectors consists of amounts invested in PF and the corporate bonds of KEPCO and its subsidiaries(total of KRW 21.8 trillion, or 92.4%). As these contracts were concentrated before 2021, when Korean financial institutions began making large-scale coal phase-out declarations, the coal finance balance is expected to decrease further in the future if the maturities of existing contracts are not extended.

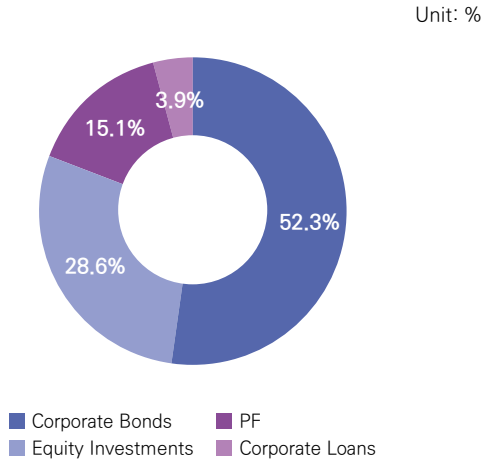
Comprehensive Analysis of Coal Finance

Coal Finance by Industry/Asset

Graph 2 Proportion of Coal Finance by Industry
(as of June 2024)



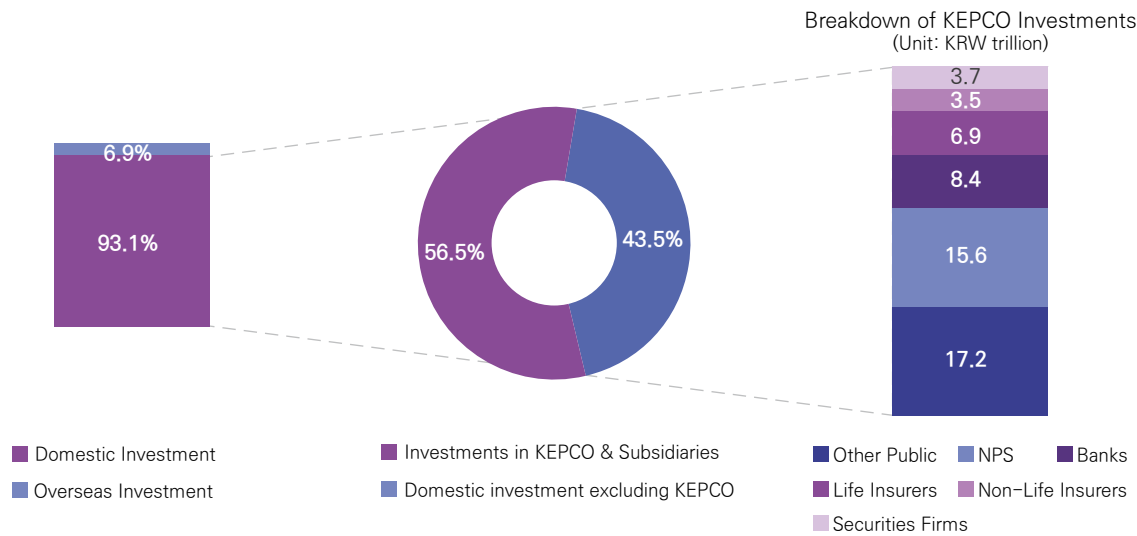
Graph 3 Proportion of Coal Finance by Asset
(as of June 2024)



- 97.7% of Korean financial institutions' coal finance is concentrated in the power generation, while investment and financial support for the mining are nearly non-existent. This is analyzed to be a trend where financial institutions, recognizing the growing risk of coal assets becoming stranded assets due to strengthening international climate policies and the deteriorating economics of coal³, have effectively halted all new investment in the coal mining industry, with the remaining balance gradually diminishing as maturities are reached.
- An analysis of coal finance by asset shows that corporate bonds account for the largest proportion at 52.3%, followed by equity investments at 28.6%, PF at 15.1%, and corporate loans at 3.9%. In the case of PF, the balance invested in three power plants constructed in the last 10 years—Goseong Hi-Power, Gangneung Anin Power, and Samcheok Blue Power—is KRW 7.0 trillion, accounting for 60.3% of the total PF amount. The financing for power plant construction and operation is primarily sourced through corporate bond issuance, equity investment, and PF. This focus on long-term contract structures creates a structural problem where once a financial agreement is signed, capital remains locked into the coal industry for an extended period.

³ IEA, 200 and Counting: Global Financial Institutions Are Exiting Coal(2023)

Graph 4 Proportion of Domestic and Overseas Investments in Coal Finance and the Proportion of KEPCO & Subsidiaries within Domestic Investments (as of June 2024)

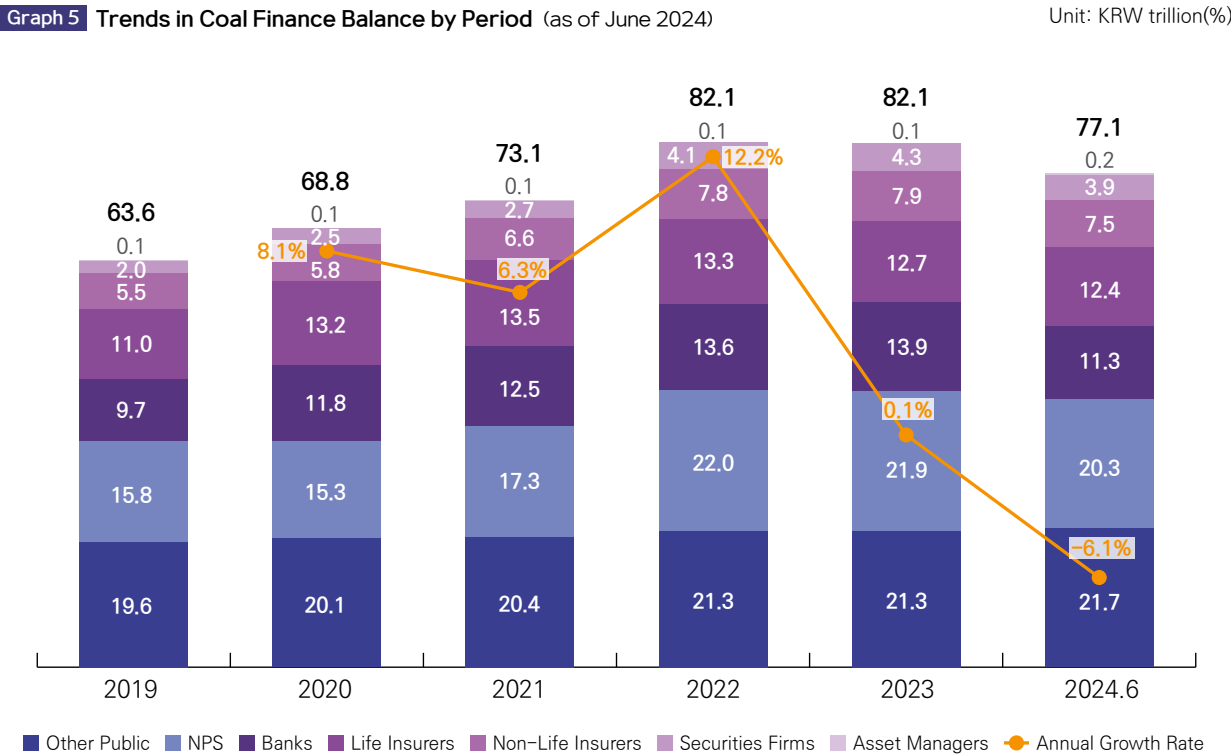


- The balance of Korean financial institutions' coal finance consists of KRW 71.8 trillion in domestic investment (93.1%) and KRW 5.3 trillion in overseas investment (6.9%). The primary reason for the concentration of investment in domestic coal projects is the influence of KEPCO and its subsidiaries. With KEPCO's high dependence on coal for stabilizing domestic power supply and rate policies, Korean financial institutions provide large-scale financing to the domestic coal industry in various forms, including for power plant construction and operation, and corporate bond underwriting.
- Of the domestic coal finance balance, the amount invested in KEPCO, and its subsidiaries totals KRW 55.2 trillion (PF: KRW 32.8 trillion, Private Finance: KRW 22.4 trillion), accounting for 43.5% of the total domestic coal investment. Among this, the Other Public sector holds the largest proportion, primarily because the KDB, as KEPCO's largest shareholder (32.9% stake), maintains an equity investment of KRW 16.9 trillion. In the private sector, banks provide the largest scale of coal finance to KEPCO and its subsidiaries at KRW 8.4 trillion, followed by life insurers at KRW 6.9 trillion, securities firms at KRW 3.7 trillion, and non-life insurers at KRW 3.5 trillion.
- As of the end of June 2024, NPS's coal finance balance is KRW 20.3 trillion, of which 76.8% (KRW 15.6 trillion) is financial support to KEPCO and its subsidiaries. Notably, during 2021–2022, KEPCO bond issuance surged due to its deficit expansion and instability in the power market.⁴ The NPS significantly expanded its holdings of KEPCO bonds in line with its influence in the domestic bond market and the need for stable fund management. This reality, where the NPS is excessively contributing to coal finance, is pointed out as a serious problem that could expose it to stranded asset risk and international criticism.

⁴ KCMI, The Impact of Special Bond Issuance Expansion on the Bond Market (2024)

Comprehensive Analysis of Coal Finance

Trends in Coal Finance Balance by Period



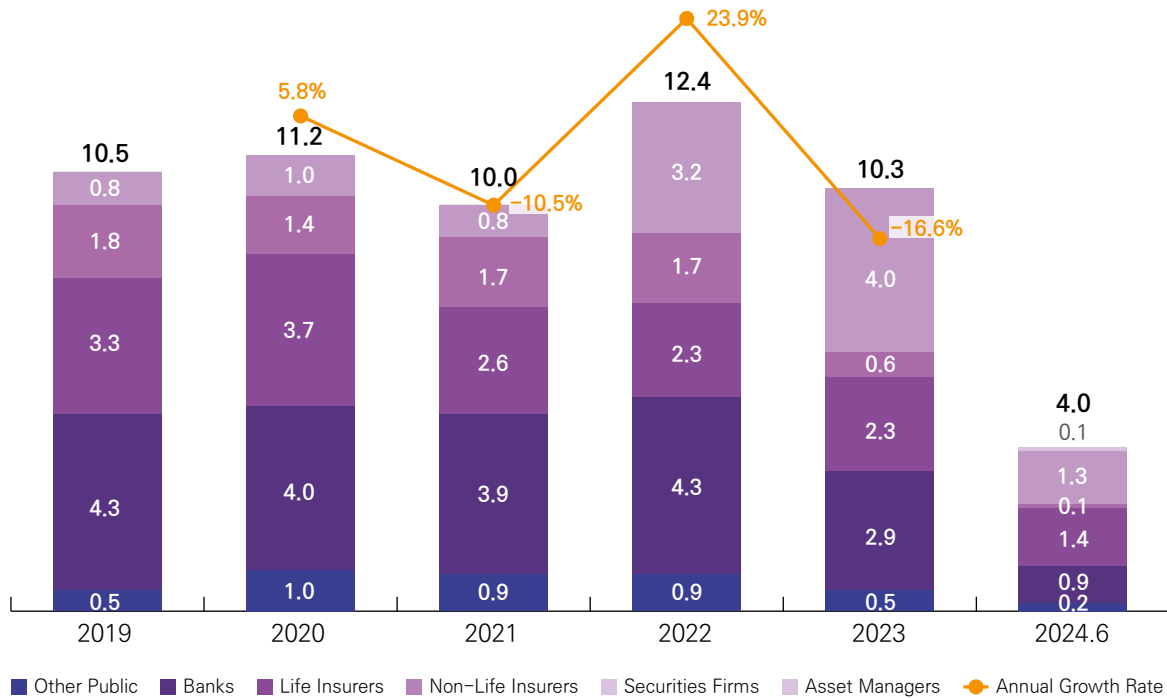
- From 2019 to 2022, the Korean coal finance balance steadily increased from KRW 63.6 trillion to KRW 82.1 trillion. During this period, the balance continued to grow in both public and private finance, with the annual growth rate peaking at 12.2% in 2022. The growth began to stagnate in 2023 and, for the first time, shifted to a downward trend of -6.1% in the first half of 2024.
- Despite the successive coal phase-out declarations by Korean financial institutions, the total sum of coal finance had continued to increase. However, in 2024, it shifted to a downward trend for the first time. This is interpreted as the result of a combination of factors, including the maturity of existing investments and the growing awareness of stranded asset risk.
- An analysis of the balance by sector in 2024 shows that the balance decreased in major financial sectors, including banks (KRW 11.3 trillion), life insurers (KRW 12.4 trillion), and NPS (KRW 20.3 trillion). In particular, the NPS and banks saw their balances decrease by KRW 1.6 trillion and KRW 2.6 trillion, respectively, compared to the previous year, leading the overall decline. Within the banks sector, a significant factor was the KRW 1.5 trillion reduction in coal finance balance by NH Nonghyup Bank, which has been proactively implementing a negative screening strategy to reduce its investment ratio in high-carbon industries and companies as part of its asset soundness management and preemptive risk response.

Comprehensive Analysis of Coal Finance

Trends in New Investments for Coal Finance by Period

Graph 6 Trends in New Investments for Coal Finance by Period^{5,6} (as of June 2024)

Unit: KRW trillion(%)



- From 2019 to 2021, new investments for Korean coal finance remained relatively stable at an annual level of KRW 9–10 trillion. However, in 2022, new investments from securities firms surged to KRW 3.2 trillion, causing the total new investments to increase significantly to KRW 12.4 trillion and the annual growth rate to rebound to 23.9%. The primary reason for the surge in new investments from securities firms between 2022 and 2023 is analyzed to be the concentration of large-scale investments in the corporate bonds of the Samcheok Blue Power plant.
- Starting from 2023, new investments plummeted, recording a decline of -16.6% in 2023 and -61.3% in the first half of 2024. Although securities firms continued new investments, a decline began as withdrawals from banks' existing agreements decreased. The main reason is that large-scale PF and corporate bond issuances related to domestic coal power plants were intensively executed until 2023, after which the authorization and commencement of new coal power plants effectively ceased, nearly eliminating the demand for new investments. In 2024, new investments from securities firms also decreased by more than half compared to the previous year to KRW 1.3 trillion, and overall, new investments from all major financial sectors dropped significantly. However, as this is based on 6 months of performance, the decline is expected to be somewhat smaller when reflecting new investments in the second half of the year.

⁵ NPS is excluded from this analysis as it does not provide separate data on new investments

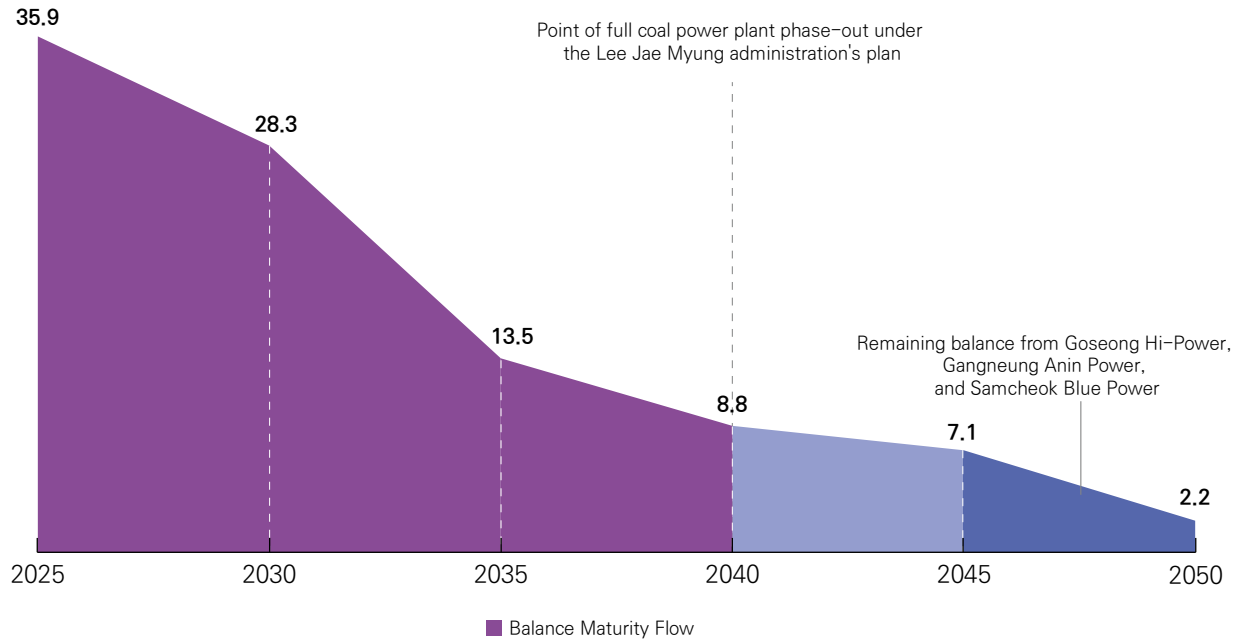
⁶ The coal phase-out declarations by Korean financial institutions are limited to halting financial support for new projects; new drawdowns from existing commitment projects are ongoing and included in the annual new investments analysis

Comprehensive Analysis of Coal Finance

The Lingering Shadow of Coal Finance Balance

Graph 7 Expected Projected Maturity Schedule Flow of PF and Corporate Bond Balance⁷ (as of June 2024)

Unit: KRW trillion



- The graph above includes existing contractual undrawn commitment amounts but excludes balances with unconfirmed maturity schedules in its analysis. Furthermore, most coal phase-out declarations by Korean financial institutions focus only on halting investment in new coal power projects, with no restrictions on extending the maturity of existing commitment contracts. Therefore, considering the possibility of continued drawdowns and extensions of existing commitments, the actual remaining balance in 2050 could be significantly larger than the projected KRW 2.2 trillion.
- This trend highlights a clear gap with the “full phase-out of coal power by 2040” goal, a pledge made by President Lee Jae Myung. Although a national target to phase out all coal power plants by 2040 has been presented politically, the actual maturity structure of financial commitments and fund recovery schedules alone suggest that coal power plants—centered around the three plants: Goseong Hi-Power, Gangneung Anin Power, and Samcheok Blue Power—could continue to operate after 2040, creating a structural constraint that complicates the practical implementation of the policy goal.

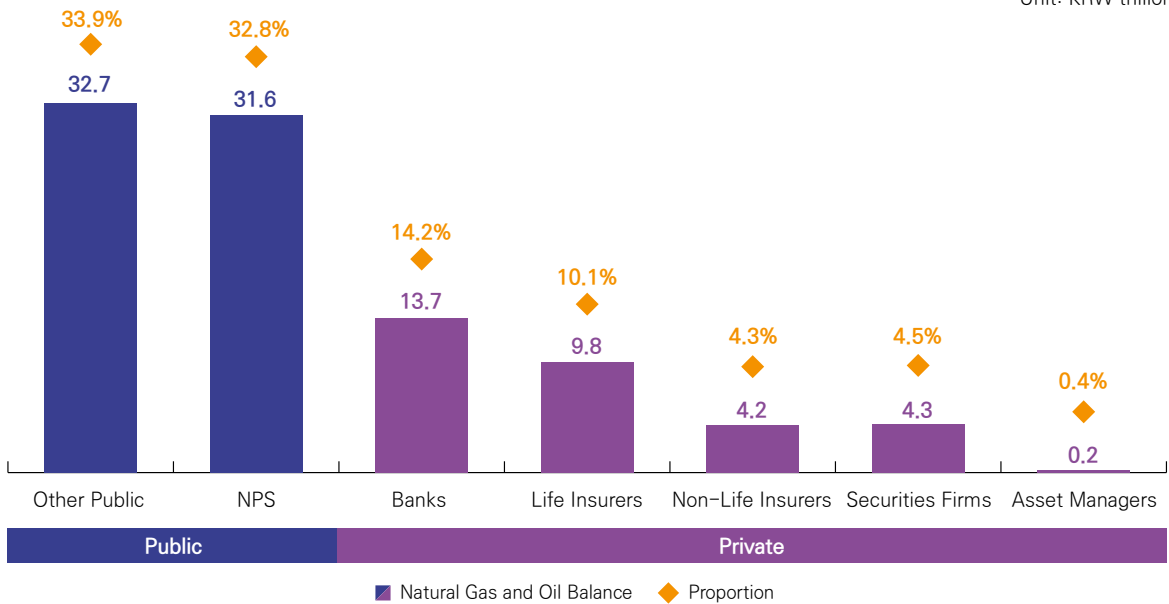
⁷ The analysis excludes the PF and corporate bond balances of financial institutions, including NPS, for which maturity schedules could not be confirmed

Comprehensive Analysis of Natural Gas and Oil Finance

Natural Gas and Oil Finance Balance and Proportion by Financial Sector

Graph 1 Natural Gas and Oil Finance Balance and Proportion by Financial Sector (as of June 2024)

Unit: KRW trillion(%)



Public Finance

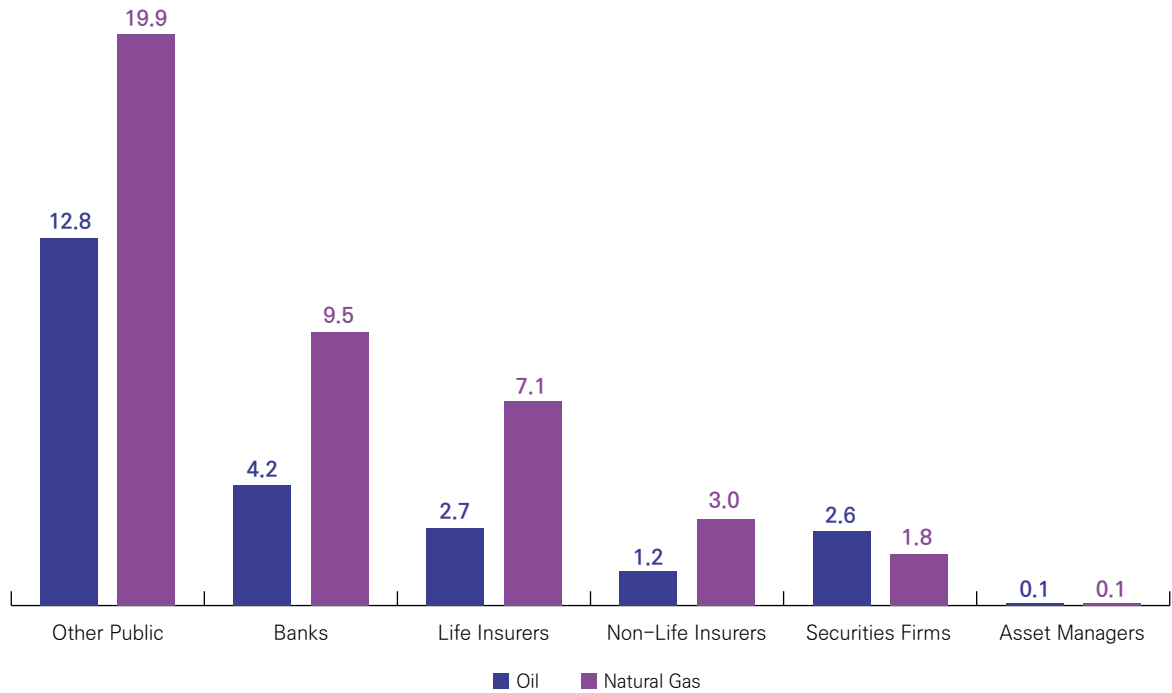
- Of the KRW 64.3 trillion total balance of natural gas and oil finance in the public sector, NPS holds KRW 31.6 trillion(49.2%), accounting for the largest proportion, while the remaining KRW 32.7 trillion(50.8%) is held by other public financial institutions.
- Among the other public financial institutions(excluding the NPS), the KEXIM holds KRW 22.2 trillion(34.6% of total PF), and the KDB holds KRW 8.5 trillion(13.1%).
- The KEXIM's investments were confirmed to be concentrated in ship finance, while the KDB's were focused on overseas LNG terminal and oil infrastructure projects.

Private Finance

- The balance of natural gas and oil finance in the private sector totals KRW 32.3 trillion. Banks account for the largest proportion at KRW 13.7 trillion(42.6% of private finance), followed by life insurers at KRW 9.8 trillion(30.2%), securities firms at KRW 4.3 trillion(13.4%), non-life insurers at KRW 4.2 trillion(13.0%), and asset managers at KRW 0.2 trillion(0.7%).
- Banks, which hold the largest proportion in the private sector with a total of KRW 13.7 trillion, have invested intensively in domestic and international power generation projects(district energy, LNG combined cycle power plants) in the natural gas sector, and in domestic and overseas mining and refining projects in the oil sector.
- Life insurers, the second-largest holders with a total balance of KRW 9.8 trillion, have a high proportion of investments in the natural gas sector centered on bonds for construction and operation issued by the KOGAS^{Korea Gas Corporation}.
- In the oil sector, their portfolio is mainly composed of bonds related to refining businesses.

Graph 2 Comparison of Oil vs. Natural Gas Finance Balance⁸ (as of June 2024)

Unit: KRW trillion



- In the natural gas finance, other public financial institutions(excluding the NPS) appeared as the largest holder with KRW 19.9 trillion. They were followed by banks with KRW 9.5 trillion, life insurers with KRW 7.1 trillion, non-life insurers with KRW 3.0 trillion, securities firms with KRW 1.8 trillion, and asset managers with KRW 0.1 trillion.
- In the oil finance, other public financial institutions(excluding the NPS) also held the largest proportion of the total balance with KRW 12.8 trillion. They were followed by banks with KRW 4.2 trillion, life insurers with KRW 2.7 trillion, securities firms with KRW 2.6 trillion, non-life insurers with KRW 1.2 trillion, and asset managers with KRW 0.1 trillion.

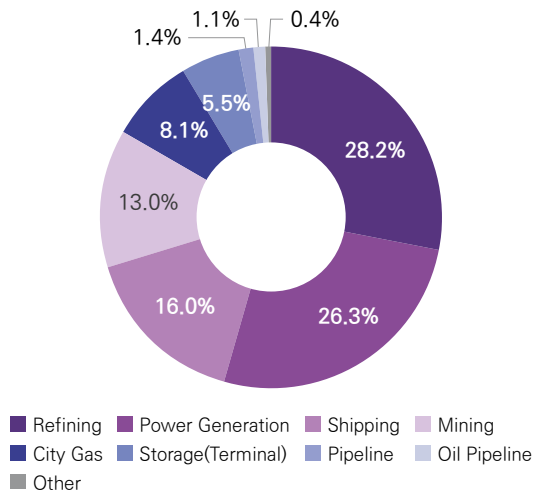
⁸ The asset information of NPS is provided only as a combined figure for oil and natural gas, without distinguishing between the two. Therefore, it has been excluded from this graph and analysis

Comprehensive Analysis of Natural Gas and Oil Finance

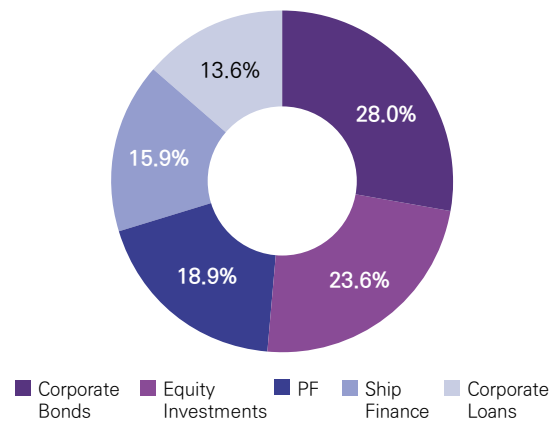
Natural Gas and Oil Finance by Industry/Asset

Graph 3 Proportion of Natural Gas and Oil Finance by Industry (as of June 2024)

Unit: %

**Graph 4** Proportion of Natural Gas and Oil Finance by Asset (as of June 2024)

Unit: %



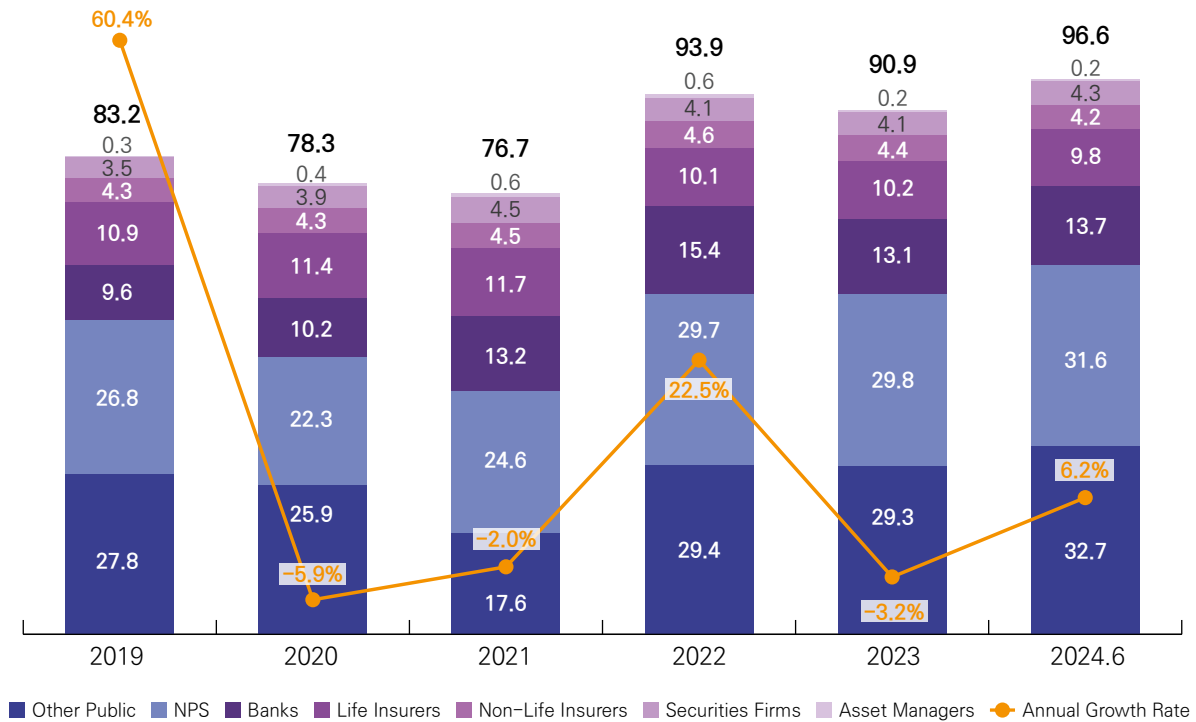
- The total assets in natural gas and oil finance were most heavily invested in the refining industry (28.2%), followed by power generation (26.3%), shipping (16.0%), mining (13.0%), city gas (8.1%), storage (terminals) (5.5%), pipelines (1.4%), oil pipelines (1.1%), and other (0.4%).
- In the refining industry, where the most investment occurred, PF accounted for 83.9% (KRW 22.8 trillion). Conversely, in the power generation, the next largest, private finance accounted for 60.9% (KRW 15.5 trillion).
- Private finance was concentrated in the power generation sector, centered on district energy and LNG combined cycle power plants, while PF, led by NPS and policy banks, supplied capital to overseas oil refining projects.
- In the case of PF, its use of energy and resource development as a policy tool for domestic refinery companies' overseas expansion is interpreted as stemming from its nature of seeking long-term profitability and stable cash flow.
- An analysis of Korean financial institutions' natural gas and oil finance by asset shows that corporate bonds account for the largest proportion at KRW 27.0 trillion (28.0%), followed by equity investments at KRW 22.8 trillion (23.6%), PF at KRW 18.3 trillion (18.9%), ship finance at KRW 15.4 trillion (15.9%), and corporate loans at KRW 13.2 trillion (13.6%).
- The largest asset class is corporate bonds, of which private finance holds 56.5% (KRW 27.0 trillion). The second-largest asset class is equity investments (totaling KRW 22.8 trillion), of which 87.8% is confirmed to be assets of NPS (KRW 20.0 trillion).

Comprehensive Analysis of Natural Gas and Oil Finance

Trends in Natural Gas and Oil Finance Balance by Period

Graph 5 Trends in Natural Gas and Oil Finance Balance by Period (as of June 2024)

Unit: KRW trillion(%)



Public Finance

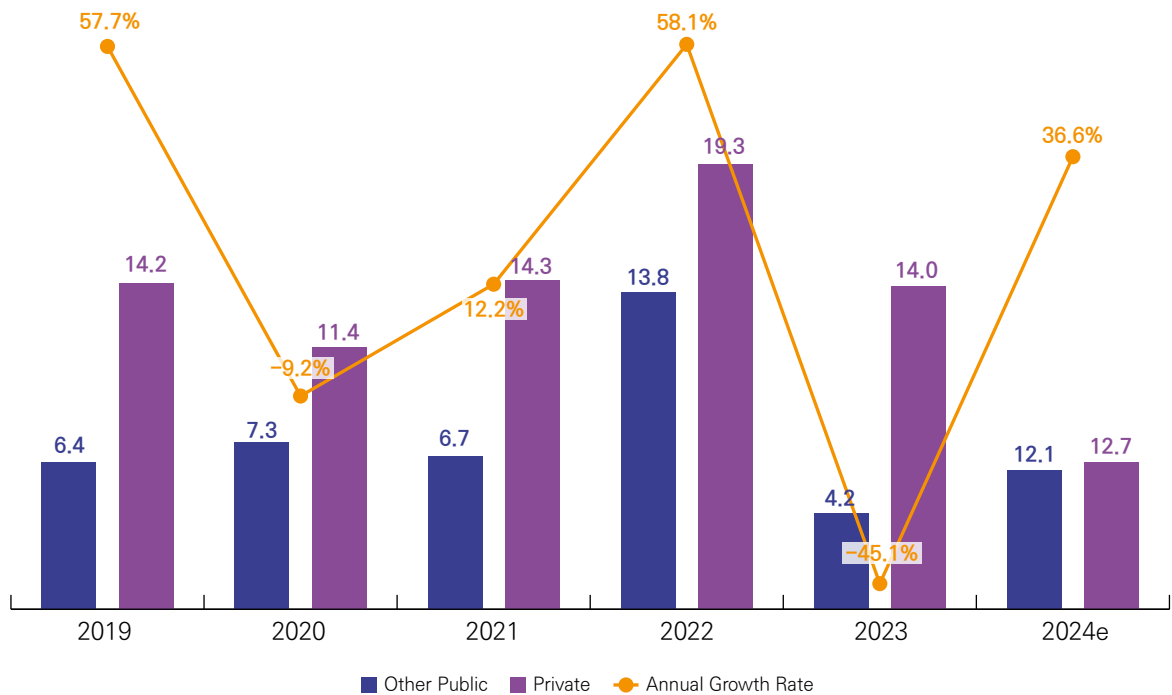
- PF, which holds 62.2% of the total natural gas and oil finance balance, saw its holdings increase by 11.6% year-on-year as of June 2024, indicating a continued increasing trend in the public sector. The balance held by other public financial institutions grew by 11.6%, and NPS balance grew by 6.3%.
- The NPS is expanding its investments in overseas stocks and bonds, while other public financial institutions are analyzed to be continuing investments in overseas LNG terminal projects, ship finance driven by demand for LNG carriers, and overseas oil infrastructure projects.

Private Finance

- Private finance, which holds 37.8% of the total natural gas and oil finance balance, recorded a 1.2% increase as of June 2024, shifting from a decline of -8.4% in 2023.
- Banks (5.3%), securities firms (6.4%), and asset managers (30.9%) showed an increasing trend, while life insurers (-4.3%) and non-life insurers (-4.4%) showed a declining trend.
- This shift in private finance is analyzed to be driven by the banks sector, which accounts for 42.6% of private holdings. This is attributed to expanded investments in PF and corporate bonds for domestic and overseas LNG combined cycle power generation and district energy projects, as well as expanded investment in domestic and overseas refining projects in the oil sector.

Graph 6 Outlook for Natural Gas and Oil Finance Based on New Investments

Unit: KRW trillion(%)



- New investments for natural gas and oil by Korean financial institutions(excluding the NPS) was investigated to be KRW 12.4 trillion in the first half of 2024. Based on a simple annualization(doubling the first-half figure), the scale of new investments for 2024 is projected to be approximately KRW 24.8 trillion, with the balance estimated at KRW 121.4 trillion. This confirms a projected growth rate of 36.6% compared to the previous year.
- While new investments for natural gas and oil showed an increasing trend between 2020 and 2022, new investment temporarily slowed in 2023 due to a base effect from the rapid growth in 2022 and a combination of factors including the vitalization of fossil fuel phase-out policies.

Comprehensive Analysis of Domestic Natural Gas Finance

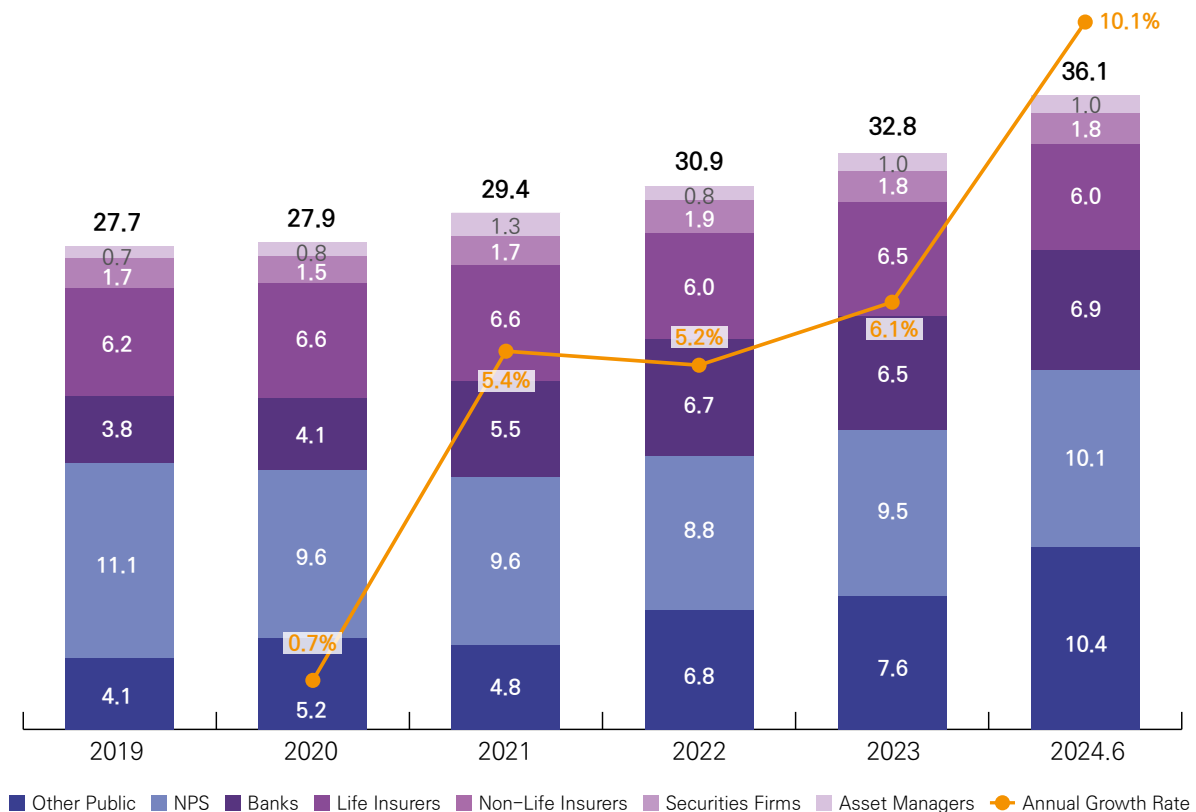
Domestic Natural Gas Finance Balance and Proportion by Financial Sector

In this analysis, ‘domestic natural gas finance’ refers to all financial activities where Korean financial institutions invest in or provide loans for projects within Korea across the entire natural gas value chain, including production, transportation, storage, power generation, and city gas supply.

At a time when the energy transition is accelerating, natural gas is drawing attention as a transitional energy source for achieving Net-zero, yet it still possesses the limitations of being a fossil fuel. Considering these dual characteristics, a close analysis of the status and trends of domestic natural gas finance provides important implications for establishing sustainable energy finance policies in the future.

Graph 1 Trends in Domestic Natural Gas Finance Balance by Financial Sector

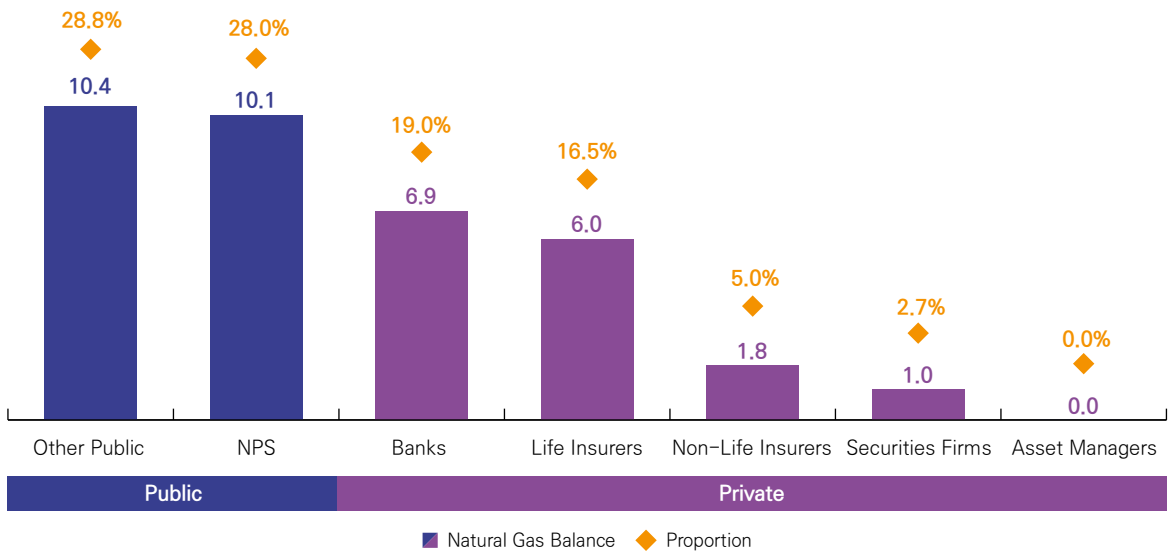
Unit: KRW trillion(%)



- From 2019 to June 2024, the balance of natural gas finance held by Korean financial institutions increased by approximately 30.3%, from KRW 27.7 trillion to KRW 36.1 trillion. In particular, after recording an average annual growth rate of around 5% since 2021, it has maintained its growth trend, increasing by 10.1% year-on-year in the first half of 2024, with a double-digit growth rate expected by the end of the year.
- The reason behind this growth is because LNG was designated as a transitional energy source, leading to proactive investment by public financial institutions, which was then followed by an expansion of investment from private financial institutions.

Graph 2 Domestic Natural Gas Finance Balance and Proportion by Financial Sector (as of June 2024)

Unit: KRW trillion(%)



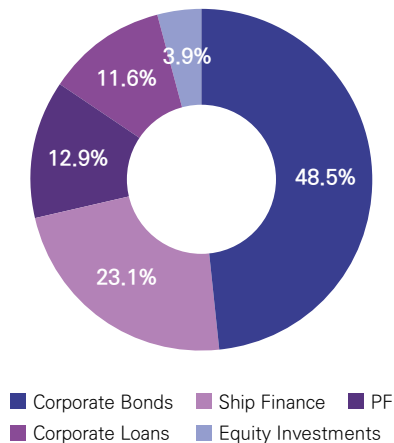
- The natural gas finance balance of the public sector was KRW 20.5 trillion as of the first half of 2024, accounting for 56.8% of the total natural gas finance balance. Notably, while NPS had, on average, held a higher balance than other public institutions from 2019 to 2023, this gap disappeared in June 2024, with other public institutions (primarily policy banks) taking the lead. This is mainly due to the rapid growth of LNG ship finance from the KEXIM.
- The natural gas finance balance of the private sector was KRW 15.6 trillion, accounting for 43.2% of the total natural gas finance balance. The sector with the highest balance in the private category is banks (KRW 6.9 trillion, 44.0% of private finance), which have shown the most active investment expansion among private financial institutions, growing by approximately 80.0% from KRW 3.8 trillion in 2019 to KRW 6.9 trillion in the first half of 2024. They are followed by life insurers with KRW 6.0 trillion (38.3%), non-life insurers with KRW 1.8 trillion (11.5%), and securities firms with KRW 1.0 trillion (6.3%).

Comprehensive Analysis of Domestic Natural Gas Finance

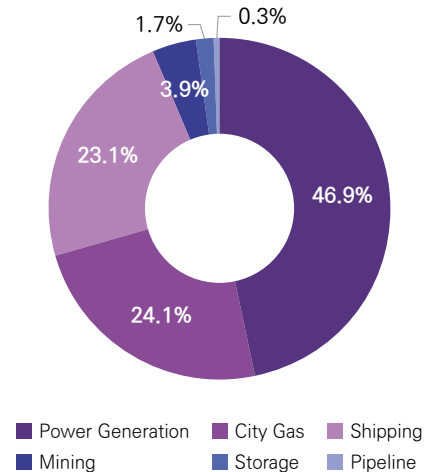
Domestic Natural Gas Finance by Industry/Asset

Graph 3 Proportion of Domestic Natural Gas Finance by Asset (as of June 2024)

Unit: %

**Graph 4** Proportion of Domestic Natural Gas Finance by Industry (as of June 2024)

Unit: %



- Corporate bonds are the key financial instrument with the largest proportion in domestic natural gas finance. Both private and PF investments are confirmed to be centered on special bonds related to the construction and operation of city gas infrastructure by the KOGAS and bonds for power generation projects issued by the LH^{Korea Land & Housing Corporation}.
- A particularly noticeable change is ship finance, which grew from KRW 2.5 trillion in 2019 to KRW 8.3 trillion in June 2024, expanding its proportion of the total from 9.1% to 23.1%.
- The KEXIM executed investments totaling KRW 7.6 trillion, accounting for 91.6% of the total ship finance balance. This is analyzed to be a result reflecting domestic shipbuilding support policies and the growth in global LNG carrier orders. Due to the recent expansion of geopolitical risks and the need for supply chain diversification to strengthen energy security, orders for LNG carriers have increased, leading to a corresponding expansion in ship finance support from the KEXIM.
- PF increased by 19.6% over the past five years, from KRW 3.9 trillion in 2019 to KRW 4.7 trillion in June 2024. The main investment targets are domestic LNG combined cycle power plants and district energy projects. This is because large-scale power generation and district energy projects guarantee stable returns through long-term contracts of 20~30 years.
- As of June 2024, among private financial institutions, life insurers and banks hold the most PF assets (69.5% of the total PF balance). Both public and private finance are invested in the power generation, with PF at KRW 7.3 trillion (43.4% of the power generation industry's financing) and private finance at KRW 9.6 trillion (56.6%).
- In contrast, PF holds an overwhelming proportion of the shipping sector, at 98.3% of the total balance. The KEXIM, as a single institution, supported 91.6% (KRW 7.6 trillion) of the total ship finance balance. This is analyzed to be the result of the KEXIM's active support for ship orders by establishing a separate ship finance support plan and issuing large-scale advance payment refund guarantees to domestic shipyards.
- In the city gas, private finance holds KRW 4.8 trillion (55.4% of the city gas industry's total balance), while PF holds KRW 3.9 trillion (44.6%).

Table 5 Top Financial Institutions by Domestic Natural Gas Investment⁹ (as of June 2024)

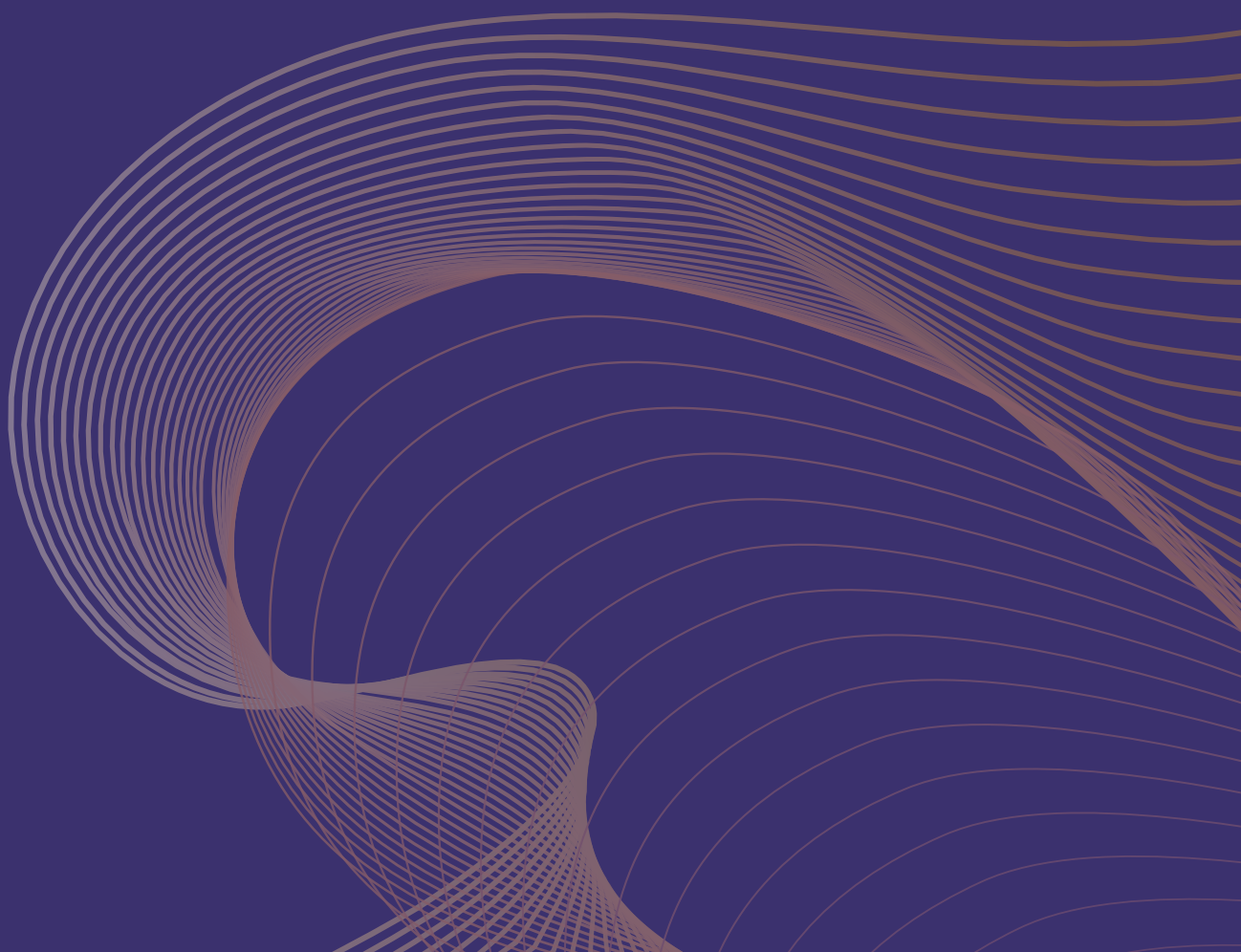
Unit: KRW 100 million

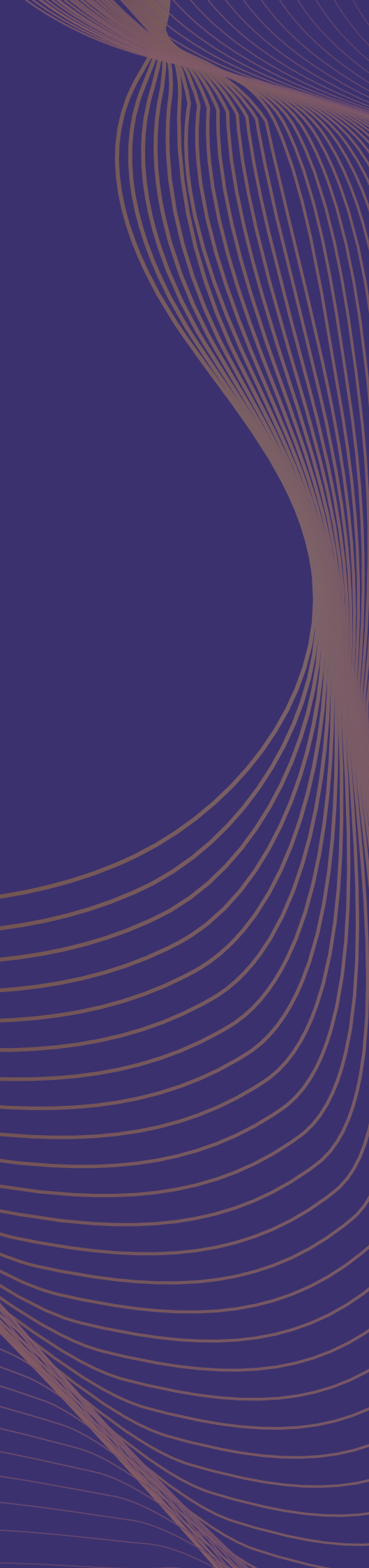
	Sector	Institution Name	PF	Corporate Loans	Ship Finance	Corporate Bonds	Equity Investments	Total
Private	Banks	NACF	272	2,497	–	15,633	487	18,889
		NH Nonghyup Bank	1,178	982	–	11,578	–	13,738
		KB Kookmin Bank	4,730	391	–	8,197	296	13,614
		Woori Bank	4,190	7,525	–	–	–	11,715
		Shinhan Bank	650	–	–	3,200	488	4,338
	Life Insurers	Kyobo Life Insurance	9,789	3,804	327	–	–	13,920
		Samsung Life Insurance	6,689	833	–	2,540	–	10,061
		Hanwha Life Insurance	–	1,351	–	6,427	110	7,887
	Non-Life Insurers	Hyundai Marine & Fire Insurance	2,802	–	–	1,286	383	4,471
		KB Insurance	1,451	–	–	1,457	–	2,908
		SGI Seoul Guarantee Insurance	–	–	–	2,600	–	2,600
	Securities Firms	Hyundai Motor Securities	–	–	–	4,049	–	4,049
		Samsung Securities	–	520	–	2,200	–	2,720
		Hana Securities	–	–	–	814	–	814
Public		NPS	–	–	–	90,773	10,440	101,213
		KEXIM	–	2,500	76,047	–	–	78,547
		KDB	4,931	12,033	2,607	–	–	19,571

- In terms of total domestic natural gas investment, NPS is identified as the largest investor, followed by the KEXIM, meaning public financial institutions hold the top two positions overall.
- 58.2%(KRW 5.9 trillion) of the NPS's total assets are invested in power generation projects, while 96.8%(KRW 7.6 trillion) of the KEXIM's total assets are invested in ship finance. The current investment direction of PF, which provides funds to LNG power generation projects and LNG carriers that are at risk of becoming stranded assets, runs counter to the global energy transition trend.
- Looking only at private finance, the largest investor is the NACF^{Nonghyup Agricultural Cooperative Federation}, followed by Kyobo Life Insurance and NH Nonghyup Bank. These top three institutions are analyzed to have invested mostly in LNG combined cycle power plant and district energy projects through PF and corporate bonds.

⁹ Asset managers are excluded from this table as their proprietary asset investments were negligible after surveying their own accounts

05





Insurance Analysis and Energy Policy Trends

Comprehensive Analysis of Insurance
Energy Consumption and Policy Trends

Comprehensive Analysis of Insurance

Understanding Insurance(Insured Amount)

Insurance, a financial product primarily offered by insurance companies, differs in its risk characteristics from general financial products(such as bonds, loans, and PF). However, as a key financial instrument that enables the continuation and operation of fossil fuel projects, it still contains financial risks stemming from climate change. Therefore, it is necessary to review and analyze the status of fossil fuel finance including insurance, and in this context, this report analyzes the overall scale and characteristics of fossil fuel finance including insurance as follows.

- Insurance(InsuredAmount, hereinafter ‘Insurance’) refers to the coverage received by entering an insurance contract with an insurer for a specific risk. In this report, it signifies the scale of insurance contracts provided by Korean financial institutions(mainly non-life insurers) to the entire spectrum of industries related to fossil fuels, including power generation, mining, refining, and various industries that use these as raw materials.
- Insurancefor large-scale projects(large development and construction projects) is classified into construction, operational, and surety insurance based on the timing of its application(construction phase, operational phase, etc.) and the nature of the risks covered(physical damage, liability, credit, etc.).

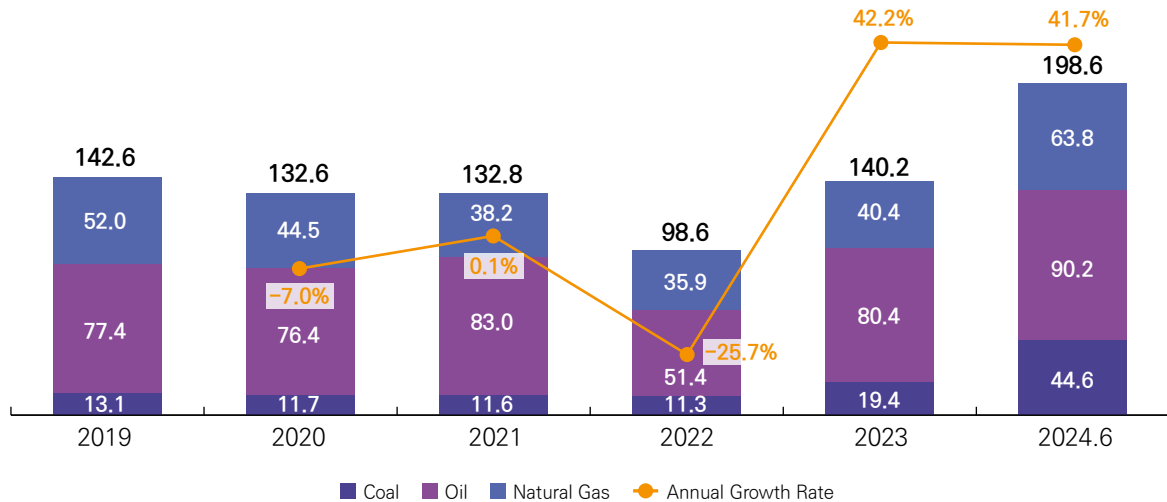
Product Type	Application Period	Main Coverage Details
Construction Insurance	Construction period (from groundbreaking to completion)	Damage to construction works, third-party liability, equipment damage, etc
Operational Insurance	Operational period (commercial operation and maintenance after completion)	Damage to assets during facility operation, business interruption, maintenance-related damages, etc.
Surety Insurance	Contract signing to completion and defect liability period	Bidding, contract performance, default, defect liability guarantees, etc.

Comprehensive Analysis of Insurance

Trends in Insurance Balance by Period

Graph 1 Trends in Insurance Balance by Period

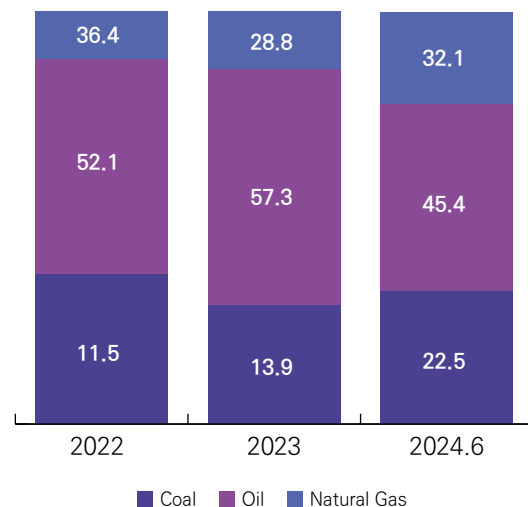
Unit: KRW trillion(%)



- As of the end of June 2024, the insurance balance of Korean financial institutions was KRW 198.6 trillion, a sharp increase of 41.7% compared to the end of 2023, marking a significant rise for the second consecutive year.
- By fuel type, the coal sector's insurance balance recorded the highest growth rate of 129.6% compared to the end of 2023, reaching KRW 44.6 trillion. This was followed by natural gas at 58.0%(KRW 63.8 trillion) and oil at 12.2%(KRW 90.2 trillion).
- The significant increase in the coal sector's insurance scale in 2024 is due to the expansion of risk management demand following the commencement of commercial operations of new large-scale coal power plants like Goseong Hi-Power and Gangneung Anin Power. A high insurance coverage limit was set accordingly, and as major financial institutions newly underwrote large-scale operational insurance for these domestic coal power plants, the overall balance of operational insurance was also determined to be high.
- The insurance balance for the natural gas and oil sectors also increased significantly. The primary reasons are judged to be: 1) for oil, the expansion of underwriting for operational, construction, and surety insurance for projects such as storage terminals and refining/petrochemical-linked facilities; 2) for natural gas, the increased demand for operational, construction, and surety insurance due to large-scale district energy power plants being promoted nationwide, large-scale LNG storage facilities being pursued as a matter of energy security, and the expansion of overseas projects.
- Due to the large-scale growth in the coal sector, the proportion of coal in the insurance balance recorded a significant increase from 13.9% in 2023 to 22.5% in the first half of 2024. However, the oil sector still accounts for the highest proportion, reflecting the continuous demand from refining and petrochemical projects.

Graph 2 Proportion of Insurance by Energy

Unit: %

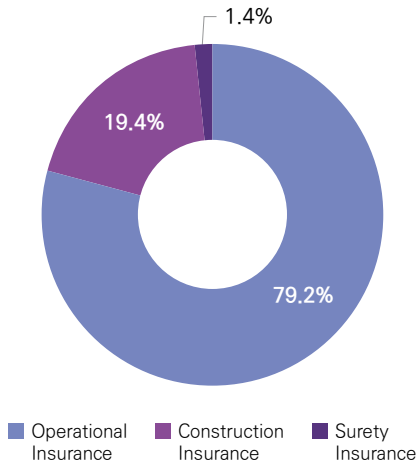


Comprehensive Analysis of Insurance

Proportion of Insurance by Product/Industry

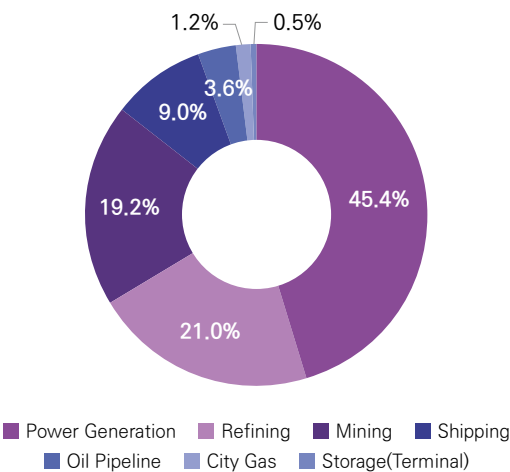
Graph 3 Proportion of Insurance by Product
(as of June 2024)

Unit: %



Graph 4 Proportion of Insurance by Industry
(as of June 2024)

Unit: %



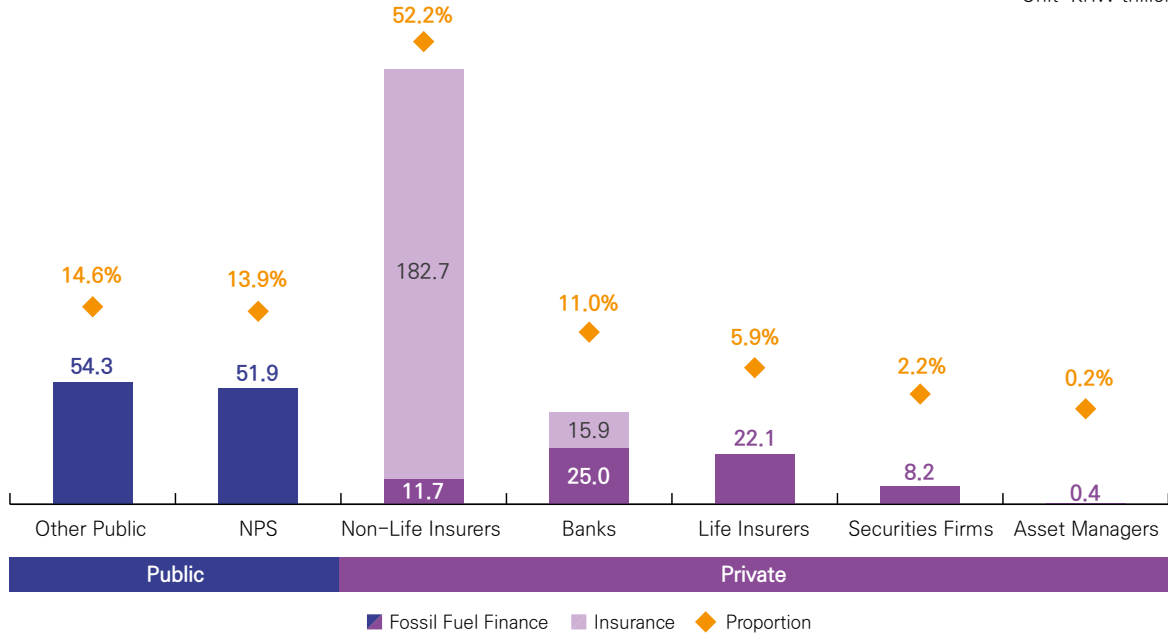
- Byproduct type, operational insurance accounts for KRW 157.2 trillion, representing 79.2% of the total insurance balance. It is composed of oil at 49.0%, coal at 25.8%, and natural gas at 25.2%.
- Construction insurance and surety insurance account for relatively low proportions at 19.4% and 1.4%, respectively.
- An analysis by industry shows that power generation has the highest proportion at KRW 90.2 trillion(45.4% of the total insurance amount), followed by refining at KRW 41.7 trillion(21.0%), mining at KRW 38.1 trillion(19.2%), and shipping at KRW 17.9 trillion(9.0%).
- In the power generation sector, the insurance amount provided to the coal sector was the largest at KRW 44.6 trillion(49.4%). Of this, construction insurance amounted to KRW 3.6 trillion, representing only 8.1% of the total coal sector insurance, with over 90% being composed of operational insurance. The remaining balance related to Samcheok Blue Power within the construction insurance is scheduled to mature in 2024.
- The refining sector, the second-largest by scale, is entirely composed of insurance related to the construction and operation of refining facilities in the oil sector.

Comprehensive Analysis of Insurance

Fossil Fuel Finance Including Insurance

Graph 5 Fossil Fuel Finance Balance and Proportion by Financial Sector(Including Insurance)
(as of June 2024)

Unit: KRW trillion(%)



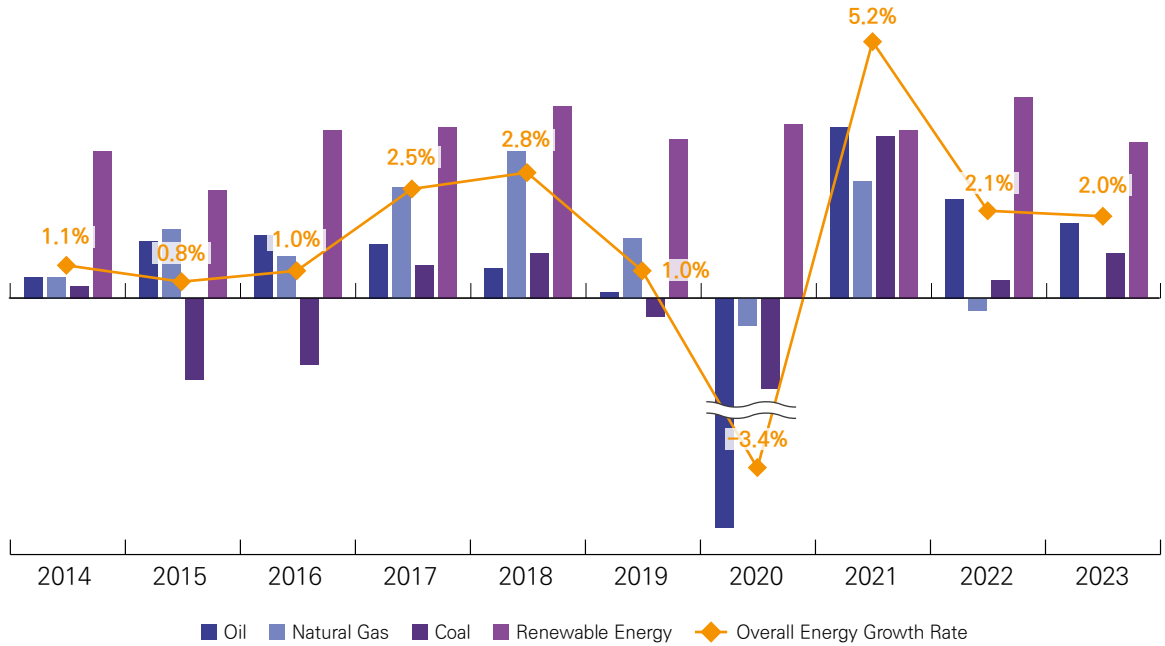
- As of the end of June 2024, the total scale of fossil fuel finance of Korean financial institutions including insurance is KRW 372.3 trillion, an 18.9% increase compared to the end of 2023.
- Of this total, the private sector's balance is KRW 266.1 trillion (71.5%), 2.5 times the level of PF (KRW 106.2 trillion, 28.5%), primarily driven by the large-scale insurance amount of KRW 198.6 trillion provided by private financial institutions.
- By energy type, the balance is composed of KRW 250.5 trillion (67.3%) for natural gas and oil finance and KRW 121.7 trillion (32.7%) for coal finance, indicating that activities related to natural gas and oil are more active.
- 92.0% of the total insurance amount is composed of the balance from non-life insurers. Non-life insurers play a key role in the maintenance of the fossil fuel industry by providing essential insurance for the construction and operation of large-scale fossil fuel projects. While this provision of insurance functions to diversify risk, unlike direct financing support, it also has the effect of indirectly promoting capital inflow by increasing the investment stability of fossil fuel projects.

Energy Consumption and Policy Trends

Global Energy Consumption Trends

Graph 1 Global Energy Consumption Proportion and Growth Rate Trends¹

Unit: %



- According to the BP Statistical Review of World Energy, global primary energy consumption rose by 2.0% in 2023 compared to the previous year.
- By fuel type, the largest increase was in oil (+2.5% year-on-year), followed by coal (+1.5%) and natural gas (+0.03%). The rise in oil consumption was driven by increased energy use in emerging economies due to economic growth and industrialization. In the case of coal, consumption temporarily expanded as some European countries reactivated coal power plants due to the instability of Russian natural gas supplies following the outbreak of the Russia-Ukraine war.²
- The proportion of fossil fuels in global primary energy consumption was 81.5%, a 0.4% decrease from the previous year, but it still holds an absolute majority. This is analyzed to be the result of fossil fuel-centered energy demand expansion in emerging countries, which has occurred despite the increase in renewable energy consumption (+2.0% in 2023).
- An IEA report³ indicates that global energy demand increased by 2.2% in 2024, with fossil fuel consumption, led by natural gas (+2.7%), also growing. However, from 2025–2027, renewables and nuclear power are expected to cover most of the increase in electricity demand. In particular, renewable energy generation is projected to surpass coal in 2025, forecasting that the pace of the energy transition will accelerate and dependence on fossil fuels will gradually decrease.

¹ Statistical Review of World Energy 2024, processed from global data

² World Energy Outlook 2024

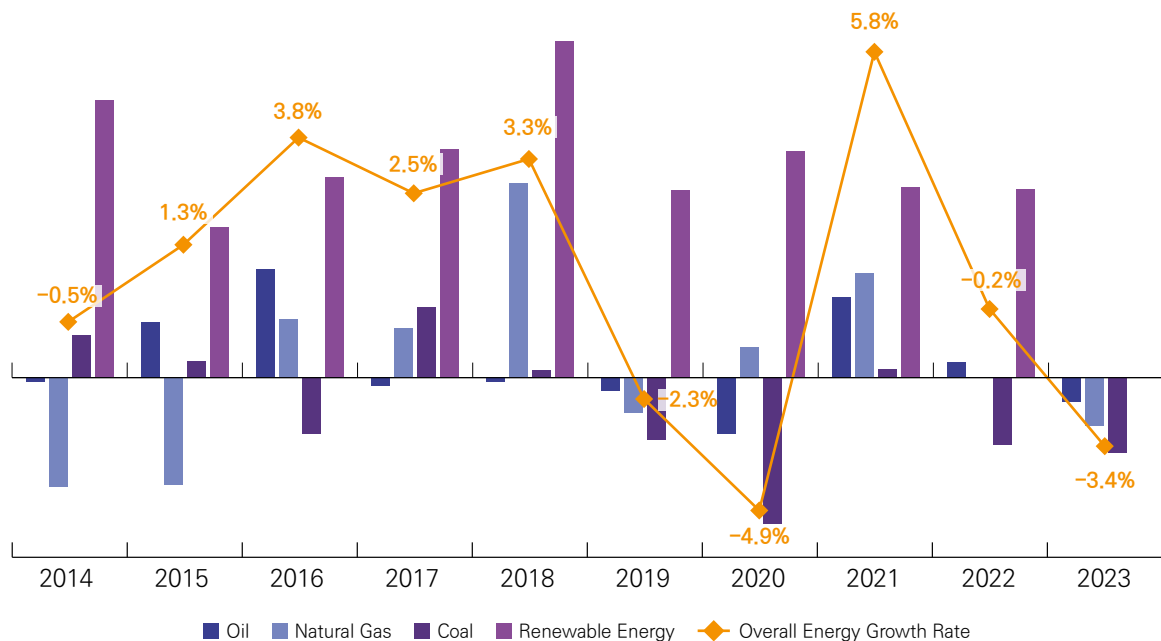
³ IEA Global Energy Review 2025

Energy Consumption and Policy Trends

Korean Energy Consumption Trends

Graph 2 Korean Energy Consumption Proportion and Growth Rate Trends⁴

Unit: %



- In contrast to the global trend of increasing fossil fuel consumption, Korea's primary energy consumption decreased by 3.4% in 2023 compared to the previous year.
- By fuel type, consumption of oil decreased by -2.0%, coal by -6.3%, and natural gas by -4.0%, with coal showing the largest decline. The proportion of fossil fuels in primary energy consumption also recorded a 2.5%p decrease from the previous year, falling to 80.8%. This is analyzed to be the result of a sluggish petrochemical industry, changes in weather conditions, and the trend of energy transition and decarbonization policies.⁵
- Over the past decade, Korean renewable energy consumption has shown a consistent upward trend. However, in 2023, while consumption of solar power and fuel cells increased, that of wind and bioenergy decreased, leading to no marked net change in total renewable energy consumption.
- According to the KEEI⁶ (Korea Energy Economics Institute), Korean energy consumption is projected to rise by 2.0% in 2024 due to increased industrial demand. Coal consumption is expected to decrease by 6.0% due to reduced demand for power generation, but oil (2.3%) and natural gas (6.2%) are expected to increase due to industrial demand. However, the proportion of fossil fuels is on a downward trend due to the expansion of renewable and nuclear energy.⁶
- Furthermore, the KEEI predicts that total energy consumption will slow somewhat in 2025, and that fossil fuel dependency will gradually decrease due to a combination of factors, including energy transition policies, the expansion of renewable and nuclear energy, a decline in demand for fossil fuels for power generation, and a rebound in industrial demand.⁷

⁴ Statistical Review of World Energy 2024, processed from South Korea data

⁵ Korea Energy Economics Institute, 2023-2050 Energy Outlook Main Results

⁶ KESIS National Energy Statistics Integrated Information System, 2024 Energy Demand Outlook

⁷ KEEI, 2025 World Energy Demand Outlook

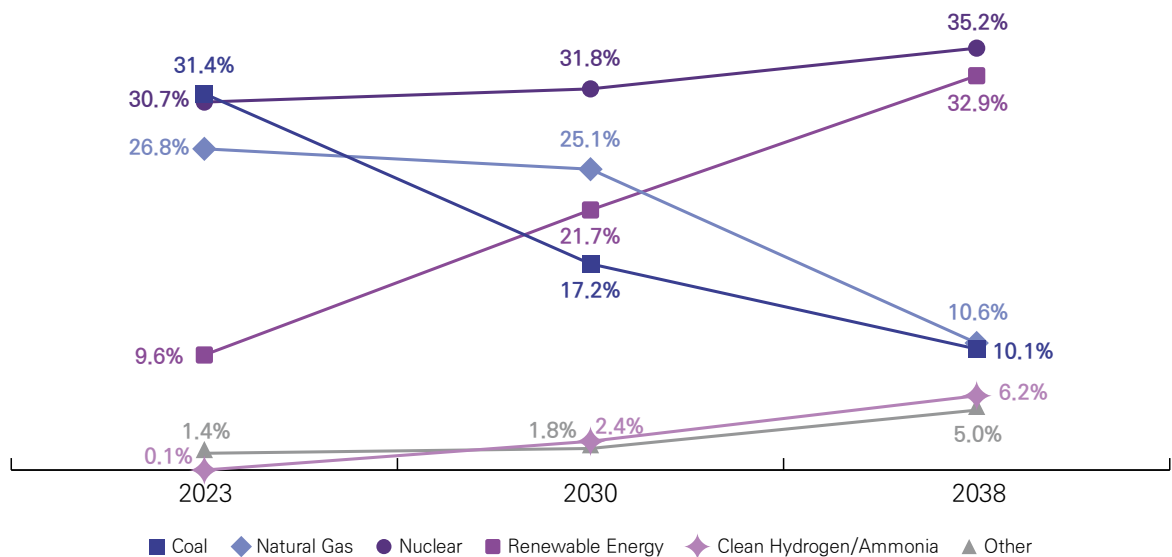
Energy Consumption and Policy Trends

Korean Energy Policy

- In March 2025, the Ministry of Trade, Industry and Energy announced the 11th Basic Plan for Electricity Supply and Demand. The core of the plan is an energy mix transition that expands the proportion of carbon-free power sources (pumped-hydro, hydrogen co-firing, ammonia, hydrogen-only combustion, etc.), centered on renewable and nuclear energy, to over 70% by 2038, while reducing the proportion of fossil fuel power generation.
- According to the 11th Plan, the Korean energy mix by 2038 is projected to expand to 35.2% in nuclear and 32.9% in renewable energy. This represents a slight increase for both nuclear and renewables compared to the 10th Plan announced in 2023 (which targeted 34.6% nuclear and 30.6% renewable by 2036).
- For coal, the plan is to decommission 28 aging Korean coal power plants by 2036 and convert them to LNG power generation. By 2038, an additional 12 coal power plants will be converted, primarily to carbon-free sources like hydrogen co-firing, to reduce the proportion of coal to 10.1%.
- The 11th Plan has been criticized on various fronts, including an insufficient plan for renewable energy expansion, a power source mix centered on nuclear and fossil fuels, and issues with the policy-making process.
- The Lee administration, which took office in June 2025, has put forward key pledges for responding to the climate crisis and promoting the decarbonization transition of the industrial structure. These include the phase-out of coal power plants by 2040, acceleration of a renewable-centered energy transition, and fostering harmonious development of the economy and environment through a net-zero industrial transition.⁸ This signals the government's strong intention to center future energy industry policy on carbon reduction and sustainability.

Graph 3 Change in Proportion of Power Generation by Source⁹

Unit: %



⁸ List of Pledges of the Democratic Party of Korea for the 21st Presidential Election

⁹ Processed data from the Ministry of Trade, Industry and Energy Notice No. 2025-238, 'The 11th Basic Plan for Electricity Supply and Demand (2024-2038)'

Korean Natural Gas Policy Status

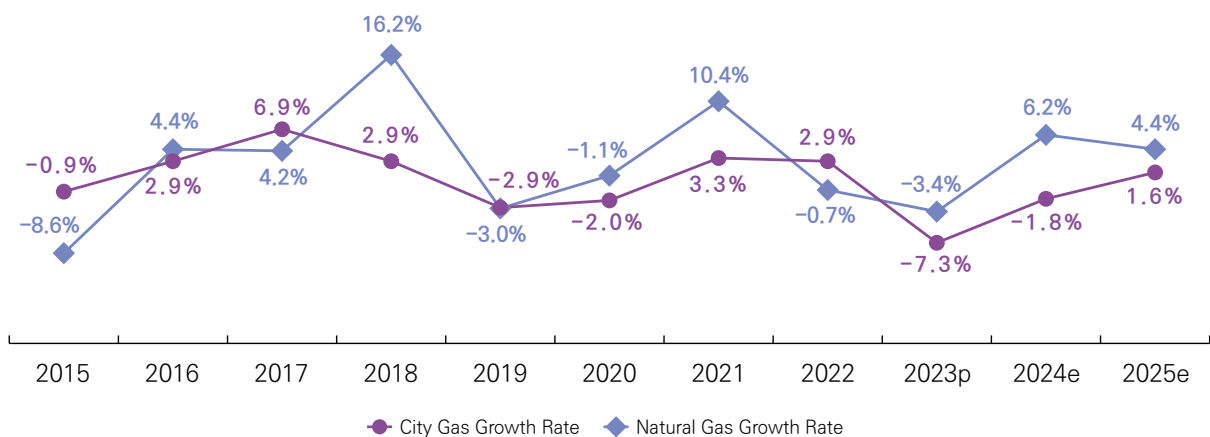
Korean Green Taxonomy (K-Taxonomy)

- The 'Korean Green Taxonomy'(hereinafter K-Taxonomy), which is divided into a 'Green Sector' and a 'Transition Sector', presents the principles and standards for economic activities that contribute to achieving six major environmental goals¹⁰, including greenhouse gas reduction and climate change adaptation. On December 30, 2021, the Ministry of Environment announced the 'K-Taxonomy Guidelines' composed of 69 economic activities.
- Among the 69 economic activities, 64 activities essential for Net-zero and environmental improvement, such as renewable energy, are included in the 'Green Sector'. The remaining 5 activities for transitioning to Net-zero, such as LNG power generation, are included in the 'Transition Sector'¹¹.
- 'Energy production based on LNG and mixed gas' is classified in the transition sector, and this classification has the effect of expanding the inflow of green finance(green bonds, sustainability bonds, etc.) and investment from private and public financial institutions. However, there are concerns that this classification system could conflict with the long-term fossil fuel phase-out trend.

Korean Natural Gas Demand Trends

Graph 4 Natural Gas and City Gas Growth Rate Trends and Outlook

Unit: %



(Source: KEEI, 2025 Energy Demand Outlook)

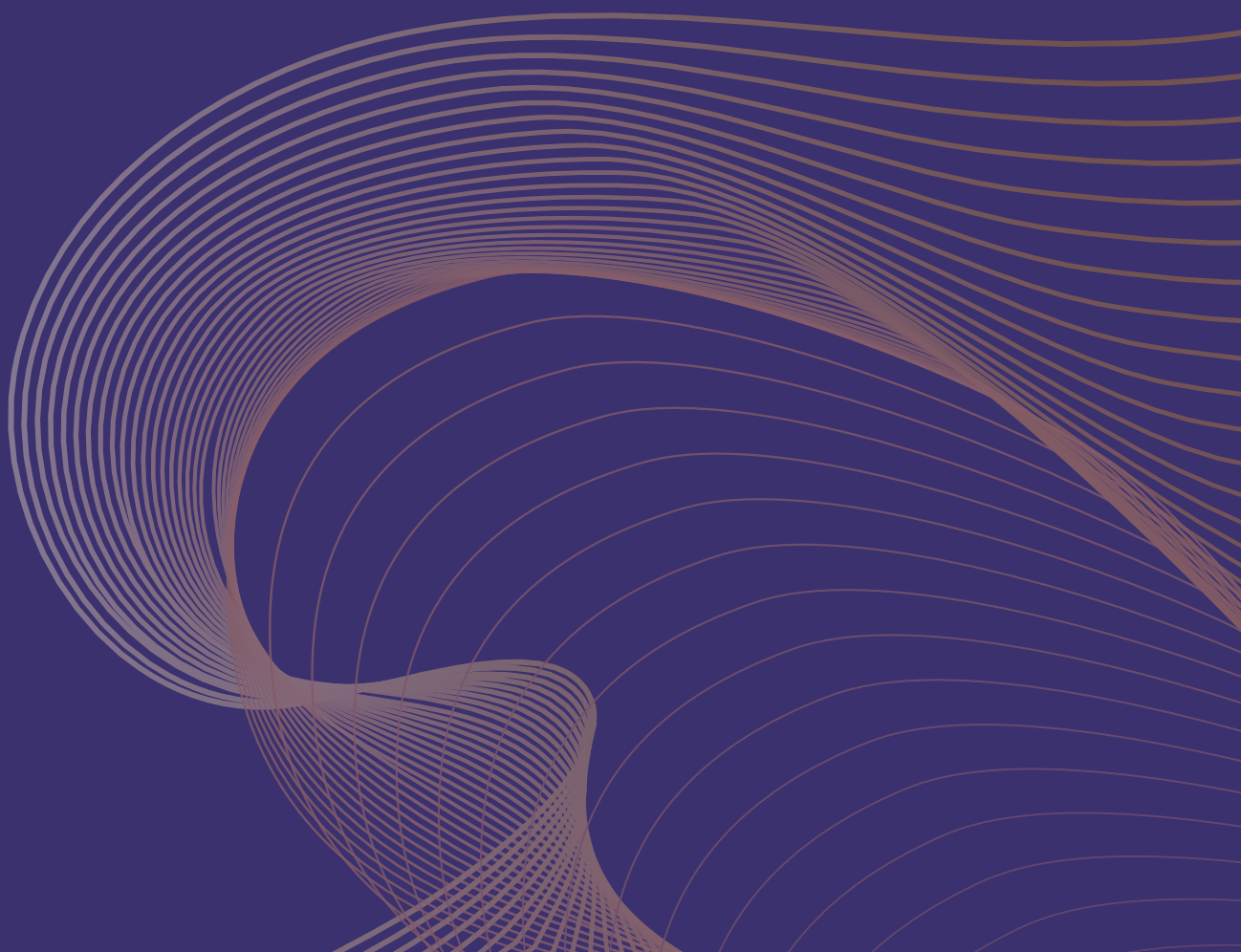
- The government's policy direction, based on the 11th Basic Plan for Electricity Supply and Demand and the 15th Natural Gas Supply Plan, is set towards expanding power generation facilities and establishing a stable supply base.
- Accordingly, Korean natural gas demand is projected to increase across all uses—for power generation, gas manufacturing, and final consumption—with a growth rate of 6.2% year-on-year in 2024 and 4.4% year-on-year in 2025.
- While demand for power generation is expected to see a slight increase in 2024 due to sluggish electricity consumption, final consumption will continue to grow due to an increase in commercial self-generation and the stabilization of international natural gas prices. In particular, the growth trend of natural gas demand is continuing as direct imports by the private sector increase¹²

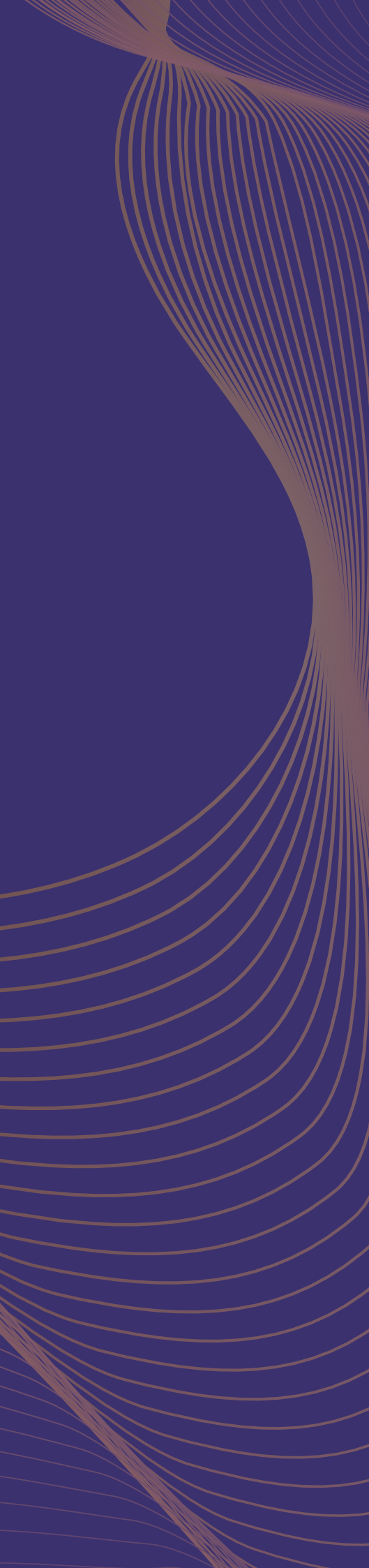
¹⁰ ① Greenhouse gas reduction, ② Climate change adaptation, ③ Sustainable conservation of water, ④ Circular economy, ⑤ Pollution prevention and management, ⑥ Biodiversity conservation

¹¹ Greenhouse Gas Inventory and Research Center of Korea, 「The 15th Long-term Natural Gas Supply Plan (2023~2036)」

¹² KEEI, 2025 Energy Demand Outlook, p.25

06





From Coal Phase-Out to Renewable Energy

A Decade of Korea's Coal Phase-Out Declarations
The Future of Energy Transformed by Finance

From Coal Phase-Out to Renewable Energy

A Decade of Korea's Coal Phase-Out Declarations

Since the 2015 Paris Agreement, the role of finance in responding to the climate crisis and achieving Net-zero has been emphasized globally, and the establishment and implementation of coal phase-out policies by financial institutions has emerged as a major task. As coal power generation is identified as a primary cause of global greenhouse gas emissions, and with Korea's high dependency on coal, the Korean financial institutions have actively invested in and provided financial support to coal power plants and mining companies. However, along with changes in government policy, Korean financial institutions have also joined the climate crisis response by successively announcing coal phase-out declarations and investment restriction policies. Recently, as ESG investment and decarbonization trends have become mainstream, restricting coal-related investments and expanding transition finance are establishing themselves as new trends in the financial sector. Moving forward, it is paramount that financial institutions actively fulfill their role as key agents driving the transition to a sustainable society by promoting coal phase-out and decarbonization through the flow of capital.

Status of Korea's Coal Phase-Out Policy and Financial Implementation

The Korean government officialized its coal phase-out policy in 2017 with the announcement to completely halt the construction of new coal power plants, and subsequently established goals to decommission aging coal plants and reduce the proportion of coal power generation. In the 2020s, the policy was progressively expanded by halting financial support for overseas coal power plants and participating in the COP26 coal phase-out declaration. As a result, the proportion of coal-fired power in total power generation decreased from 52.4% in 2018 to 37.9% in 2023, and it is projected to have further decreased to a provisional figure of 28.1% in 2024.²

Meanwhile, limitations in the speed and consistency of policy implementation have also been pointed out, with the construction of some new coal power plants(such as Goseong Hi-Power, Gangneung Anin Power, and Samcheok Blue Power)

1 Details of Korean Financial Institutions' Coal Phase-Out Declaration:
- Will not participate in PF for the construction of future domestic or overseas coal power plants
- Will not underwrite bonds issued by special purpose companies (SPCs) for such purposes in the future
- Will not underwrite any other bonds issued for the purpose of constructing domestic or overseas coal power plants in the future

Figure 2 Changes in Korean Coal Phase-Out Policy and the Financial Market (2015 ~ Present)

Policy	2015	2017	2018	2019
	• After Paris Agreement, global discussions on coal phase-out begin in earnest	• Jun: Korean government officially declares “halt on new coal power plant construction” and announces plans to decommission aging plants		• Amendment to the Clean Air Conservation Act strengthens emission standards for thermal power plants
Financial Institutions			• Oct: Teachers’ Pension and Government Employees Pension Service are the first in Korea to declare a coal phase-out¹.	• May ~ Jun: KoSIF first proposes the concept of a “coal-free safe” and holds a press conference(In Sep 2020, 56 local governments and offices of education jointly declare a “coal-free safe”) • Nov: The Korean Teachers’ Credit Union, Public Officials Benefit Association, and DB Insurance declare a coal phase-out

and controversies over power supply continuing during the policy execution process.

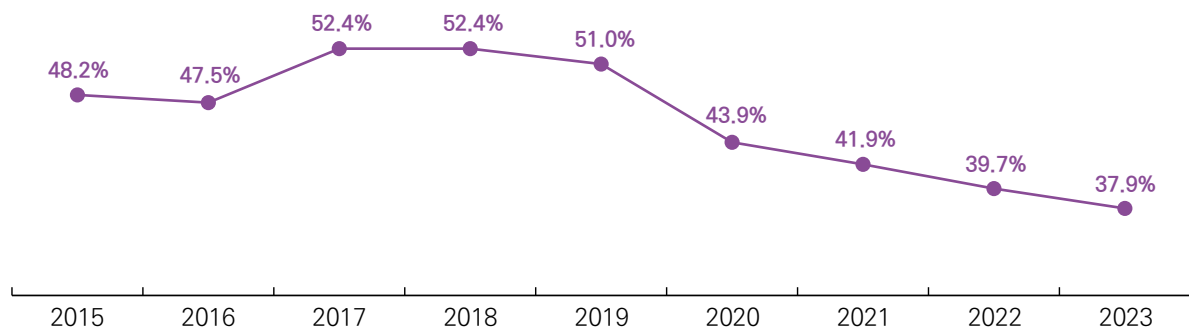
In fact, as of June 2025, 61 coal-fired power plants are still in operation, and with the proportion of coal in the power generation fuel mix remaining high at nearly 30%, Korea is not on track to meet the recommendation for a pre-2030 coal phase-out required to align with the Paris Agreement's 1.5°C target.

Starting with the Government Employees Pension Service and the Teachers' Pension in October 2018, Korean financial institutions have been joining the coal phase-out trend by declaring a halt to new coal financing and establishing Net-zero portfolios. KoSIF has led the expansion of coal phase-out finance among Korean financial institutions by being the first to propose a "coal-free safe" and hosting a declaration ceremony for climate finance to achieve 2050 Net-zero. However, the coal phase-out declarations of most financial institutions are limited to restricting investment in new projects, with insufficient criteria for withdrawing from existing coal-related investments and assets. As a result, the balance of coal finance by Korean financial institutions has shown a continuous upward trend, standing at KRW 77.1 trillion as of June 2024 and representing a significant 44% proportion of total fossil fuel finance.

Although the Korean coal phase-out transition has shown gradual progress through government policies and financial institutions' declarations, there are limitations in the speed of policy implementation and the execution of existing coal investment withdrawals. In the financial sector, in particular, the balance of existing coal finance remains high despite the halt in new investments, requiring concrete asset management and withdrawal strategies for substantial financed emissions reduction. The Lee administration has presented a policy direction to completely phase out coal power plants by 2040, but both the government and financial institutions need to prepare comprehensive and effective measures to achieve the 1.5°C target.

Graph 1 Proportion of Coal-Fired Power Generation

Unit: %



Source: KOSIS, Proportion of Coal-Fired Power Generation (data from KEEI)

2 2025 Ministry of Trade, Industry and Energy Press Release

	• Apr: President Moon Jae-in declares a halt to overseas coal finance • May: Around the P4G Summit, an additional 70 FIs declare a coal phase-out • Nov: Korean government officially supports the 'Coal Phase-Out Declaration' at the COP26	• The 10th Basic Plan for Electricity Supply and Demand is announced: Coal power proportion target for 2030 is significantly lowered to 19.7%	• Announcement of the complete phase-out of coal-fired power plants by 2040	
2020	2021	2023	2024	2025
• After KB Financial Group becomes the first Korean financial group to declare a coal phase-out, a total of 18 FIs declare a coal phase-out • Oct: KoSIF publishes the first 'Korea Coal Finance White Paper'	• Mar: KoSIF holds the 'Climate Finance Support Declaration Ceremony for Achieving 2050 Net-zero'(attended by 112 Korean FIs) • May: NPS declares a coal phase-out		• Dec: NPS announces its 'Investment Strategy for the Energy Transition of Coal-Related Companies'	

49

NPS's Coal Phase-Out Strategy

In December 2024, 3 years and 7 months after its initial coal phase-out declaration in 2021, NPS announced its “Investment Strategy for the Energy Transition of Coal-Related Companies,” thereby establishing its coal investment restriction policy. However, this policy has been criticized for failing to reflect concerns about raising awareness of the climate crisis or the potential decline in the NPS's returns due to stranded assets, effectively rendering the 3 years and 7 months of time spent meaningless.

Table 3 Key Issues and Improvement Tasks of the NPS's Coal Investment Restriction Strategy

Issue	Main Problem	Details	Improvement Tasks
1. Eased Quantitative Criteria	50% coal revenue proportion standard	- Companies with 49.99% are not considered coal companies, providing a loophole - Overly lenient compared to overseas pension funds and Urgewald standards³	Strengthen the coal company definition standard to 30% or less and ensure consistency with international standards
2. Reduced Scope of Restriction	Restriction targets and delayed application	Of the KRW 9.2 trillion in overseas coal investments, only KRW 200 billion will be excluded in 2025; domestic application can only be confirmed after 2030	Expand the scope of restriction and prepare measures for earlier application
3. Concerns of Delaying Coal Companies' Transition	Weakened incentives for transition due to lenient criteria	Possibility of delaying the energy transition of domestic coal companies and undermining the effectiveness of the coal phase-out policy	Strengthen investment exclusion criteria and prepare an asset reduction roadmap
4. Limitations of Non-Disclosure Dialogue Approach	Long dialogue period and low transparency	Conflicts with the urgency of climate crisis response, induces complacency in companies, lacks transparency in the process	Minimize non-disclosure dialogue and transparently disclose progress and results

The core of the strategy announced by the NPS is: i) to identify coal companies as power generation and mining companies whose average coal revenue proportion over the last three years is 50% or more, and ii) to apply the restrictions to overseas coal companies from 2025, while for domestic coal companies, to induce them to establish energy transition plans and reduce their coal revenue and facility proportion to below 50% through non-disclosure dialogue for five years, with the application starting from 2030. Furthermore, the NPS added a clause that the dialogue period can be extended through internal review if a company fails to establish an energy transition plan or shows no improvement despite the non-disclosure dialogue.

As shown in Table 3, this coal restriction strategy by the NPS has been pointed out as needing improvement in various aspects. In particular, the 50% quantitative exclusion standard excessively narrows the scope of investment restrictions, leading to the exclusion of major coal companies like KEPCO from the criteria.

³ Urgewald's criteria for defining a coal company from the 'Global Coal Exit List'

Category	Criteria Item	Detailed Conditions
Business Proportion	Coal-related revenue and generation proportion	Companies where 10% or more of total revenue and generation comes from coal-related activities
Business Scale	Scale of coal power generation or coal mining	Generation facilities of 5 GW or more, mining volume of 10 million tons or more per year
Expansion	Development of new coal projects	Includes development of new coal mines of 1 million tons/year or more and related infrastructure

Major global pension funds are actively establishing investment restriction criteria for the coal industry. Moving beyond simple declarations, they are approaching the method of setting standards and their stringency in different ways, reflecting each fund's level of climate risk awareness and response strategy. However, the investment strategy announced by NPS is significantly more lenient in comparison, and the long, five-year non-disclosure grace period has the potential to hinder the urgency of climate crisis response. Accordingly, NPS needs to enhance its responsible investment standards and transparency to align with international norms and undertake a transition from coal phase-out finance to transition finance, accompanied by more systematic and strengthened risk management, including setting net-zero implementation goals and calculating portfolio financed emissions.

Table 4 Comparison of Coal Investment Restrictions of Major Global Pension Funds

Item	Global Pension Funds	NPS Main Criteria
Coal Company Identification	Norway GPF ⁴ : Revenue >30% + Annual coal production >20 million tons / Power generation capacity >10,000 MW	Single indicator of 50% average revenue proportion over 3 years
Investment Exclusion Scope	Netherlands Public Employees Pension Fund ABP ⁵ : Full exclusion of investments in companies with coal-related revenue proportion exceeding 1%	Domestic companies deferred until 2030
Execution Speed	Immediate application of investment exclusion	Immediate application for overseas companies Clause allowing extension of non-disclosure dialogue period for domestic companies even after 2030

Status of Korean Financial Institutions' Coal Company Regulations

Since 2018, Korean financial institutions have successively announced coal phase-out declarations and established related policies. However, an analysis of the implementation status after these declarations, particularly regarding the criteria for identifying coal companies, has been insufficient. The criteria of each financial institution are operated differently in terms of quantitative and qualitative indicators, scope of application, and methods for selecting target companies, which can create discrepancies in the implementation effectiveness of the entire Korean financial sector's coal phase-out policy and in the market signals it sends.

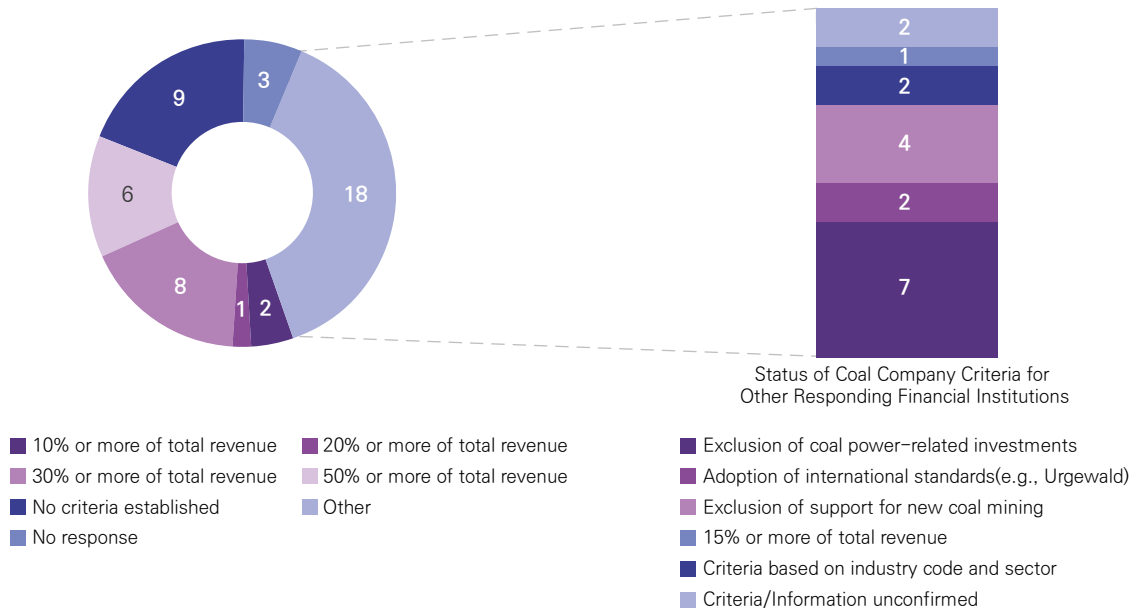
Therefore, KoSIF conducted a survey to understand the status of Korean financial institutions' criteria for restricting coal companies. According to the survey, out of 47 institutions that responded to the question on coal company restriction criteria, 35 have established criteria, 9 have not, and 3 did not respond. Among the 35 institutions with established criteria, 17 use revenue as a basis, while 18 responded with 'other' criteria. For those using revenue proportion, the most selected criterion was '30% or more of total revenue,' established by 8 institutions. This was followed by '50% or more of total revenue' by 6 institutions, '10% or more of total revenue' by 2 institutions, and '20% or more of total revenue' by 1 institution.

⁴ Guidelines for Observation and Exclusion of companies from the Government Pension Fund Global (GPF), ii) Criteria for observation and exclusion of companies

⁵ 2024 Canadian Pension Climate Report Card, Stichting Pensioenfonds ABP, Overall Score and 2024 Updates

Graph 5 Status of Korean Financial Institutions' Coal Company Selection Criteria (Established Criteria)

Unit: Number of FIs



It was found that the 18 financial institutions that responded with 'Other' criteria apply different methods for restricting coal companies. The most adopted criterion is the 'exclusion of coal power-related investments'(7 institutions). Other criteria include 'exclusion of support for new coal mining'(4 institutions), 'adoption of international standards'(2 institutions), 'criteria based on industry code and sector'(2 institutions), 'exclusion of companies with 15% or more coal revenue'(1 institution), and 2 institutions for which criteria information was not confirmed.

As the criteria for selecting coal companies differ by institution, the decision to provide financial support to the same company can vary, which may create limitations in sending a consistent coal phase-out signal across the financial market. Therefore, it is necessary to refine the criteria for selecting coal companies to align with internationally accepted science-based standards or a minimum common guideline. By preparing standardized criteria that comprehensively reflect key factors such as coal-fired power generation, new coal mining, and coal revenue proportion, and by establishing common principles and an information-sharing system at the financial sector level, the implementation effectiveness of coal phase-out finance can be enhanced and market predictability improved. Through this, it is expected that the coal finance reduction efforts of domestic financial institutions can be implemented more systematically and consistently.

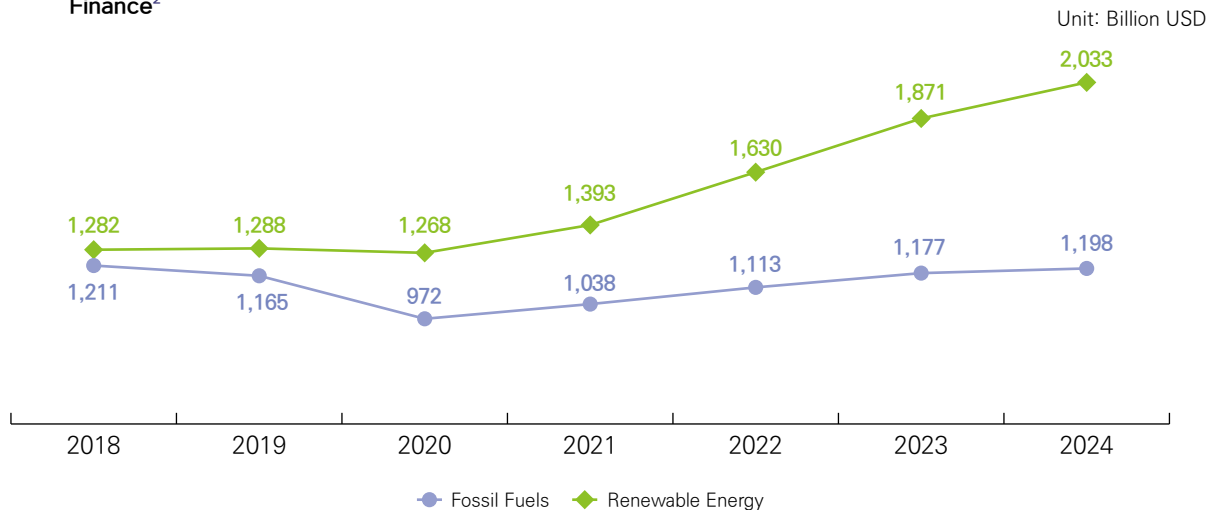
From Coal Phase-Out to Renewable Energy

The Future of Energy Transformed by Finance¹

Korea is increasingly recognizing the necessity of an energy system transition to achieve its 2050 Net-zero and 2030 NDC goals. The expansion of renewable energy is not merely a response to the climate crisis but has become a national imperative to strengthen energy security and secure future industrial competitiveness. In this process, the role of finance is emerging as a core driver, moving beyond simple capital supply to lead structural changes in the energy system and the reorganization of the industrial ecosystem. As it is difficult to meet the investment demand for renewable energy with the national budget alone, the active participation of public and private financial institutions is essential.

Changes in Global Energy Finance

Graph 1 Annual Trend Comparison of New Investments for Global Fossil Fuel Finance and Renewable Energy Finance²



Looking at the flow of global energy finance, investment in renewable energy is showing a distinct increase. New investments for renewable energy, which was USD 1,282 billion in 2018, increased by approximately 57.4% to USD 2,033 billion in 2024. During the same period, fossil fuel finance decreased slightly from USD 1,211 billion to USD 1,198 billion. As of 2024, renewable energy finance is approximately USD 835 billion more than fossil fuel finance, showing that the central axis of global energy investment is rapidly shifting to renewable energy. In fact, about two-thirds of global energy investment is concentrated in the renewable energy industry.²

This trend is the result of major countries like the US, the EU, and China actively leading investment in renewable energy, based on expanded policy support, technological development, and investor interest in ESG values.³ In contrast, fossil fuel finance has shown stagnation or decline since 2020 due to the volatility of international oil prices, the spread of awareness of climate risks, and investors' decarbonization-oriented movements.

¹ NPS is excluded from the analysis as it did not provide data on renewable energy finance

² IEA, World Energy Investment(2024)

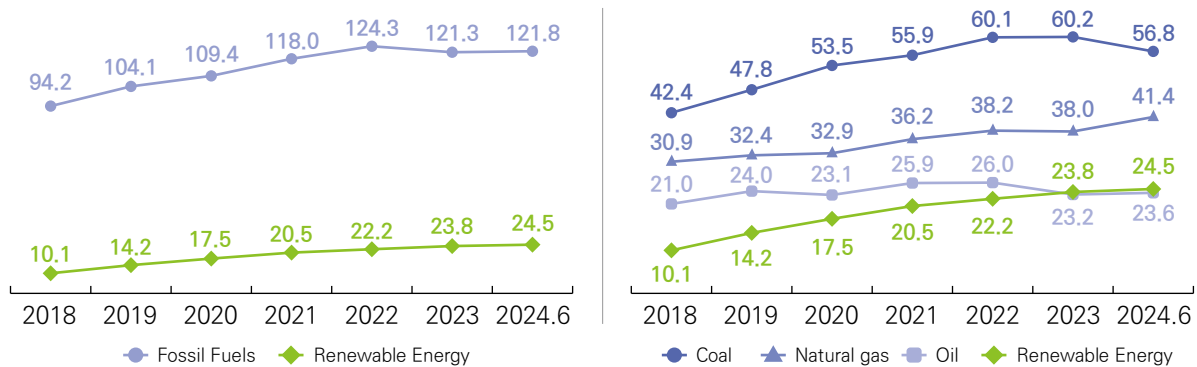
³ OECD, Did Covid-19 Accelerate the Green Transition?(2023)

The Current State and Challenges of Korean Energy Finance

The current state of Korean energy finance shows a clear contrast with global trends. As of the first half of 2024, while the Korean fossil fuel finance balance reached KRW 121.8 trillion, the renewable energy finance balance was only KRW 24.5 trillion, revealing a significant gap between the two sectors. In terms of power generation capacity, fossil fuels account for 94.0 GW, while renewable energy is at 30.9 GW, indicating that fossil fuels still hold a large proportion of the Korean energy market. Looking at new investments, fossil fuel finance was KRW 16.4 trillion, while renewable energy finance was KRW 2.4 trillion, which is 1.7 times less than fossil fuel investment, a stark contrast to the global market where new investments for renewables is 1.7 times greater than for fossil fuels.

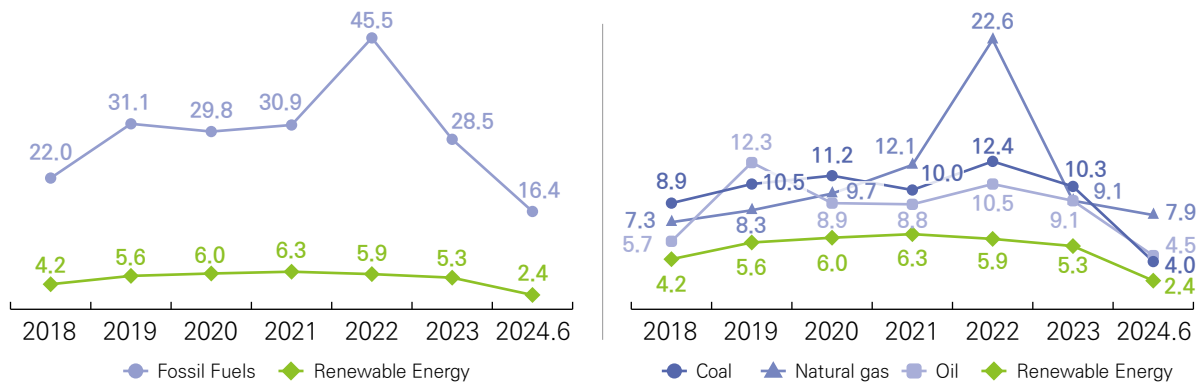
Graph 2 Annual Trend Comparison of Korean Fossil Fuels vs. Renewable Energy Finance Balance

Unit: KRW trillion



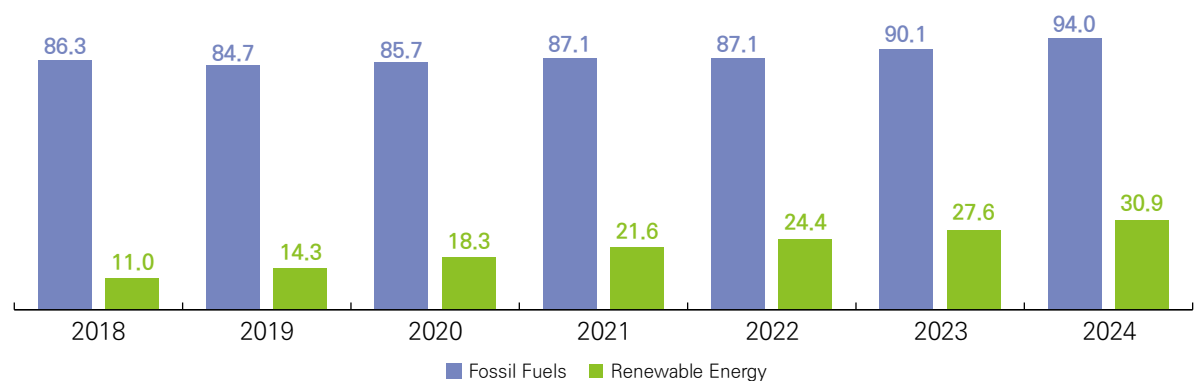
Graph 3 Annual Trend Comparison of Korean Fossil Fuels vs. Renewable Energy Finance New Investments

Unit: KRW trillion



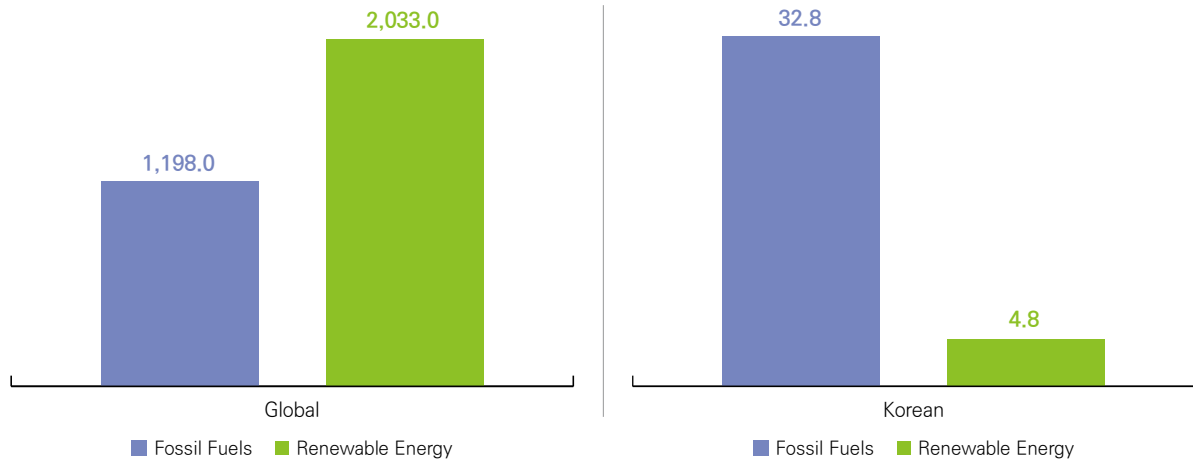
Graph 4 Comparison of Korean Energy Generation Capacity⁴

Unit: GW



Graph 5 Comparison of New Investments for Global and Korean Energy Finance⁵ (2024)

Unit: Billion USD, KRW trillion



Recently, the growth of Korean renewable energy finance has been showing a gradual slowdown. The balance of renewable energy finance, which was KRW 14.2 trillion in 2019, increased to KRW 24.5 trillion by 2024, but the annual growth rate decreased from 23.3% in 2020 to 7.5% in 2023. New investments also decreased from KRW 6.3 trillion in 2021 to KRW 2.4 trillion in the first half of 2024, with the growth rate turning negative from 8.4% in 2020 to -11% in 2023. The number of PF contracts also plummeted from 78 in 2021 to 18 in the first half of 2024, showing a contraction in the investment sentiment of financial institutions.

In terms of generation capacity, renewable energy expanded from 11.0GW in 2018 to 30.9GW in 2024, but the annual growth rate slowed from 30.5% to 11.7% during the same period. Renewable energy finance is showing private-led growth, with private finance at KRW 17.7 trillion and PF at KRW 6.8 trillion, but there are limitations to market expansion as the overall investment scale itself is small.

In contrast, new investments for fossil fuels steadily increased after 2018 to peak at KRW 45.5 trillion in 2022, a figure about 8 times the new investments for renewable energy in the same year. Although it has shifted to a slight downward trend since 2023, the absolute scale of domestic fossil fuel finance remains very large.

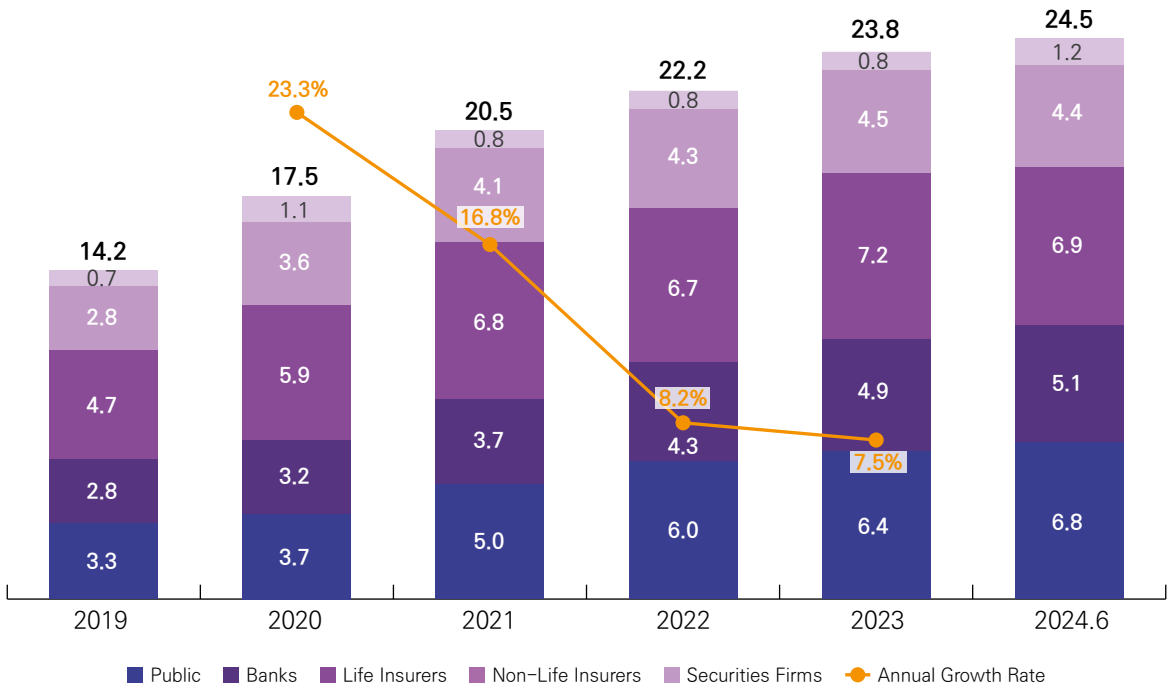
Ultimately, although the domestic renewable energy finance is transitioning to being private-led, the absolute amount of capital inflow is insufficient, resulting in the speed of the energy transition falling short of expectations. This structural limitation could have a negative impact on the sustainability of the national economy and global competitiveness, and therefore, more proactive policy support and market vitalization measures are required.

⁴ IRENA, Renewable Capacity Statistics 2025(2025) data processed

⁵ The 2024 new investments scale for the Korean market is an annualized estimate based on data surveyed up to June 2024

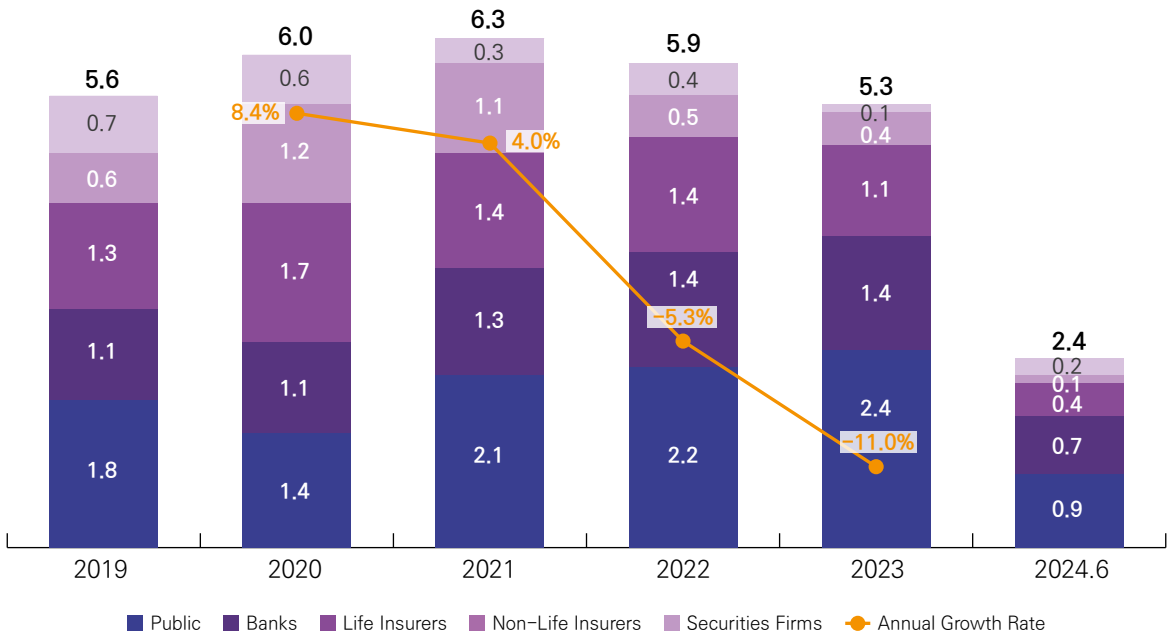
Graph 6 Trends in Renewable Energy Finance Balance by Period⁶

Unit: KRW trillion(%)

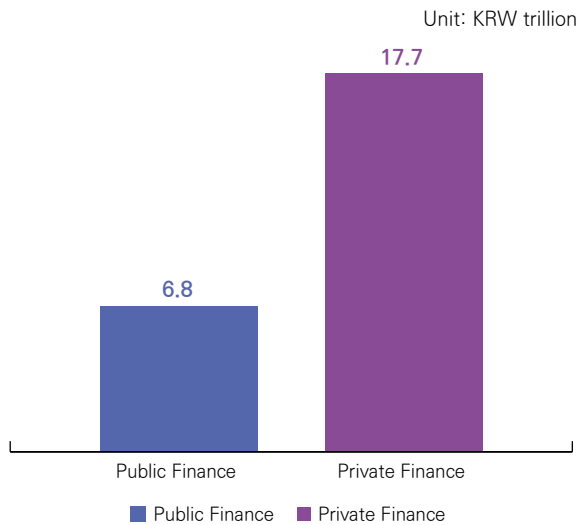
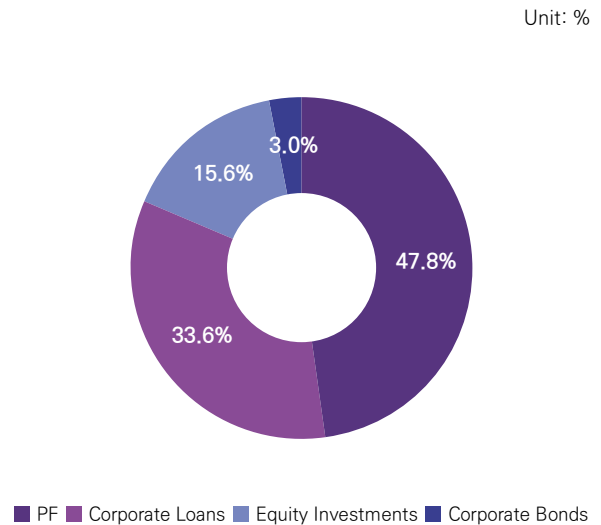


Graph 7 Trends in Renewable Energy Finance New Investments by Period

Unit: KRW trillion(%)



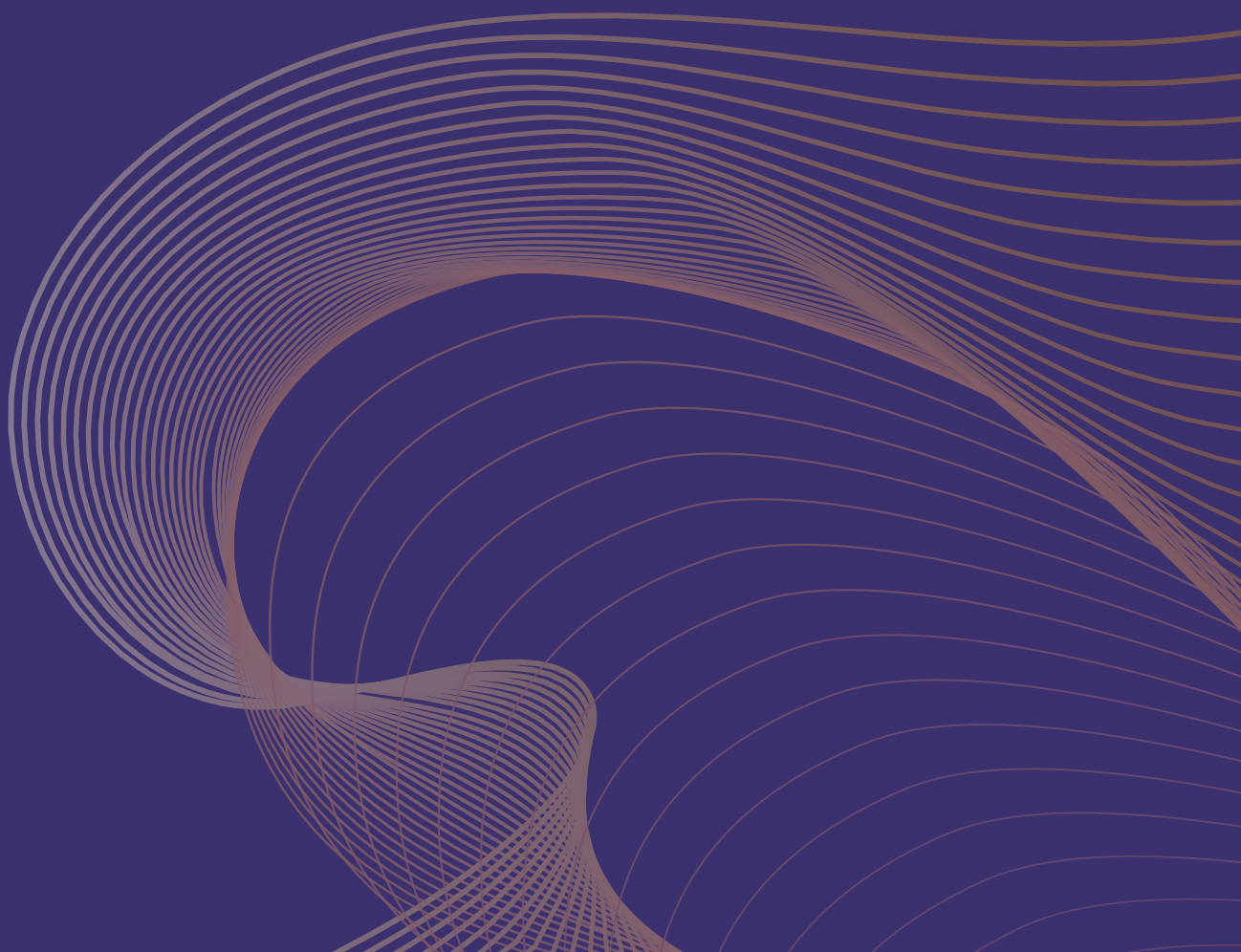
⁶ The investment amount in renewable energy finance by asset managers is excluded from the chart as it converges to zero when converted to KRW trillion

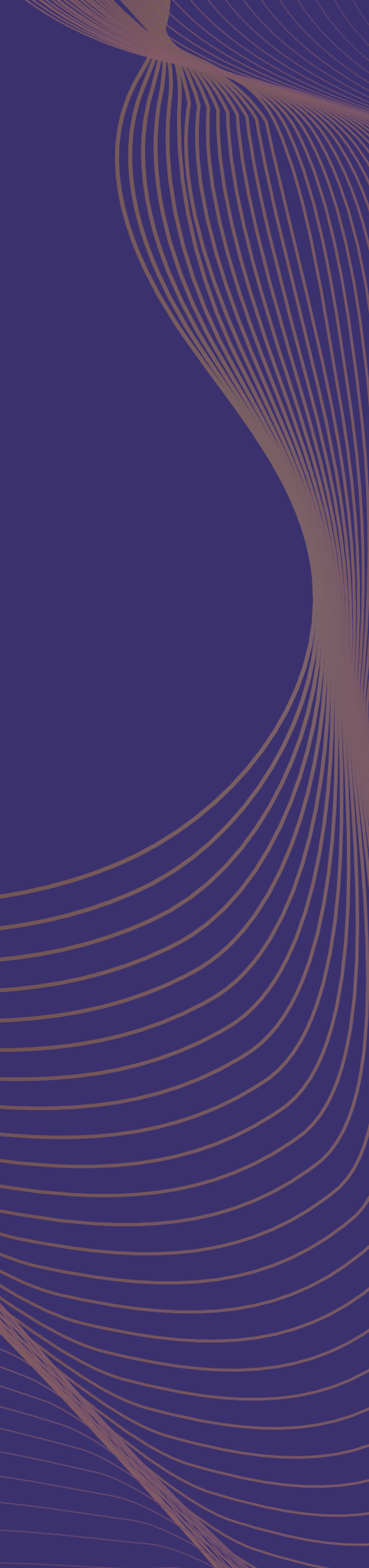
Graph 8 Comparison of Korean Renewable Energy Finance Balance (as of June 2024)**Graph 9** Proportion of Renewable Energy Finance by Asset (as of June 2024)

This reality shows that the role of finance is becoming increasingly important in the process of Korea moving towards its national goals of Net-zero and NDC achievement. To support the growth of the renewable energy industry, stable and sustainable financing, along with a risk management system and institutional strengthening, such as expanding the types of collateral, are needed. As global markets are already reorganizing around renewable energy-centric investments, it is necessary for Korean financial markets to proactively harmonize with this trend through strategic responses.

Going forward, finance will perform its role as a key means and connecting link to promote the energy transition. For changes in technology and policy to lead to tangible results, the role of finance that supports them must be strengthened in parallel. Private finance should consider mid-to-long-term investment strategies, and PF should cooperate in a way that creates a foundation for market growth through initial investment incentives and system. The collection of these joint efforts can accelerate the speed of the energy transition and contribute to realizing the shift to a sustainable economy.

07





Appendix

Total Fossil Fuel Investments of Major Financial Institutions

Status of Net-zero and Fossil Fuel Phase-Out Goal Setting

Status of Financed Emissions Calculation

Status of Membership in Net-zero and Climate Finance Initiatives

Appendix 1

Total Fossil Fuel Investments of Major Financial Institutions

(As of June 30, 2024)

Unit: KRW 100 Million(%)

Sector	Institution Name	Total Assets	Coal	Oil	Natural Gas	Total Fossil Fuel Investment	Ratio
Banks	NACF	1,319,714	34,475	2,497	20,397	57,370	4.3%
	Hana Bank	5,034,242	29,384	11,635	7,719	48,737	1.0%
	KB Kookmin Bank	5,560,152	21,933	7,526	13,720	43,178	0.8%
	Woori Bank	4,449,062	2,422	13,774	24,298	40,494	0.9%
	NH Nonghyup Bank	4,095,662	8,730	4,485	14,741	27,956	0.7%
	Shinhan Bank	5,086,333	7,736	903	10,008	18,647	0.4%
	Busan Bank	774,435	2,071	641	2,168	4,880	0.6%
	iM Bank	740,164	1,200	300	689	2,189	0.3%
Life Insurance	Hanwha Life Insurance	1,158,824	33,025	6,154	7,887	47,066	4.1%
	Samsung Life Insurance	2,836,547	18,216	4,225	15,787	38,228	1.3%
	Kyobo Life Insurance	1,178,589	12,391	165	13,920	26,477	2.2%
	Heungkuk Life Insurance	217,504	14,157	1,225	5,444	20,827	9.6%
	Shinhan Life Insurance	584,574	10,383	3,300	7,008	20,691	3.5%
Non-Life Insurance	DB Insurance	462,559	19,377	5	6,809	26,191	5.7%
	Samsung Fire & Marine Insurance	843,272	11,287	692	4,102	16,080	1.9%
	Hyundai Marine & Fire Insurance	449,121	8,857	2,232	4,760	15,850	3.5%
	KB Insurance	379,499	8,070	4,638	2,908	15,616	4.1%
	Lotte Insurance	151,101	9,133	196	4,174	13,503	8.9%
Securities Firms	Hana Securities	502,804	12,181	10,704	1,289	24,174	4.8%
	Hyundai Motor Securities	116,039	9,094	3,538	5,604	18,236	15.7%
	Samsung Securities	159,930	5,635	3,159	4,044	12,837	8.0%
	Korea Investment & Securities	794,006	6,000	1,722	1,313	9,035	1.1%
	Shinyoung Securities	99,356	1,917	931	399	3,248	3.3%
PF	NPS	12,128,512	202,736	316,387		519,123	3.0%
	KDB	3,332,075	180,652	36,573	47,936	265,161	8.0%
	KEXIM	1,290,223	31,788	81,859	140,629	254,276	19.7%
	Korea Ocean Business Corporation	133,381	–	8,221	3,341	11,562	8.7%
	IBK	4,234,764	1,022	816	5,612	7,450	0.2%

*Asset managers are excluded from the appendix as their alternative investment assets and proprietary assets were surveyed separately

**The total assets of NPS Fund are as of June 30, 2024, and the amount in the "Oil" column includes both oil and natural gas

*** This data was prepared based on voluntary submissions from each financial institution, collected through the office of Assembly member Kim Hyun Jung from the Financial Supervisory Service. KoSIF provides a list of Korean fossil fuel companies based on Urgewald's global fossil fuel company list (revenue proportion of 20% or more) and data from the electronic disclosure system, corporate group portal, and statistical classification portal

Appendix 2

Status of Net-zero and Fossil Fuel Phase-Out Goal Setting

(As of June 30, 2024)

*Declaration Level 1: Halt new investments / 2: (Phased) withdrawal or recovery of existing investments / 3: Early withdrawal or recovery of existing investments / 4: Halt underwriting for new companies / 5: Halt underwriting for renewing companies
 *△: No current plans, but intention to invest exists

Institution Name	Net-zero Goals		Fossil Fuel Phase-Out Goals				
	Goal Setting Status	Future Goal Setting Plan	Coal Finance Declaration	Declaration Level*	Fossil Fuel Finance Declaration	Coal Investment Plan/Intention	Oil & LNG Investment Plan/Intention
Public Financial Institutions							
Employment Insurance Fund	X	X	X	–	X	X	X
Industrial Accident Compensation Insurance and Prevention Fund	X	X	X	–	X	X	X
Wage Claim Guarantee Fund	X	X	X	–	X	X	X
Employment Promotion and Vocational Rehabilitation Fund for Disabled Persons	X	X	X	–	X	X	X
Construction Workers Mutual Aid Association	X	X	X	–	X	X	X
Korea Scientists and Engineers Mutual-Aid Association	X	X	X	–	X	X	△
Information and Communication Development Fund	–	–	–	–	–	–	–
Korea Communications Agency	X	X	X	–	X	X	X
Broadcasting and Communications Development Fund	–	–	–	–	–	–	–
Radioactive Waste Management Fund	X	X	X	–	X	X	X
Teachers' Pension	X	X	2018	1	X	X	X
The Korean Teachers' Credit Union	–	–	2019	1	2019	X	X
Military Welfare Fund	–	–	–	–	X	–	–
Military Pension Fund	–	–	–	–	–	–	–
Korea Overseas Infrastructure & Urban Development Corporation	X	O	X	–	X	–	–
IBK	2050	–	2022	1	X	X	△
KDB	X	O	2021	1, 2	X	X	△
Korea Credit Guarantee Fund	X	X	X	–	X	X	X
Korea Deposit Insurance Corporation	X	X	–	–	–	–	–
KEXIM	2040	–	X	–	X	X	△
Industrial Technology Promotion and Commercialization Fund	–	–	–	–	–	–	–
Government Employees Pension Fund	2050	O	2018	1	X	X	X
Local Finance Association	–	–	2022	1, 2	–	–	–
National Maritime Museum of Korea	–	–	–	–	–	–	–

Institution Name	Net-zero Goals		Fossil Fuel Phase-Out Goals				
	Goal Setting Status	Future Goal Setting Plan	Coal Finance Declaration	Declaration Level*	Fossil Fuel Finance Declaration	Coal Investment Plan/Intention	Oil & LNG Investment Plan/Intention
Korea Navigational Marking Technology Institute	–	–	–	–	–	–	–
Korea Ocean Business Corporation	X	X	X	–	X	X	X
Korea Technology Finance Corporation	X	X	–	–	–	–	–
National Heritage Protection Fund	–	–	–	–	–	–	–
Private Financial Institutions – Banks							
BNK Kyongnam Bank	2050	–	2021	1	X	X	X
Kwangju Bank	2045	–	2022	1	X	X	X
KB Kookmin Bank	2050	–	2020	1	X	–	–
NH Nonghyup Bank	2040	–	2021	1	X	X	X
NACF	X	X	X	–	X	X	X
Busan Bank	2050	–	2021	1	X	X	X
Shinhan Bank	2050	–	2021	1	X	X	△
Woori Bank	2050	–	2020	1	X	X	△
Hana Bank	2050	–	2021	1	–	–	–
Jeju Bank	2044	–	2021	1	X	X	X
iM Bank	2050	–	2021	1	X	X	X
Private Financial Institutions – Life Insurers							
Kyobo Life Insurance	X	O	2021	1	X	X	△
NongHyup Life Insurance	2050	–	2021	1, 4	X	X	△
Tongyang Life Insurance	X	X	X	–	Planned	△	△
MetLife	2050	–	X	–	–	X	X
Mirae Asset Life Insurance	X	X	X	–	X	X	X
Samsung Life Insurance	2050	–	2020	1, 3	2023	X	△
Shinhan Life Insurance	2050	–	X	–	X	X	X
ABL Life Insurance	X	O	X	–	X	X	X
Hanwha Life Insurance	2050	–	2021	1, 4	X	X	X
Heungkuk Life Insurance	X	X	X	–	X	X	X
DB Life Insurance	X	X	X	–	X	△	△
iM Life Insurance	X	X	X	–	X	X	X
IBK Insurance	X	X	X	–	X	X	X
KB Life Insurance	2050	–	2020	1	2020	X	X
KDB Life Insurance	X	X	X	–	X	X	X
AIA Life Insurance	X	X	X	–	X	X	X

Institution Name	Net-zero Goals		Fossil Fuel Phase-Out Goals				
	Goal Setting Status	Future Goal Setting Plan	Coal Finance Declaration	Declaration Level*	Fossil Fuel Finance Declaration	Coal Investment Plan/Intention	Oil & LNG Investment Plan/Intention
Private Financial Institutions – Non-Life Insurers							
Lotte Insurance	X	X	2021	4	X	X	X
Samsung Fire & Marine Insurance	2050	–	2020	1, 2, 3, 4	2023	X	X
SGI Seoul Guarantee Insurance	2050	–	2021	1, 4	X	X	X
Korean Reinsurance	2050	–	2022	1, 4	X	X	X
Hanwha General Insurance	2050	–	2021	1, 4	X	△	△
Hyundai Marine & Fire Insurance	X	X	2022	1, 4	X	X	X
Heungkuk Fire & Marine Insurance	X	O	2021	1, 4	X	X	X
DB Insurance	X	X	2019	1, 4	X	X	X
KB Insurance	2050	–	2020	–	X	X	X
NH Nonghyup Insurance	2050	–	2021	1, 4	X	X	X
Private Financial Institutions – Securities Firms							
Kyobo Securities	X	O	2021	1	X	X	X
Daishin Securities	X	X	X	–	X	X	X
Meritz Securities	2050	–	X	–	X	△	△
Mirae Asset Securities	2040	–	2021	1	X	X	X
Bookook Securities	X	X	X	–	X	X	X
Samsung Securities	X	O	2020	1	X	X	X
Shinyoung Securities	X	X	X	–	X	X	X
Eugene Investment	X	O	X	–	X	△	△
Yuhwa Securities	X	X	X	–	X	X	X
LS Securities	X	X	X	–	X	X	X
Kakaopay Securities	X	X	X	–	X	X	X
Cape Investment & Securities	X	X	X	–	X	X	X
Kiwoom Securities	X	O	X	–	X	O	X
Korea Asset Investment Securities	X	X	X	–	X	X	X
Hana Securities	2050	–	X	–	X	△	△
iM Securities	2050	–	2021	1	X	X	X
Korea Investment & Securities	X	X	2020	1	X	X	△
Hanwha Investment & Securities	X	X	2021	1	X	X	X
Hyundai Motor Securities	2045	–	2021	1	X	X	X
Heungkuk Securities	–	–	X	–	–	–	–
BNK Securities	2045	–	2022	1	X	X	X
DB Financial Investment	X	X	X	–	X	X	X
DS Investment & Securities	X	X	X	–	X	X	X
KB Securities	2050	–	2020	1	X	X	X
Daol Investment & Securities	X	X	2021	1	X	X	X
NH Investment & Securities	X	O	–	–	–	–	–
SK Securities	2050	–	2021	1	X	X	X

Institution Name	Net-zero Goals		Fossil Fuel Phase-Out Goals				
	Goal Setting Status	Future Goal Setting Plan	Coal Finance Declaration	Declaration Level*	Fossil Fuel Finance Declaration	Coal Investment Plan/Intention	Oil & LNG Investment Plan/Intention
Private Financial Institutions – Asset Managers							
Kyobo AXA Investment Managers	X	–	2021	1	X	–	–
Daishin Asset Management	X	X	X	–	X	X	X
Midas Asset	–	–	–	–	–	–	–
Mirae Asset Global Investments	X	X	X	–	X	X	X
Bearings	2030	–	X	–	X	△	△
Samsung Active Asset Management	X	X	X	–	X	X	X
Shinyoung Asset Management	X	X	X	–	X	X	X
Shinhan Asset Management	2050	–	X	–	X	X	△
Woori Asset Management	2050	X	X	–	X	X	X
Truston Asset Management	X	X	X	–	–	X	X
Hanwha Asset Management	X	O	2021	1	X	X	X
Hyundai Investments	X	X	X	–	X	X	X
Heungkuk Asset Management	X	X	X	–	X	X	X
BNK Asset Management	X	X	X	–	X	X	X
iM Asset Investment & Management	–	–	–	–	–	–	–
DWS Asset Management	2040	–	2020	1, 2, 3	X	X	X
IBK Asset Management	X	X	X	–	X	X	X
Daol Asset Management	X	X	X	–	X	X	X
NH-Amundi Asset Management	2050	–	2021	1	X	X	△

Appendix 3

Status of Financed Emissions Calculation

(As of June 30, 2024)

Institution Name	Calculation Status	Calculated Asset Classes							
		Listed Equity and Corporate Bonds	Business Loans and Unlisted Equity	PF	Commercial Real Estate	Mortgages	Motor Vehicle Loans	Sovereign Debt	Other
Public Financial Institutions									
Employment Insurance Fund	X	-	-	-	-	-	-	-	-
Industrial Accident Compensation Insurance and Prevention Fund	X	-	-	-	-	-	-	-	-
Wage Claim Guarantee Fund	X	-	-	-	-	-	-	-	-
Employment Promotion and Vocational Rehabilitation Fund for Disabled Persons	X	-	-	-	-	-	-	-	-
Construction Workers Mutual Aid Association	X	-	-	-	-	-	-	-	-
Korea Scientists and Engineers Mutual-Aid Association	X	-	-	-	-	-	-	-	-
Information and Communication Development Fund	X	-	-	-	-	-	-	-	-
Korea Communications Agency	X	-	-	-	-	-	-	-	-
Broadcasting and Communications Development Fund	-	-	-	-	-	-	-	-	-
Radioactive Waste Management Fund	X	-	-	-	-	-	-	-	-
Teachers' Pension	X	-	-	-	-	-	-	-	-
The Korean Teachers' Credit Union	-	-	-	-	-	-	-	-	-
Military Welfare Fund	-	-	-	-	-	-	-	-	-
Military Pension Fund	-	-	-	-	-	-	-	-	-
Korea Overseas Infrastructure & Urban Development Corporation	X	-	-	-	-	-	-	-	-
IBK	O	O	O	O	O	O	X	O	X
KDB	X	-	-	-	-	-	-	-	-
Korea Credit Guarantee Fund	O	-	-	-	-	-	-	-	Guarantee
Korea Deposit Insurance Corporation	O	-	-	-	-	-	-	-	Deposits
KEXIM	O	X	O	O	X	X	X	O	X
Industrial Technology Promotion and Commercialization Fund	-	-	-	-	-	-	-	-	-

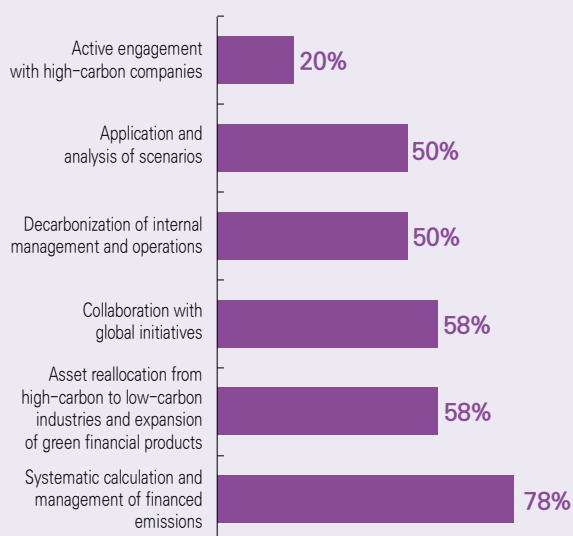
Institution Name	Calculation Status	Calculated Asset Classes							
		Listed Equity and Corporate Bonds	Business Loans and Unlisted Equity	PF	Commercial Real Estate	Mortgages	Motor Vehicle Loans	Sovereign Debt	Other
Government Employees Pension Fund	X	-	-	-	-	-	-	-	-
Local Finance Association	X	-	-	-	-	-	-	-	-
National Maritime Museum of Korea	-	-	-	-	-	-	-	-	-
Korea Navigational Marking Technology Institute	-	-	-	-	-	-	-	-	-
Korea Ocean Business Corporation	X	-	-	-	-	-	-	-	-
Korea Technology Finance Corporation	X	-	-	-	-	-	-	-	-
National Heritage Protection Fund	-	-	-	-	-	-	-	-	-
Private Financial Institutions – Banks									
BNK Kyongnam Bank	O	O	O	O	O	O	O	O	X
Kwangju Bank	O	O	O	O	O	O	O	O	X
KB Kookmin Bank	O	O	O	O	O	O	O	O	X
NH Nonghyup Bank	O	O	O	O	O	O	O	O	X
National Agricultural Cooperative Federation	X	-	-	-	-	-	-	-	-
Busan Bank	O	O	O	O	O	O	O	O	X
Shinhan Bank	O	O	O	O	O	O	O	O	X
Woori Bank	O	O	O	O	O	O	O	O	Government Exposure
Hana Bank	O	O	O	O	O	O	O	O	X
Jeju Bank	O	O	O	O	O	O	O	O	X
iM Bank	O	O	O	O	O	X	X	X	X
Private Financial Institutions – Life Insurers									
Kyobo Life Insurance	O	O	O	O	O	O	X	O	X
NH Nonghyup Life Insurance	O	O	O	O	O	O	O	O	X
Tongyang Life Insurance	X	-	-	-	-	-	-	-	-
MetLife	X	-	-	-	-	-	-	-	-
Mirae Asset Life Insurance	X	-	-	-	-	-	-	-	-
Samsung Life Insurance	O	O	O	O	O	O	O	O	X
Shinhan Life Insurance	O	O	O	O	O	O	O	O	X
ABL Life Insurance	X	-	-	-	-	-	-	-	-
Hanwha Life Insurance	O	O	O	O	O	O	O	O	X
Heungkuk Life Insurance	X	-	-	-	-	-	-	-	-
DB Life Insurance	X	-	-	-	-	-	-	-	-
iM Life Insurance	X	-	-	-	-	-	-	-	-
IBK Insurance	X	-	-	-	-	-	-	-	-

Institution Name	Calculation Status	Calculated Asset Classes							
		Listed Equity and Corporate Bonds	Business Loans and Unlisted Equity	PF	Commercial Real Estate	Mortgages	Motor Vehicle Loans	Sovereign Debt	Other
KB Life Insurance	X	-	-	-	-	-	-	-	-
KDB Life Insurance	X	-	-	-	-	-	-	-	-
AIA Life Insurance	X	-	-	-	-	-	-	-	-
Private Financial Institutions – Non-Life Insurers									
Lotte Insurance	X	-	-	-	-	-	-	-	-
Samsung Fire & Marine Insurance	O	O	O	O	O	O	O	O	X
SGI Seoul Guarantee Insurance	X	-	-	-	-	-	-	-	-
Korean Reinsurance	O	O	X	X	X	X	X	O	X
Hanwha General Insurance	O	X	X	X	X	X	X	O	X
Hyundai Marine & Fire Insurance	O	O	O	X	X	X	X	X	X
Heungkuk Fire & Marine Insurance	X	-	-	-	-	-	-	-	-
DB Insurance	O	O	X	X	X	X	X	X	X
KB Insurance	O	O	O	O	O	O	X	X	X
NH Nonghyup Insurance	O	O	O	O	O	O	O	O	X
Private Financial Institutions – Securities Firms									
Kyobo Securities	O	O	O	O	O	O	X	X	X
Daishin Securities	X	-	-	-	-	-	-	-	-
Meritz Securities	X	-	-	-	-	-	-	-	-
Mirae Asset Securities	O	O	O	O	O	X	X	X	X
Bookook Securities	X	-	-	-	-	-	-	-	-
Samsung Securities	O	O	O	O	O	-	-	O	ETF, Fund
Shinyoung Securities	X	-	-	-	-	-	-	-	-
Eugene Investment	X	-	-	-	-	-	-	-	-
Yuhwa Securities	X	-	-	-	-	-	-	-	-
LS Securities	X	-	-	-	-	-	-	-	-
Kakaopay Securities	X	-	-	-	-	-	-	-	-
Cape Investment & Securities	X	-	-	-	-	-	-	-	-
Kiwoom Securities	X	-	-	-	-	-	-	-	-
Korea Asset Investment Securities	X	-	-	-	-	-	-	-	-
Hana Securities	O	O	O	O	X	X	X	O	X
iM Securities	O	O	O	O	O	X	X	X	X
Korea Investment & Securities	O	O	O	O	O	X	X	X	X

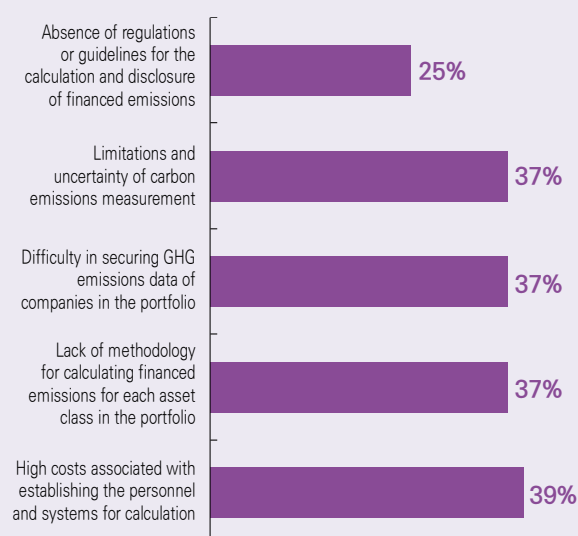
Institution Name	Calculation Status	Calculated Asset Classes							
		Listed Equity and Corporate Bonds	Business Loans and Unlisted Equity	PF	Commercial Real Estate	Mortgages	Motor Vehicle Loans	Sovereign Debt	Other
Hanwha Investment & Securities	O	O	O	O	O	X	X	O	X
Hyundai Motor Securities	X	-	-	-	-	-	-	-	-
Heungkuk Securities	X	-	-	-	-	-	-	-	-
BNK Securities	X	-	-	-	-	-	-	-	-
DB Financial Investment	X	-	-	-	-	-	-	-	-
DS Investment & Securities	X	-	-	-	-	-	-	-	-
KB Securities	O	O	O	O	O	X	X	O	X
Daol Investment & Securities	X	-	-	-	-	-	-	-	-
NH Investment & Securities	O	O	O	O	O	X	X	O	Object Finance
SK Securities	O	O	O	O	O	O	O	X	X
Private Financial Institutions – Asset Managers									
Kyobo AXA Investment Managers	X	-	-	-	-	-	-	-	-
Daishin Asset Management	X	-	-	-	-	-	-	-	-
Midas Asset	-	-	-	-	-	-	-	-	-
Mirae Asset Global Investments	O	O	O	O	O	X	X	O	X
Bearings	X	-	-	-	-	-	-	-	-
Samsung Active Asset Management	X	-	-	-	-	-	-	-	-
Shinyoung Asset Management	X	-	-	-	-	-	-	-	-
Shinhan Asset Management	O	O	X	X	X	X	X	X	X
Woori Asset Management	X	-	-	-	-	-	-	-	-
Truston Asset Management	X	-	-	-	-	-	-	-	-
Hanwha Asset Management	X	-	-	-	-	-	-	-	-
Hyundai Investments	X	-	-	-	-	-	-	-	-
Heungkuk Asset Management	X	-	-	-	-	-	-	-	-
BNK Asset Management	X	-	-	-	-	-	-	-	-
iM Asset Investment & Management	-	-	-	-	-	-	-	-	-
DWS Asset Management	X	-	-	-	-	-	-	-	-
IBK Asset Management	X	-	-	-	-	-	-	-	-
Daol Asset Management	X	-	-	-	-	-	-	-	-
NH-Amundi Asset Management	O	O	X	X	X	X	X	X	X

- The reason financial institutions must calculate their financed emissions is that it is an essential measure for responding to climate change and realizing sustainable finance. Indirect greenhouse gas emissions (Scope 3) arising from a financial institution's investment and lending activities account for a large proportion of its total emissions, and this data is crucial for identifying and managing the climate risk of its asset portfolio. Furthermore, calculating financed emissions is indispensable for implementing net-zero goals and responding to internationally strengthening ESG disclosure standards and regulations, and it plays a key role in promoting the transition to a low-carbon economy.
- Of the 112 financial institutions that responded to the survey, a total of 39 institutions (4 public, 35 private) stated that they calculate financed emissions. Among them, 15 institutions calculate for all seven asset classes presented by PCAF, while the Korea Credit Guarantee Fund and the Korea Deposit Insurance Corporation calculate the financed emissions for guarantees and deposits, respectively, due to the nature of their funds.
- The graphs below reflect the multiple responses of the institutions. It was found that financial institutions primarily calculate financed emissions to manage them systematically and are actively striving to reduce financed emissions by reallocating assets from high-carbon to low-carbon industries. Meanwhile, the 73 institutions that do not calculate financed emissions mostly responded that they face difficulties in all the listed areas, though some stated they are currently preparing to calculate them. Furthermore, financial institutions responded that a database of emission factors by asset type and the establishment of government-level laws, systems, and infrastructure are most needed for calculating financed emissions, and expressed the opinion that establishing clear, unified standards and a reliable calculation process is important.

Graph 1 Financial Institutions' Financed Emissions Reduction Strategies



Graph 2 Reasons for Not Calculating Financed Emissions



Graph 3 Items That Need to be Established for Financed Emissions Calculation



Appendix 4

Status of Membership in Global Initiatives

(As of June 30, 2024)

Initiative Name	Institution Name
SBTi (Science Based Targets Initiative)	Industrial Bank of Korea BNK Financial Group iM Financial Group JB Financial Group KB Financial Group NH Nonghyup Financial Group Shinhan Financial Group Woori Financial Group Hana Financial Group SK Securities Kyobo Securities Mirae Asset Securities DWS Asset Management (Deutsche Bank)
UNFCCC Race to Zero Campaign	Woori Financial Group DWS Asset Management (Deutsche Bank)
Net-Zero Banking Alliance (Banks)	JB Financial Group KB Financial Group NH Nonghyup Financial Group Shinhan Financial Group Woori Financial Group Hana Financial Group DWS Asset Management (Deutsche Bank)
Net-Zero Asset Managers Initiative	Shinhan Financial Group DWS Asset Management (Deutsche Bank)
Net-Zero Asset Owners Alliance (Asset Owners)	DWS Asset Management (Deutsche Bank)
Paris Aligned Investment Initiative (Asset Owners)	Metlife DWS Asset Management (Deutsche Bank)
Net Zero Financial Service Providers Alliance (Financial Service Providers)	DWS Asset Management (Deutsche Bank)
UNGC (UN Global Compact)	Korea Development Bank KB Financial Group Mirae Asset Securities Korea Investment & Securities Hyundai Motor Securities
RE100	KB Financial Group Samsung Life Insurance Samsung Fire & Marine Insurance Mirae Asset Securities
TCFD (Taskforce on Climate-Related Financial Disclosures)	Korea Deposit Insurance Corporation Korea Eximbank JB Financial Group Nonghyup Financial Group Hyundai Marine & Fire Insurance Barings
CDP (Carbon Disclosures Project)	Industrial Bank of Korea BNK Financial Group iM Financial Group JB Financial Group KB Financial Group Nonghyup Financial Group Shinhan Financial Group Woori Financial Group Hana Financial Group Kyobo Life Insurance Metlife Samsung Life Insurance Hanwha Life Insurance Samsung Fire & Marine Insurance SK Securities Kyobo Securities Mirae Asset Securities Samsung Securities DWS Asset Management (Deutsche Bank)
PCAF (Partnership for Carbon Accounting Financials)	Korea Technology Finance Corporation Korea Credit Guarantee Fund Industrial Bank of Korea Korea Eximbank BNK Financial Group iM Financial Group KB Financial Group Nonghyup Financial Group Shinhan Financial Group Woori Financial Group Hana Financial Group Samsung Life Insurance Hanwha Life Insurance Samsung Fire & Marine Insurance SK Securities Mirae Asset Securities Hanwha Investment & Securities Mirae Asset Global Investments Hanwha Asset Management DWS Asset Management (Deutsche Bank)
PRI (Principles for Responsible Investment)	National Pension Service Investment Management iM Financial Group Metlife Mirae Asset Securities Barings (Mass Mutual) DWS Asset Management (Deutsche Bank)
UNEP FI (United Nations Environment Programme Finance Initiative)	Korea Technology Finance Corporation Korea Deposit Insurance Corporation Industrial Bank of Korea BNK Financial Group iM Financial Group JB Financial Group KB Financial Group Nonghyup Financial Group Shinhan Financial Group Woori Financial Group Hana Financial Group Samsung Life Insurance Hanwha Life Insurance Samsung Fire & Marine Insurance DB Insurance SK Securities DWS Asset Management (Deutsche Bank)

Initiative Name	Institution Name
UNEP FI PRB (Principles for Responsible Banking)	Industrial Bank of Korea BNK Financial Group iM Financial Group JB Financial Group KB Financial Group NH Nonghyup Financial Group Shinhan Financial Group Woori Financial Group Hana Financial Group
UNEP FI PSI (Principles for Sustainable Insurance)	KB Financial Group NH Nonghyup Financial Group Shinhan Financial Group Kyobo Life Insurance Samsung Life Insurance Hanwha Life Insurance Samsung Fire & Marine Insurance
Climate Action 100+	Barings (MassMutual) DWS Asset Management (Deutsche Bank)
PBAF (Partnership for Biodiversity Accounting Financials)	iM Financial Group Shinhan Financial Group Woori Financial Group Hana Financial Group
EP (The Equator Principles)	Industrial Bank of Korea Korea Development Bank KB Financial Group Nonghyup Financial Group Shinhan Financial Group Woori Financial Group Hana Financial Group Samsung Life Insurance DWS Asset Management (Deutsche Bank)
TNFD (Taskforce on Nature-related Financial Disclosures)	Industrial Bank of Korea iM Financial Group KB Financial Group Shinhan Financial Group Woori Financial Group Hana Financial Group Samsung Life Insurance Hanwha Life Insurance Samsung Fire & Marine Insurance SK Securities Hanwha Investment & Securities DWS Asset Management (Deutsche Bank)
Impact Investment Principles	Korea Eximbank

2024 Fossil Fuel Finance White Paper



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