KOREA ESG FINANCE WHITE PAPER



Korea Sustainability Investing Forum

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The KoSIF (Korea Sustainability Investing Forum), established as a non-profit cooperation in 2007, is dedicated to fostering sustainable communities by advancing socially responsible investment (SRI). The organization engages in a range of activities, including SRI research and development, promotion, and dissemination, as well as policy development and legislative support. The organization also took the lead in establishing the CDP Korea Committee to encourage environmental responsiveness among financial institutions and corporations in Korea. In addition, KoSIF contributes to sustainability by disseminating global initiatives, including TCFD, PCAF, RE100, EV100, and SBTi, etc., among Korean financial institutions and companies.

Yongwoo Lee, Member of the Democratic Party of Korea

Yongwoo Lee is a member of the 21st National Assembly and currently serves on the Political Affairs Committee. He holds bachelor's, master's, and doctoral degrees in economics from Seoul National University. Following his academic achievements, he gained extensive experience in investment, bond, asset, and trust management at a company. Notably, he played a key role in establishing Korea's first online-only bank in 2016 as the co-chairman of Kakao Bank. In 2020, he held a debate at the National Assembly on ESG bonds, and in 2021, he published a policy report on ESG activation at the National Assembly audit.

To compile this ESG Financial Report, he diligently requested and gathered data on the ESG investment status from both public and private institutions, ensuring the necessary data for the report was secured.

Publication Information

Title

2022 Korea ESG Finance White Paper

Date of Publication

November 29, 2023

Content Development and Editing

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Design and Production SOYA

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Preface



Yongwoo Lee, Member of

National Assembly, Democratic Party of Korea 04



The global community is currently embarking on a resolute journey toward 'Sustainability'.

The global community is currently embarking on a resolute journey toward 'sustainability.' The climate crisis, ecological crisis, poverty, inequality, extreme polarization, and the impending era of Al insecurity and uncertainty are foundational catalysts compelling humanity to prioritize sustainability. In the face of short-term, competitive, and exclusionary shareholder capitalism, which poses threats to ecological, social, and economic sustainability, we have discarded the old map and embarked on a quest for a new one. The guiding tools or compass for this journey are CSR and ESG, with sustainable finance—symbolized by ESG—acting as the driving force behind this expedition.

It is an era of ESG. While the United States witnesses the introduction and passage of anti-ESG policies and bills, generating heightened resistance, the overarching trajectory of ESG integration appears irreversible. Significantly, the framework of laws, regulations, and policies fostering the ESG virtuous cycle ecosystem has not only spread from the European Union to various nations but also actively deployed under the ESG banner. As indicated by the Global Sustainable Investment Alliance (GSIA), the global ESG investment burgeoned to \$35.3 trillion by the close of 2020. Projections from Deutsche Bank underscore the trajectory, forecasting a surge to \$160 trillion by 2035 if mandatory ESG regulations persist. Moreover, financial institutions aligning with the Glasgow Financial Alliance for Net Zero (GFANZ), a proponent of achieving net-zero emissions to combat the climate crisis, collectively operating assets surpassing \$150 trillion.

ESG finance also is experiencing notable expansion within South Korea. As of the year-end of 2022, the magnitude of domestic ESG finance size reached an impressive KRW 1,098 trillion. This figure reflects a substantial uptick of 39.7% from the preceding year, amounting to a robust increase of KRW 311.9 trillion. Noteworthy advancements include a remarkable surge of 100.5% in ESG investment, a 12.6% escalation in ESG loan, and the steadfast maintenance of the level of ESG financial instrument compared to the prior year. The only exception to this trend is observed in ESG bond, which exhibited a decrease of 13.3%. Contrary to anticipations of a deceleration in ESG finance amid economic downturn projections, the sector has displayed unexpected and significant growth. A pivotal factor contributing to this surge is the remarkable increase in the NPS's ESG investment, surpassing expectations by augmenting more than KRW 253 trillion compared to the preceding year, reaching KRW 384 trillion.

However, a pivotal concern demanding earnest consideration is the phenomenon of ESG washing. The issue garnered attention during the recent National Assembly audit, particularly concerning the 'ESG investment' size of the NPS. ESG washing poses a considerable threat to our objectives of sustainable efforts. The crux of the matter lies in its potential to impede the real allocation of capital for meaningful societal advancement. In response to this challenge, advanced nations, such as the European Union and the United States, have proactively instituted and reinforced policies aimed at preventing ESG washing. In our domestic context, the Financial Supervisory Service took a significant stride forward by instituting the 'Disclosure Standards for ESG Fund' in October 2023.

The 'Korea ESG Finance White Paper,' an annual publication by the KoSIF, serves as a comprehensive repository delineating the regulations and trends in both public and private finance within Korea under the ESG framework. The white paper also provides insights into fostering a direction for the activation of ESG finance, contributing to the development of a robust and healthy ecosystem in this domain.

We envision that the Korea ESG Finance White Paper will prove to be a valuable report, extending its utility beyond financial institutions to encompass all stakeholders. This includes financial policy authorities, who can utilize the report for a comprehensive understanding of ESG-related trends, as well as facilitate discussions and aid in the formulation of desirable policies in the realm of ESG

Chairman of the Korea Sustainability Investing Forum

Youngho Kim



ESG stands as an irreversible global trend.

In light of the burgeoning climate crisis and concerns about sustainability, ESG has evolved into an inexorable global phenomenon. Notwithstanding the escalation in energy prices ensuing from the recent Russia-Ukraine conflict and the repercussions of hyperinflation, prominent nations worldwide are formulating comprehensive ESG guidelines.

The European Union (EU) has introduced the Corporate Sustainability Reporting Directive (CSRD), and the U.S. Securities and Exchange Commission (SEC) has mandated the disclosure of climate-related information. Concurrently, the International Sustainability Standards Board (ISSB) has promulgated the global standard for ESG disclosures, unveiling the definitive international disclosure framework earlier this year.

Nevertheless, the domestic landscape presents a nuanced scenario. According to the report titled 'Assessment and Implications of ESG Performance in Major Countries' authored by the Korea Institute for International Economic Policy (KIEP), findings from 2021 reveal that in a comparative analysis of scores assigned by leading global ESG evaluator, South Korean companies occupied the lowest position among 17 nations. This underscores the imperative to enhance the ESG performance management of domestic entities and facilitate a transition towards ESG standards aligning with international benchmarks.

Addressing this challenge commences with a comprehensive diagnosis. To grasp the true landscape of ESG finance methodologies and the extent of involvement by both domestic public and private financial institutions, we embarked on the publication of the inaugural Korea ESG Finance White Paper in 2020, in collaboration with the KoSIF and we are now in the process of releasing the third publication of the white paper this year. Upon meticulous examination of the data presented in the white paper, it was revealed that the aggregate scale of ESG finance stood at KRW 787 trillion at the end of 2021, experiencing a notable upswing to KRW 1,097 trillion by the end of 2022. The scale of private finance exhibited a modest increase from KRW 361 trillion to KRW 390 trillion, indicative of a consistent and positive growth trajectory.

The burgeoning expansion of ESG finance within domestic enterprises signifies a commendable trend. ESG stands as a pivotal metric in assessing a company's performance, wielding significant influence in the decision-making process for investments; thus, upholding transparent disclosure practices becomes imperative for fostering an environment conducive to

the autonomous judgment of the market.

In the current landscape, nations worldwide mandate the private sector to disclose ESG information. The International Financial Reporting Standards Foundation (IFRS Foundation), a wholly private entity, and the ISSB, responsible for establishing global ESG disclosure standards, operate as a global consortium led by the private sector. Conversely, in our country, the government spearheads the transition to ESG, a move that has encountered substantial criticism.

This year, the Financial Service Commission has opted for a temporary postponement of the phased introduction of mandatory ESG disclosure, originally slated for completion between 2025 and 2030, extending the timeline by over a year. In contrast, the preliminary plan outlined by the U.S. Securities and Exchange Commission designates 2024 as the public disclosure time frame for Korean companies listed in the U.S., while the mandatory disclosure under the European CSRD is set for 2025. The government's policy decision, vis-à-vis the implementation timeline for global ESG disclosures, is perceived as notably complacent.

To bolster the future global market competitiveness of domestic enterprises, it is imperative to institute accelerated ESG disclosure obligations. In this regard, I submitted a proposal for an amendment to the Financial Investment Services and Capital Markets Act in 2022, advocating for the mandatory disclosure of ESG considerations with substantial implications on the corporate value of listed companies in business reports and other pertinent documents starting from 2024.

It is expected that the forthcoming publication of the third Korea ESG Finance White Paper will play a pivotal role in establishing the groundwork for the sustainable development of our society. Engagement in robust discussions concerning the promotion and institutionalization of ESG practices in the future is expected to be commenced by comprehensively assessing the existing state of ESG finance in Korea. I am also sincerely committed to extending support through legislative measures. Thank you.

Member of National Assembly, Democratic Party of Korea

Yongwoo Lee

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Executive Summary

Overall Status of ESG Finance









- The total ESG finance size within domestic finance institutions that participated in the survey at the end of 2022 was KRW 1,097.5 trillion (constituting 16.9% of the total financial assets of the institutions with response). The main cause is a substantial growth of 39.7% (equivalent to KRW 311.9 trillion) compared to the preceding year's figure of KRW 785.6 trillion (constituting 12.1% of the total financial assets of the surveyed institutions). The principal driver behind this sharp increase is the significant expansion in the size of the National Pension Service's ESG investment (KRW 384.1 trillion by the end of 2022; growth amount: KRW 254 trillion).
- In terms of sectors, public finance accounted for KRW 708.3 trillion, making up 64.5% of the total ESG volume, while private finance constituted KRW 390.2 trillion, representing 35.5%.
- Public finance has grown by 70.6% compared to last year due to the rapid growth in the contribution of the NPS. Institutional proportions are NPS (accounting for 54.2% of total public finance), Korea Housing Finance Corporation (17.2%), and Korea Development Bank (9.1%) in the order.
- Private finance increased slightly (5.1%) from the previous year, amounting to KRW 390.2 trillion. The banking sector holds the largest share (71.8%), followed by life insurance (11.4%), non-life insurance (8.7%), securities firms (4.9%), and others, including asset management companies (3.2%).
- In the comparison by type, ESG investment was found to be the largest at KRW 557.6 trillion (50.8% of the total ESG finance size), followed by ESG loan at KRW 393.1 trillion (35.8%), ESG bond issuance at KRW 76.3 trillion (7.0%), and ESG financial instrument at KRW 70.6 trillion (6.4%).

ESG Finance by Type





ESG Investment

- The ESG investment size by domestic financial institutions has grown significantly by 100.5% compared to the previous year, reaching KRW 557.6 trillion. The National Pension Service broadened its criteria for ESG investment, extending beyond the previous focus on 'socially responsible investment type.' As of 2022, all entrusted assets (KRW 284.4 trillion) to operators with established stewardship codes and responsible investment guidelines are now considered ESG investment, leading to a significant scale-up.
- By type, the size of investment in stocks and bonds showed a rapid growth rate of 177.5% and 66.5%, respectively, compared to the previous year, with KRW 277.7 trillion in stocks, KRW 251.8 trillion in bonds and KRW 28.2 trillion in alternative investments.

ESG Loan

- The total size amounts to KRW 393.1 trillion, reflecting a 12.6% increase from the previous year.
- By type, corporate loans accounted for KRW 232.1 trillion (59.1% of total ESG loan), personal loans KRW 134.8 trillion (34.3%), and project financing (PF) KRW 26.2 trillion (6.7%). Corporate loans accounted for the largest share of ESG loan with a year-on-year growth rate of 15.0%, as corporate loans increased in volume due to the downturn in the bond market caused by interest rate hikes and the deteriorating economy.
- ESG loan is dominated by the social (S) sector, significantly in fintech and SME support, comprising 74.6% of total ESG loan, followed by the environmental (E) sector 23.2% and ESG integration 2.2%.



Proportion of ESG bond issuance in the total ESG finance size



Proportion of ESG Financial Instrument in the Total ESG Finance Size

ESG Bond Issuance

- Total bond issuance in 2022 was KRW 76.3 trillion, down 13.3% year-on-year. Contributing factors to the downturn were analyzed as sharp interest rate hikes, a slowing economy, and declining investment in renewable energy.
- By type, social bonds dominate, accounting for 75.2% of all ESG bond.

ESG Financial Instrument

- The volume of ESG financial instrument in 2022 was KRW 70.6 trillion, maintaining the previous year's level (KRW 70.6 trillion in 2021).
- By financial instrument, savings accounted for more than half of the volume by KRW 40.3 trillion (57.2% of total ESG financial instruments), followed by insurance KRW 18.4 trillion (26.0%), funds (retail) KRW 7.4 trillion (10.5%), and cards KRW 4.5 trillion (6.3%).

ESG Finance Target

- Out of 171 responding institutions, 45 (26%) have established ESG finance targets. In 2021, there were 44 (26%), a significant increase from 32 (24%) in 2020, but a slight slowdown in 2022.
- The target year and criteria for establishing the target varied across financial institutions, with 17 institutions selecting "other," 10 selecting "target year balance," 7 selecting "target year input amount," 5 selecting "cumulative amount of fund injection," and 6 not reporting criteria, making it impossible to make a clear comparison. A necessity exists to establish uniform standards for projecting future cash flows and mitigating the risk of ESG washing.

ESG investment of the NPS



- As of the end of 2022, the total assets managed by the National Pension Service decreased by 6.1% to KRW 890.5 trillion.
- On the other hand, the ESG investment size has grown sharply to KRW 384.1 trillion (increased by 195.0% compared to the preceding year).
- Under the National Pension Service's policy of expanding responsible investment standards, assets under management counted as "ESG investment" totaled KRW 284.4 trillion, or 74% of the total ESG investment size.
- Classifying all assets under management as responsible investments solely based on an evaluation of the organization, including policies and systems, without the concurrent assessment and monitoring of the actual assets under management, is prone to inducing ESG washing.
- Active management and evaluation of assets under custody must be in place, and close management through proactive exercise of shareholder rights is required.

Implementation of the Korean Green Taxonomy(K-Taxonomy)

Application or Implementation Plan for the Korean Green Taxonomy (K-Taxonomy)



Out of 171 responding institutions

72 Institutions

(Public 13, Private 59)

- The revised K-Taxonomy, finalized and announced by the Ministry of Environment in December 2022, will take effect in January 2023.
- The critical aspect is that after liquefied natural gas (LNG), the nuclear energy sector, specifically i) the research, development, and demonstration of nuclear-related technologies, is categorized within the 'Green Sector,' and ii) nuclear power generation is classified under the 'Transition Sector'1
- Among the 171 institutions that responded to the questionnaire, 72 institutions (13 public, 59 private) announced that they applied or had plans to apply the Korean Green Taxonomy (K-Taxonomy) by the end of 2022, marking a marginal rise from the 66 institutions in the preceding year.
- In 2022, the number of loans using the K-Taxonomy was 23, with a volume of KRW 3.1 trillion (0.8% of total ESG loan). In the case of bonds, the number of issuances applying the Korean Green Bond Guideline (based on the K-Taxonomy) was insignificant at 5 issuances and KRW 0.5 trillion (0.7% of total ESG bond issuance).
- The discussion regarding social categorization within the international market persists.
 On the domestic front, it has been disclosed that a 'Social Taxonomy' will be formulated as part of the 'ESG Enhancement Plan' in 2023; however, specific details are yet to be delineated.
- It is urgent to develop a 'Korean social taxonomy' to prevent social (S)-related ESG finance activities, which account for more than 70% of ESG finance in Korea, from becoming a social washing tool.

Introducing Disclosure Standards

International Sustainability Standards Board (ISSB)

IFRS S1 General Requirements

Requiring disclosure of information about the entity's cost of capital in the short, medium, and long term (Integration of TCFD Recommendations)

IFRS S2 Climate-Related Disclosures

Disclosure requirements for sustainability-related risk and opportunity, with implications for the entity's cost of capital in the short, medium, and long-term

- While the international market is actively discussing sustainable finance disclosure, Korea's Financial Supervisory Service announced on October 5th the 'Disclosure Standards for ESG Funds.' Full implementation is scheduled for February.
- Through the introduction of fund disclosure standards, investors can receive clear information on material matters of ESG fund in advance to make investment decisions, and investment managers are expected to prevent the greenwashing of ESG fund by conducting responsible management as disclosed in advance. (Source: Financial Supervisory Service press release)
- In June 2023, the ISSB^{International Sustainability Standards Board} announced the world's first international sustainability disclosure standards. The standard consists of IFRS S1 (General Requirements) and S2 (Climate-related Disclosures). Established by integrating the recommendations of the TCFD^{Taskforce on Climate Financial Disclosure}.
- The disclosure standard is slated for implementation in 2025 (reflecting the performance data from 2024). However, the obligation to disclose Scope 3 in S1 and S2 disclosures will be postponed by one year.
- The European Union has approved ESRS the European Sustainability Reporting Standard is scheduled to be implemented in 2025. In the United States and the SEC^{Securities & Exchange Commission} have also prepared climate—related disclosure guidelines and are collecting opinions.
- The Korea Accounting Standards Board, in December 2022, established the KSSB^{Korea} Sustainability Standards Board under its jurisdiction, actively working on the formulation of climate disclosure standards for domestic companies.
- The implementation of compulsory ESG disclosure, initially set to commence in 2025 contingent on asset size, faced a delay. In October of the current year, it was declared that the commencement would be deferred by over a year, extending beyond 2026

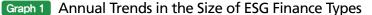
^{1.} According to the K-Taxonomy Guideline, green economic activities are categorized into the 'Green Sector' and the 'Transition Sector.' The green sector includes economic activities related to genuine green economic activities, such as carbon neutrality and environmental improvement, and the transition sector includes transitional economic activities necessary in the intermediate process to achieve the ultimate goal of carbon neutrality. These have been included in the green classification system for a temporary period (2030–2035).

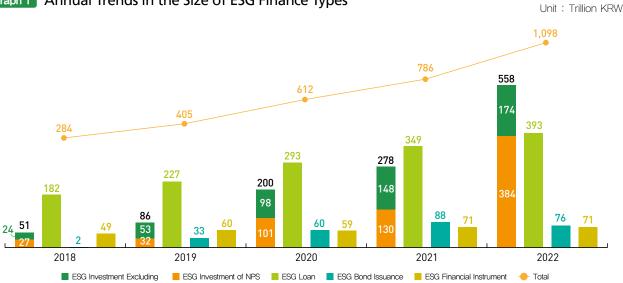
Overall Status of ESG Finance in Korea



Overall Status of ESG Finance in Korea

Korean ESG Finance Size





As of the end of 2022, the total assets under management (AUM) of all responding institutions was 6,505.1 trillion won, an increase of 0.5% over the previous year. Of this total, public finance AUM was 2,253 trillion won, and private finance AUM was 4,252 trillion won, with both segments posting modest year-on-year growth of 1% and 0.2%, respectively.

Conversely, as of the conclusion of 2022, the total size of ESG finance of the surveyed institutions grew significantly to KRW 1,097.5 trillion. This amount corresponds to 16.9% of the total AUM of the responding financial institutions. In the previous year, the ESG finance size was 12.1% of the total AUM.

In 2022, the NPS played a pivotal role in propelling the substantial expansion of ESG finance in South Korea. The volume of responsible investment by NPS grew by 195% (KRW 253.9 trillion) year–on–year, representing 81% of the total increase of KRW 311.9 trillion in domestic ESG finance in 2022. Excluding NPS, the ESG finance size in domestic financial institutions in 2022 also increased by 8.7% due to the growth in ESG loan and ESG investment. The total ESG finance size, excluding NPS, is KRW 713.4 trillion, accounting for 12.7% of the total AUM. This is a difference of 4.2% from the 16.9% ESG finance size of all financial institutions, including NPS.

ESG Finance by Type

Table 1 Criteria for Classifying ESG Finance Type

Туре	ESG Investment (Socially Responsible Investment)	ESG Loan	ESG Bond Issuance	ESG Financial Instruments
Details	 Asset Class: Stocks, Bonds, Alternative Investment Regional: Domestic / Overseas 	Personal LoanCorporate LoanProject Financing (PF)	Issuer: Financial Sector, Non-Financial Sector Issuance Type: Green, Social, Sustainable, Sustainability-Linked Bond Bond Issuance Amount	 Insurance: Total Sales (Direct Insurance Premium) Savings/Installment Savings: Received Amount Card: Card Usage Amount Fund (Retail): Fund Sales Volume

As of the end of 2022, ESG finance composition was: i) ESG investment at KRW 557.6 trillion (50.8%); ii) ESG loan at KRW 393.1 trillion (35.8%); iii) ESG bond issuance at KRW 76.3 trillion (6.9%); and iv) ESG financial instrument at KRW 70.6 trillion (6.4%), indicating that ESG investment represented the largest proportion.

Size KRW 557.6 Trillion

Of Total ESG Finance

50.8%

Year-on-year growth 100.5%



ESG Investment

ESG investment constituted equity investments at KRW 277.7 trillion (49.8%), bond investments at KRW 251.8 trillion (45.1%), and alternative investments at KRW 28.2 trillion (5.1%). Thus, equity investments held the predominant share.

In 2022, ESG investment grew by 100.5% (KRW 280 trillion), primarily fueled by a 195% increase in the NPS's responsible investments (KRW 254 trillion). Excluding NPS, ESG investments rose by 17.3% (KRW 25.6 trillion) to KRW 173.5 trillion, compared to KRW 147.9 trillion in the previous year. This reflects the growth of bond investment (KRW 22.7 trillion).

Size KRW 393.1 Trillion

Of Total ESG Finance

35.8%

Year-on-year growth



As of the end of 2022, corporate loans represented the predominant share of ESG loan, accounting for KRW 232.1 trillion, constituting 59.1% of the total ESG loan amounts. The scale of corporate loans grew by 15.0% compared to the previous year. The observed phenomenon is likely a consequence of the bond market contraction resulting from concerns over interest rate hikes and economic recession. Companies facing heightened funding requirements due to currency appreciation and escalating commodity prices have, in turn, addressed these needs by securing financing through bank loans.

By ESG area, social (S) loans were overwhelmingly high at 74.6% of the total, followed by environmental (E) at 23.2%, and ESG integration at 2.2%.

Size KRW 76.3 Trillion

Of Total ESG Finance



Year-on-year growth

-13.3%



ESG Bond Issuance

By type, social bonds amounted to KRW 57.4 trillion, sustainable bonds KRW 10.1 trillion, and green bonds KRW 8.9 trillion, showing an overall decline from last year's KRW 57.2 trillion, KRW 16.6 trillion, and KRW 14.2 trillion, respectively.

This trend is likely a result of the increased cost of bond issuance caused by a sharp rise in interest rates and the contraction of renewable energy investment due to an unstable political situation.

Size KRW 70.6 Trillion

Of Total ESG Finance

6.4%

Year-on-year growth 0%



ESG Financial Instrument

ESG financial instrument are dominated by savings/installment savings at 57.2%, followed by insurance at 26.0%, funds (retail) at 10.5%, and cards at 6.3%. The proportion by area was shown as 59.2% for the social (S) area, 38.3% for the environmental (E) area, and 2.5% for the ESG integration.

Sector-Specific ESG Finance







Public Sector

KRW 708.3 trillion - 64.5% of total domestic ESG finance and 70.6% year-on-year growth, reflecting the rapid expansion of ESG finance by NPS.

In 2022, the ESG finance size in the public sector has grown by 70.6% (KRW 293.1 trillion) compared to 2021, amounting to KRW 708.3 trillion. This accounts for 64.5% of the total domestic ESG finance, an increase from 52.8% in 2021. This is nearly twice the size of private finance, amounting to KRW 390.2 trillion.

The substantial expansion of ESG finance in the public sector is primarily attributed to the remarkable growth in the ESG size of NPS. Out of the KRW 293.1 trillion increase in the public sector, 86.6% (KRW 254 trillion) corresponds to the augmented ESG finance size of the NPS. The NPS announced that by expanding the ESG investment criteria in 2022, the size of ESG investment has grown by 195.0% compared to 2021, amounting to KRW 384.1 trillion. This amount accounts for 54.2% of the total size of public sector ESG finance.

Following the NPS are the Korea Housing Finance Corporation with KRW 122 trillion (17.2%) and Industrial Bank of Korea with KRW 64 trillion (9.1%), in that respective order. In the case of the Korea Housing Finance Corporation, it grew by KRW 10 trillion compared to 2021, most of which are housing finance-related loans and guarantees.

Private Sector

KRW 390.2 trillion - 35.5% of total domestic ESG finance, which has grown by 5.1% compared to the previous year, with the banking sector having the highest proportion at 71.8%.

ESG finance size in the private financial sector recorded a growth of 5.1% from the previous year, amounting to KRW 390.2 trillion. By institution, banks accounted for KRW 280.0 trillion (71.8% of private ESG finance), life insurance KRW 44.5 trillion (11.4%), non-life insurance KRW 34.0 trillion (8.7%), securities firms KRW 19.2 trillion (4.9%), and asset management companies KRW 4.2 trillion (1.1%). Among these, the ESG finance size in banks, which hold the largest share, grew by 7.9%, leading to the growth of private finance.

In particular, corporate loans from banks (86.6% of private ESG finance) increased by 7.4% (KRW 9.3 trillion) from the previous year to KRW 135.1 trillion. It is analyzed that companies raised funds through bank loans rather than the stagnant bond market to meet increased financial demand from rising exchange rates and soaring energy prices.

ESG Finance of Major Financial Institutions

Table 2 Breakdown of the Top Five Largest ESG Finance by Institutional Type

Unit: Trillion KRW

			Size of inance	ESG	Loan		G tment		nancial Iment		Bond ance
		2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
	NPS	130	384	0	0	130	384	0	0	0	0
	Korea Housing Finance Corporation	112	122	112	121	0	1	0	0	0	0
Public	Korea Development Bank	45	64	42	52	3	5	0	0	0	7
۵	Industrial Bank of Korea	22	33	12	16	8	11	2	2	0	3
	Export-Import Bank of Korea	13	22	13	19	0	0	0	0	0	3
	Nonghyup Bank	88	94	45	57	10	11	33	25	0	2
	Woori Bank	58	56	48	44	9	10	0	0	0	1
Private	Shinhan Bank	34	41	27	27	6	7	1	2	0	5
•	Kookmin Bank	31	43	13	15	12	15	7	10	0	3
	Hana Bank	19	26	8	9	10	15	0	1	0	1

Institutional Scale

The institution with the largest ESG finance size among all financial institutions is the National Pension Service. In the private sector, Nonghyup Bank topped the list for the second year in a row.

In the public sector, the amount of ESG finance held by the top three financial institutions, in the order of National Pension Service (KRW 384.1 trillion), Korea Housing Finance Corporation (KRW 121.9 trillion), and Korea Development Bank (KRW 64.4 trillion), is equivalent to 52.0% of the total ESG finance of KRW 1,097.5 trillion in Korea and 80.5% of KRW 708.3 trillion.

ESG investment size by the NPS was found to be the largest among Korean financial institutions, with a rapid growth of 195.0%, and the Korea Housing Finance Corporation, which was ranked first in 2021, is now ranked second due to the expansion of ESG finance by the NPS.

In the private sector, Nonghyup Bank (KRW 94.5 trillion), Woori Bank (KRW 55.6 trillion), and KB Kookmin Bank (KRW 42.5 trillion) accounted for 49% of the private sector's ESG finance volume in the respective order.

The Nonghyup Bank's ESG finance volume was the largest among private sector financial institutions in 2022, with a growth rate of 7.5%, reflecting not only ESG loan but also the sale of agricultural and rural support products on a larger scale than other financial institutions.

The ESG Finance Status of the Top Five Private Financial Groups

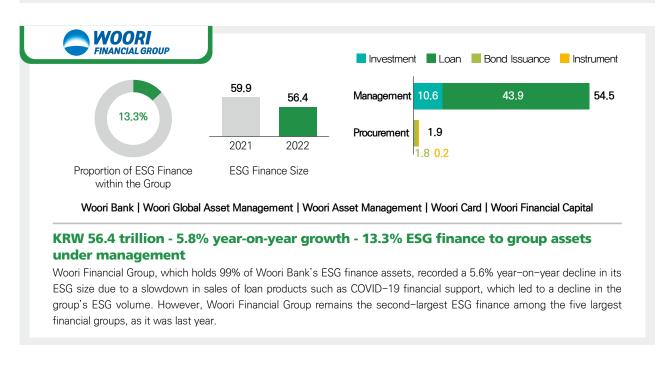
The ESG finance size for the five financial groups has increased by 6.0%, amounting to KRW 293.1 trillion.

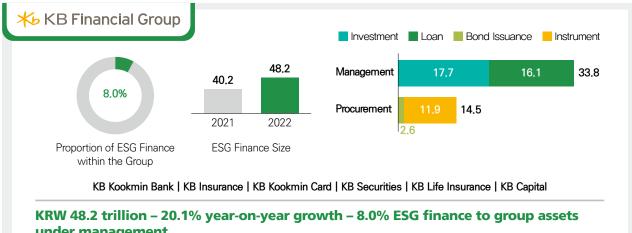
On the other hand, the proportion of total ESG finance size has decreased to 26.7% (35.2% in 2021). Over 80% of ESG finance is held by the banks of each of the top five financial groups.

Graph 3 ESG finance share and volume by type for the five largest financial group institutions

Unit: Trillion KRW

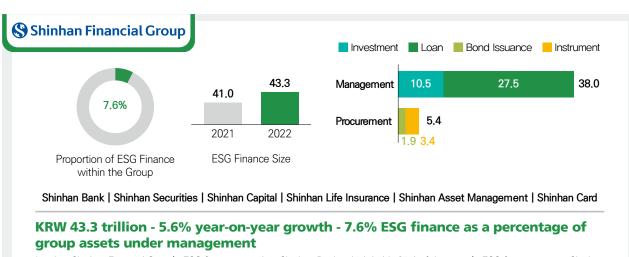






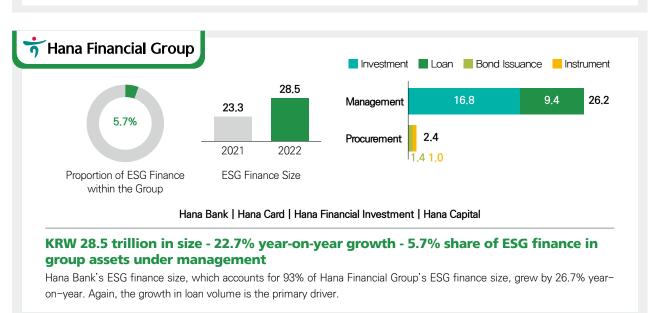
under management

KB Financial Group's ESG investment increased by KRW 8.0 trillion (20.1%) year-on-year to KRW 48.2 trillion, the largest growth among private financial groups. KB Kookmin Bank's share is 85%.





Bank's ESG finance volume increased by 7.3% year-on-year, reflecting growth in loan products, which account for 73% of ESG finance.



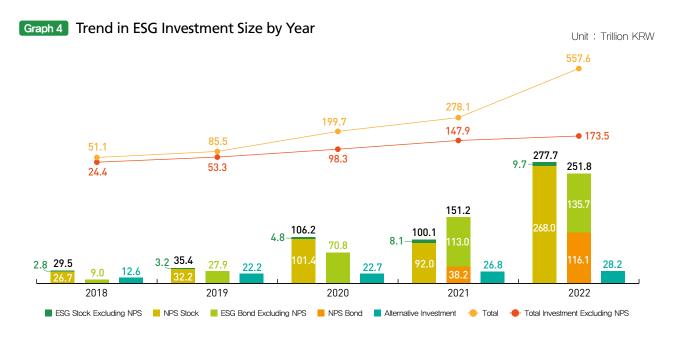
Detailed Analysis by ESG Finance Type

ESG Investment ······	17
ESG Loan·····	20
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ESG Financial Instrument ·······	

Detailed Analysis by ESG Finance Type

ESG Investment

By the end of 2022, ESG investment totaled KRW 557.6 trillion, up 100.5% (KRW 279.5 trillion) year-on-year. The largest share of domestic ESG finance at 50.8%. The primary driver behind the expansion of ESG investment is the notable growth in the size of the National Pension Service.



Overall ESG investment doubled year-over-year in 2022. This surge in ESG investment was driven by a nearly threefold increase in ESG investment by the NPS. The proportion of domestic and overseas sales was 65.5% and 34.5%, respectively, with a larger proportion of domestic sales, but the proportion of overseas sales increased significantly from about 5% in the previous year. This is because the NPS has classified all assets entrusted to foreign managers as responsible investments from 2022.

Domestic ESG investment, excluding NPS, reached KRW 173.5 trillion, an increase of 17.3% year-on-year. In particular, the balance of ESG bond, which account for 78.2% of the total ESG investment size, has grown by 20.1% year-on-year, leading the growth in ESG investment as investors continued to favor relatively safe bond assets amid concerns of a global economic downturn. Following bonds are stocks experiencing a growth rate of 19.8% (balance at the end of 2022: KRW 9.7 trillion) and alternative investments growing at a rate of 5.1% (KRW 28.2 trillion), in the respective order.

ESG Investment by Sector and Type

All types of investments recorded strong growth, with KRW 277.7 trillion (year-on-year growth: 177.5%) in equities, KRW 251.8 trillion (66.5%) in bonds, and KRW 28.2 trillion (5.1%) in alternative investments, reflecting the expansion of ESG investment by NPS.

Table 3 ESG Investment Size by Sector¹

|--|

		ESG Inve	estment	Sto	ock	Bond		Alternative Investment	
		2021	2022	2021	2022	2021	2022	2021	2022
	Public Bank	11.5	16.0	1.2	1.1	10.0	14.4	0.3	0.5
Public	Pension Fund	132.0	386.6	92.9	269.3	39.0	117.2	0.1	0.1
Public	Other Public Finance	15.0	18.5	1.3	2.3	11.5	13.7	2.1	2.6
	Total	158.4	421.1	95.4	272.7	60.5	145.3	2.5	3.1
	Bank	63.9	76.9	0.9	1.1	61.4	73.7	1.6	2.1
	Life Insurance Company	26.9	28.7	0.2	0.2	14.9	16.7	11.7	11.8
Private	Non-life Insurance Company	13.2	15.3	0.1	0.1	4.8	6.2	8.2	8.9
	Asset Management Company	4.5	4.2	2.3	2.4	1.6	1.2	0.6	0.5
	Securities Firm	11.2	11.5	1.1	1.4	7.9	8.3	2.2	1.9
	Total	119.6	136.6	4.7	5.2	90.7	106.1	24.3	25.2

Public Sector

KRW 421.1 trillion - 75.5% of total ESG investment - 165.8% year-on-year growth

ESG investment size in the public sector grew by a significant 165.8% year-on-year. This is largely due to the NPS, which accounts for more than 90% of public sector ESG investment, expanding the asset classes covered by ESG investment to all assets under management from 2022.

By type, stocks accounted for KRW 272.7 trillion, bonds KRW 145.3 trillion, and alternative investments KRW 28.2 trillion, with stocks accounting for the largest share (64.5%).

Private Sector

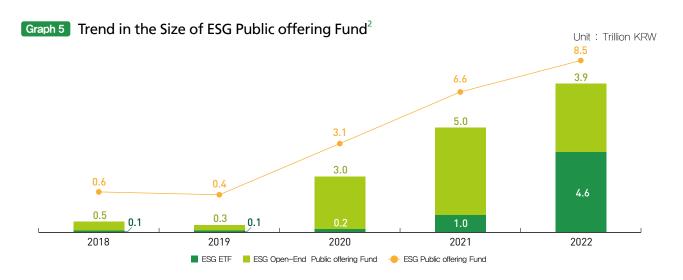
KRW 136.6 trillion - 24.5% of total ESG investment - 14.1% year-on-year growth

Total private sector ESG investment amounted to KRW 136.6 trillion, or 24.5% of total ESG investment. Unlike the public sector, the private sector's ESG investment are dominated by bonds (78%). In particular, 69% of total ESG bond investment were held by banks, which may reflect a preference for safe-haven investments amid concerns about the ongoing economic downturn.

^{1.} Excludes amounts held in custody by asset managers to avoid double-counting

ESG Public offering Fund¹

The domestic market for ESG public offering fund is worth KRW 8.5 trillion, accounting for 2.9% of all public offering fund. In 2022, the market for total public offering funds decreased by 5.9%, but ESG public offering fund grew by 28.2% (KRW 1.9 trillion).



The Korean ESG fund market accounts for 0.2% of the global total (based on public offering funds and ETFs). In 2022, the volume of global ESG fund decreased year—on—year but the domestic market continued to grow in 2022 after 2019–2021, centered on future energy—related ETFs such as secondary batteries and hydrogen energy. Accordingly, open—end funds dominated until 2021, but ETFs accounted for more than half of all funds in 2022.

Market Share and Top Funds of Asset Management Company

Table 4 Market Share of ESG Public offering Fund by Asset Management Companies²

Unit: %

Asse Manage Compa Nam	nent Global Investments	Samsung Asset Management	Korea Investment Management	Midas Asset Management	KB Asset Management	NH-Amundi Asset Management	Multi Asset Global Investments	Schroders	Shinhan Asset Management	Kiwoom Asset Management
202	5.5	7.9	23.5	16.9	8.0	6.4	4.0	4.3	2.4	2.1
202	26.5	20.4	10.8	9.3	10.8	5.0	2.2	2.5	2.9	2.2

In 2021, Korea Investment Management and Midas Asset Management had the largest share of ESG public offering fund by asset managers, with 23.5% and 16.9%, respectively, but in 2022, Mirae Asset Management and Samsung Asset Management came out on top with 26.5% and 20.4%, respectively. This is because the two asset managers have issued a variety of secondary battery-related ETF funds in line with the upward trend of the domestic fund market.

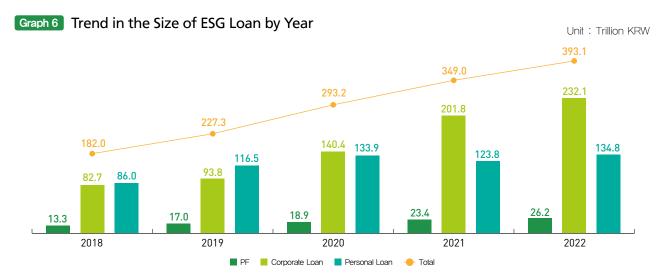
The largest ESG public offering fund was TIGER Secondary Battery Theme (KRW 1.1 trillion) and KODEX Secondary Battery Industry (KRW 1 trillion). In addition, the Korean ESG fund market seems to be focused on the environmental (E) sector, with seven of the top 10 funds focused on energy sectors such as lithium and hydrogen.

^{1.} ESG Public offering Fund is based on data from Morningstar Korea, which is available on the Morningstar Korea website.

^{2.} Source: Morningstar Direct

ESG Loan

By the end of 2022, ESG loan totaled KRW 393.1 trillion, up 12.6% (KRW 44.1 trillion) year-on-year. It accounts for 35.8% of total ESG finance in Korea, the second largest share after ESG investment.



ESG loan have grown steadily over the past five years, with more than double in size compared to 2018. ESG loan as a percentage of total loan assets also increased, reaching 14.3% in 2022. (8.8% in 2018; 10% in 2019; 12% in 2020; 13.4% in 2021)

By sector, the public sector accounted for 55.5% (KRW 218.1 trillion) of total ESG loan, and the private sector 44.5% (KRW 174.9 trillion). 55.6% of the public assets are loan assets held by the Korea Housing Finance Corporation.

The total number of ESG loans in 2022 was 1,658, with 815 cases (49.2%) in the social (S) sector and 699 cases (42.2%) in the environmental (E) sector. When examined by size, the social (S) sector accounts for 74.6%, the environment (E) for 23.2%, and ESG integration for 2.2%, with the social sector occupying the majority. Social (S) related loans are reported similarly to previous years, including investment in social infrastructure, housing finance, and loans to micro, small, and medium—sized enterprises. Environmental (E) loans include renewable energy, low—carbon, and innovative growth projects, with renewable energy lending accounting for the largest share at 47%.

In particular, the social (S) proportion was higher at 78.9%, while the environmental (E) proportion was 1.2% in private banking, which is higher than 71.8% and 25.5%, respectively, in the public sector. This reflects the scale of social sector loans by private banks, especially Nonghyup Bank (deposits to support rural areas and social contribution projects) and Woori Bank (COVID-19 financial support).

In the environmental area, 267 loans (38.2%) applied the Green Bond Guidelines published last year, followed by 173 loans (24.7%) using their standards, and 112 loans (16.0%) using the GBPGreen Bond Principles. However, in the social sector, there is no domestic categorization system in place, so the application of the International Capital Market Association's (ICMA) Social Bond Principles (SBP) and the UN Sustainable Development Goals (SDGs) is the highest at 74%, followed by the application of its criteria at 17.8%. As the share of the social sector is more than twice that of the environment in terms of the amount of ESG loan, it seems urgent to establish a Korean Social Taxonomy.

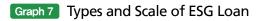
Table 5 Types of ESG Loan

ESG loan encompass loans for facility investment purposes related to environmental (E), social (S), and governance (G), as well as loans that reflect ESG factors in the loan review process or target groups that require ESG-related support.

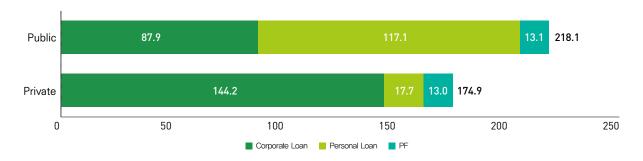
Туре	Example
PF	Renewable Energy Power Plant / Housing Supply / Construction of Social Infrastructure, including Railways, Highways, and Water and Sewage Systems
Corporate Loan	Green Industry Operating Companies Loan / Renewable Energy Generation Business / COVID-19 Financial Support / Job Creation Companies
Personal Loan	Purchase of Eco-friendly Vehicles / Green Remodeling / Housing Credit Guarantee / Housing Equity Annuity Guarantee

Types of ESG Loan

ESG loan is categorized into corporate loans, personal loans, and project finance (PF) by target, with corporate loans accounting for the largest share (59.1%), followed by personal loans (34.3%) and PF (6.7%).



Unit: Trillion KRW



Corporate Loan

KRW 232.1 trillion - 59.1% of total ESG loan - 15.0% year-on-year growth

With a balance of KRW 232.1 trillion as of the end of 2022, it is the largest ESG loan type. Among this, KRW 144.2 trillion (62.1%) was provided by the private financial sector, and KRW 87.9 trillion (37.9%) by the public financial sector.

The volume of corporate loans grew by 15.0% (KRW 30.3 trillion) year-on-year as companies' financing needs shifted to bank loans rather than the bond market.

In the breakdown by area, the social (S) sector, which includes export growth funds, technology finance, and support for small and medium-sized enterprises, accounted for 64%, and the environmental (E) sector, related to renewable energy and energy efficiency, accounted for 35%.

Personal Loan

KRW 134.8 trillion - 34.3% of total ESG loan - 8.9% year-on-year growth

The volume of personal loans grew by 8.9% in 2022, up from KRW 8.0 trillion in 2021. This is attributed to an 8.1% (KRW 8.7 trillion) year-on-year increase in housing finance-related loans from the Korea Housing Finance Corporation. Korea Housing Finance Corporation's personal loans amount to KRW 115.4 trillion, accounting for 86% of all ESG personal loans. The remaining 14% consists of youth support finance, grassroots policy finance, and low-income support finance provided by private banks.



26.2 trillion KRW - 6.7% of total ESG loan - 12.0% year-on-year growth

The PF includes KRW 9.5 trillion (36%) in environmental (E) loans related to renewable energy, eco-friendly transportation and buildings, and water and wastewater management, KRW 10.5 trillion (40%) in social (S) loans related to social infrastructure construction and affordable housing, and KRW 6.2 trillion (24%) in other ESG integration loans. 13.1 KRW trillion (50.4%) of PF is held by public financial institutions, and the rest by private financial institutions.

ESG Loan by Sector

Public finance recorded KRW 218.1 trillion (55.5%), and private finance recorded KRW 174.9 trillion (44.5%) with growth rates of 15.6% and 9.2%, respectively.

Unit: Trillion KRW

Table 6 ESG Loan Types and Size by Sector

			Loan	P	F	Corporate Loan		Personal Loan	
		2021	2022	2021	2022	2021	2022	2021	2022
	Public Bank	66.7	88.1	9.2	10.5	56.0	76.0	1.5	1.6
Public	Pension Fund	3.5	2.5	1.3	0.0	2.2	2.5	0.0	0.0
Public	Other Public Finance	118.6	127.5	2.4	2.7	9.4	9.4	106.8	115.4
	Total	188.8	218.1	12.9	13.1	67.6	87.9	108.2	117.0
	Bank	143.8	156.0	2.5	3.2	125.8	135.1	15.5	17.7
	Life Insurance Company	11.4	12.6	6.7	8.2	4.7	4.3	0.0	0.0
Private	Non-life Insurance Company	3.0	4.6	0.8	1.1	2.2	3.5	0.0	0.0
riivate	Asset Management Company	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Securities Firm	2.0	1.7	0.5	0.5	1.4	1.2	0.0	0.0
	Total	160.2	174.9	10.5	13.0	134.2	144.2	15.5	17.7

Public Sector

KRW 218.1 trillion in volume - 55.5% of all ESG loan - 15.6% year-on-year growth

In terms of ESG loan in public finance, personal loans accounted for KRW 117.1 trillion (53.7% of public sector ESG loan, up KRW 8.8 trillion), corporate loans KRW 87.9 trillion (40.3%, up KRW 20.3 trillion), and PF KRW 13.1 trillion (6.0%, up KRW 0.2 trillion).

The predominant portion of personal loans within the public sector loan portfolio is attributable to the borrowers associated with the Korea Housing Finance Corporation, representing over half of the public sector loans, being individuals. Korea Housing Finance Corporation's ESG loans amounted to KRW 121.1 trillion (+9.3 trillion), accounting for 55.6% of public finance ESG loan, of which 95% (KRW 115.4 trillion) were personal loans related to housing finance.

After the Korea Housing Finance Corporation, the next largest ESG loan is tKorea Development Bank (KRW 52.4 trillion, up KRW 10.4 trillion), accounting for 23.9% of total public finance loans. The ESG loan of Korea Development Bank are composed of 80.7% corporate loans and 19.3% Project Finance (PF) loans, with no personal loans. The reason for the significant increase in the volume of ESG loan by Korea Development Bank in 2022 of more than KRW 10 trillion is also analyzed as a result of the shrinkage of the bond market, which led companies to raise funds through direct loans from financial institutions.

It is followed by Export-Import Bank of Korea (KRW 19.4 trillion) and Industrial Bank of Korea (KRW 16.4 trillion), representing 8.9% and 7.5% of total public sector ESG loan, respectively. The scale of loans from the two institutions also contributed to the growth of public finance, increasing by KRW 6.5 trillion and KRW 4.5 trillion, respectively, compared to last year.

The breakdown of public finance by area is 71.8% for social (S), 25.5% for environmental (E), and 2.7% for overall ESG, with the majority of social (S) loans being for individuals (72%) and 99% of environmental (E) loans being for corporations.

Private Sector

KRW 174.9 trillion - 44.5% of all ESG loan - 9.2% year-on-year growth

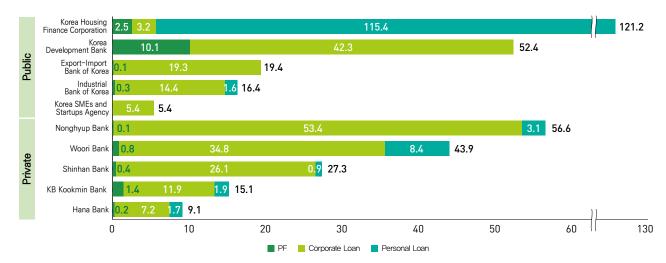
Unlike the public sector, ESG loan in the private sector are dominated by corporate loans, with 82.4% (KRW 144.2 trillion) in corporate loans, 10.1% (KRW 17.7 trillion) in personal loans, and 7.4% (KRW 13.0 trillion) in PFs.

When viewed by institution, banks account for KRW 156.0 trillion, or 89.2% of the total, followed by life insurance at 7.2% (KRW 12.6 trillion), non-life insurance at 2.6% (KRW 4.6 trillion), and securities firms at 1.0% (KRW 1.7 trillion).

In the case of the banking sector holding the largest share, corporate loans amount to KRW 135.1 trillion (a 7.4% growth compared to the previous year), accounting for an overwhelmingly high proportion (86.6%) of ESG loan. In private finance, loans related to Social (S) aspects were the highest at 78.2%, followed by environmental (E) at 20.3%, and ESG integration at 1.5%. The study found that corporate loans accounted for the largest proportion of total loans in both the social and environmental areas, at 52.0% and 73.5%, respectively.

Graph 8 ESG Loan Size of Major Financial Institutions by Type

Unit: Trillion KRW



ESG Bond Issuance

Types and Principles of ESG Bond

Table 7 ESG Bond Types

Bond Types	Details	Bond Principles		
Green Bond	Purpose of Climate Change and Environmental Improvement	Green Bond Principles (GBP), Climate Bond Standards (CBS) K-Green Bond Guidelines (K-GBG), JP GBG, EU GBS		
Social Bond	Purpose of job creation, infrastructure, and social value creation	Social Bond Principles (SBP), JP SBG, EU SURE		
Sustainable Bond	Environmental and Social Objectives	Sustainable Bond Guidelines (SBG)		
Sustainability- Linked Bond Interest rate determined in conjunction with the environmental, social, and governance (ESG) targets		Sustainability-Linked Bond Principles (SLBP)		

ESG bond can be classified into four types based on the purpose of the funds raised. In the domestic market, as of the end of 2022, no sustainability-linked bonds were issued, and in effect, only three types of bonds were traded.

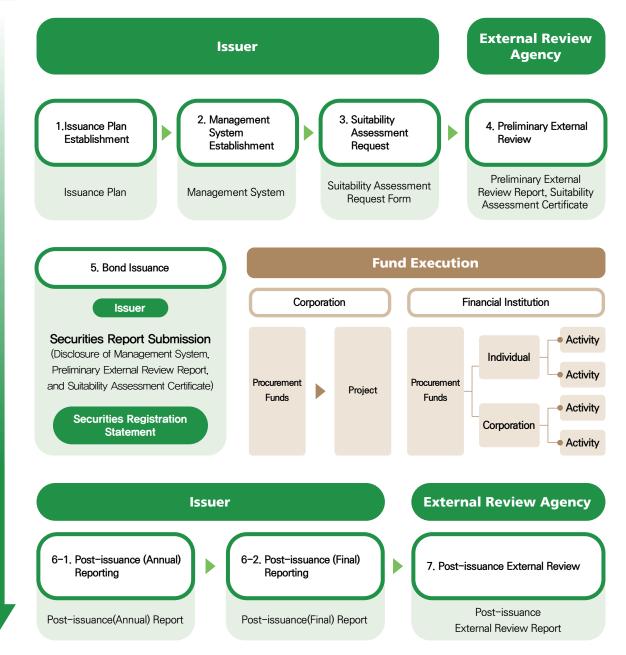
ESG bond are issued based on bond principles determined by their type. The establishment of plans for issuance and external reviews both before and after, as well as post-reporting, all follow similar basic procedures.

The revised Korean Green Bond GuidelinesK-GBG as of December 2022 are introduced below as an example. In the case of K-GBG, it is characterized by the fact that the use is defined as a green economic activity suitable for the Korean Green TaxonomyK-Taxonomy, and external review is mandatory after the fact. Currently, only the EU GBS and K-GBG stipulate post-implementation external review as a mandatory requirement.

As of 2022, the adoption rate of the Korean Green Bond Guidelines accounts for a small proportion of 6.6%. The K-GBG is expected to be adopted in the future as it can contribute to creating a transparent ESG bond market by requiring external review after the fact.

The Social Bond Guidelines were announced to be initiated by the Ministry of Economy and Finance in 2021, and the government announced in the "ESG Infrastructure Enhancement Plan" in 2022 that they would be prepared by 2023.

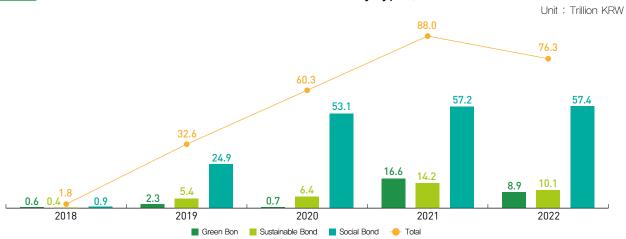
Figure 1 Korean Green Bond Issuance Process



Source: K-GBG (Revised in Dec. 2022)

Size of ESG Bond Issuance

Graph 9 Annual Trend in the Scale of ESG Bond Issuance by Type (Financial + Non-Financial)



The volume of ESG bond issuance maintained an upward trend for four years but decreased in 2022. The decrease rates for each type are as follows: Green Bond -46%, Sustainability Bond -29%, Social Bond -0.3%.

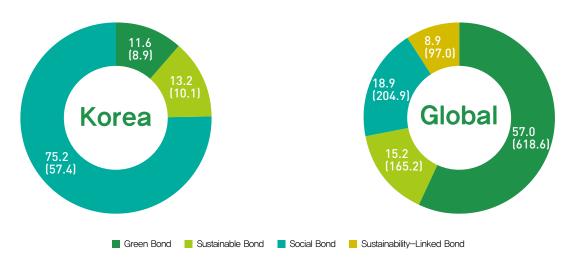
In the case of green bond, it is analyzed that the issuance of renewable energy-related bonds, which are relatively difficult to supply due to energy supply uncertainty and increased demand amid the unstable international situation, has slowed down. According to the report from the survey, renewable energy bonds in green bond fell from 34 cases with KRW 3.8 trillion in 2021 to 18 cases with KRW 1.2 trillion in 2022, and sustainable bonds fell from 21 cases with KRW 1.4 trillion in 2021 to 8 cases with KRW 0.5 trillion in 2022.

There was no significant change in the issuance amount of social bond. In the case of social bond, it is analyzed that 92% are issued by major public financial/non-financial institutions, which is due to the influence of policy rather than the external environment.

ESG Bond Size: Domestic vs. Global

Graph 10 Domestic vs Global ESG Bond Type Proportions¹

Unit: % (in trillions of KRW)

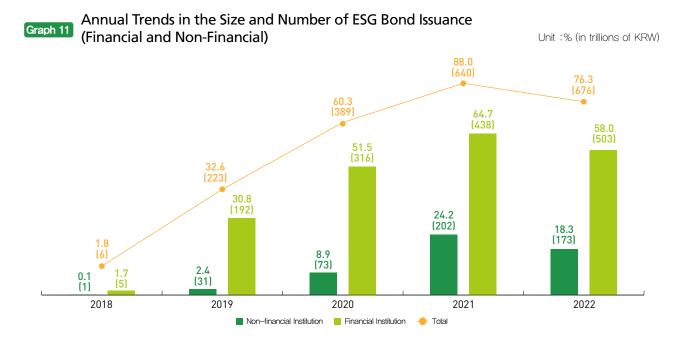


^{1.} Climate Bond Initiatives (2023). Sustainable Debt Global State of the Market

Unlike domestic ESG bond, the proportion of green bond in global ESG bond is more than half. In Korea, the opportunities for investment related to renewable energy and transition are relatively low, and there is a difference as the volume of social bonds issued by public financial institutions accounts for more than half of the total.

Europe was the top issuing region for green bond in 2022, with the majority of bonds related to energy and climate change adaptation, as well as research support for green transition and conversion technologies.

Global ESG bond also saw a decrease in all types compared to last year. Green bond, like their domestic counterparts, have been affected by energy supply instability due to the international situation. Social bond showed the largest decline mainly due to the reduction in financial support for COVID-19, as it is recognized as endemic.



ESG Bond Issuance by Sector

ESG bond issuance has decreased in both financial and non-financial institutions. Financial institutions saw a decrease of 10%, while non-financial institutions experienced a 24% decrease, confirming that the rate of decrease is greater in non-financial institutions that include corporations.

When examined from both public and private perspectives, financial institutions have seen a decrease in bond issuance in both sectors. In the public sector, there was a decrease of KRW 2.4 trillion, mainly since the amount of renewable energy-related bonds issued by Korea Development Bank decreased by about KRW 1.4 trillion compared to last year.

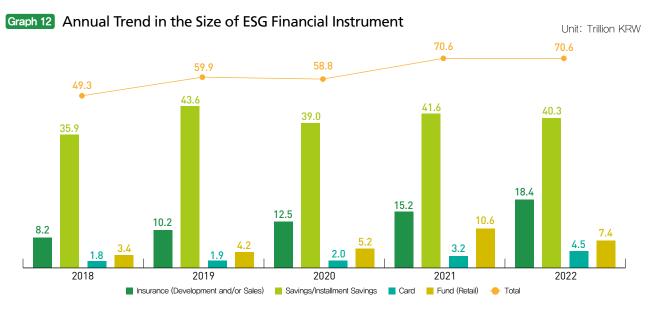
Private financial institutions saw a total decrease of KRW 4.39 trillion, with green bond experiencing the highest reduction rate at KRW 2.34 trillion. In particular, unlike in 2021, private banks issued green bond in only one place in 2022. This appears to be because the bank has raised funds through savings/installment savings with variable interest rates rather than bonds with high interest rates.

The public sector of non-financial institutions showed the smallest decrease, with a reduction of KRW 0.1 trillion. The decrease in green bond and sustainable bond, each by KRW 0.4 trillion and KRW 0.1 trillion, respectively, was offset by an increase of KRW 0.9 trillion in social bond. The issuance of social bond in this sector has been steadily increasing, and in 2022, the Korea Land and Housing Corporation and the Korea Deposit Insurance Corporation led the increase with KRW 0.6 trillion and KRW 0.5 trillion, respectively.

Private institutions saw a decrease of more than half in green bond, sustainable bond, and social bond compared to last year. Specifically, the issuance of green bond surged to KRW 6.5 trillion in 2021 but decreased to KRW 3 trillion in 2022. It appears that most companies that had issued green bonds in the past did not issue any in 2022.

ESG Financial Instrument

The total size remained flat year-on-year at KRW 70.6 trillion. Savings/installment savings accounts for the largest share at KRW 40.3 trillion (57.2%), followed by insurance at KRW 18.4 trillion (26%), funds at KRW 7.4 trillion (10.5%), and cards at KRW 4.5 trillion (6.3%), in the respective order.



ESG financial instrument can take several forms of contribution, and the most common is to encourage ESG activity by providing benefits to subscribers, such as preferential interest rates, reduced insurance premiums, or mileage accrual, in exchange for their ESG-related activities. Other examples include products that directly donate their profits to charity.

In 2022, the overall volume of ESG financial instrument remained unchanged as insurance and card volumes increased year-on-year while savings and fund sales declined. Savings and installment savings mainly decreased in public and private banks, while ESG fund primarily decreased in securities firms and private banks.

ESG Financial Instrument by Type

Table 8 ESG Savings/Installment Savings Rankings and Main Products

Institution Name	Size	Main Products
Nonghyup Bank	24.2	NH Sharing and Dividing Regular Deposit, Law Love Plus
KB Kookmin Bank	5.3	KB Youth Hope Savings, KB Soldier's Future Preparation Savings
Korea Post	2.5	Green Star Love Fixed Deposit, Neighbor Love Fixed Deposit

Unit: Trillion KRW

ESG savings/installment savings refer to products that offer preferential interest rates based on the ESG objectives of the product or the activities of the subscriber. The size refers to the total balance of the deposit for the respective product.

Savings and installment savings are 90% private finance, of which Nonghyup Bank accounts for 70%. The majority of this amount corresponds to products supporting agriculture, rural areas, and social contribution projects. The total amount of savings and installment savings decreased by KRW 1.3 trillion compared to the previous year, of which KRW 0.8 trillion was the decrease from Nonghyup Bank.

86% of savings and installment savings are related to the social (S) sector, and most of Nonghyup Bank's savings and deposits are focused on the social (S) sector.

Table 9 ESG Insurance Rankings and Main Products

Institution Name	Size	Main Products	
Samsung Fire & Marine Insurance	3.7 ECO Mileage Car Insurance, Insurance Exclusively for Foreign Workers		
Dongbu Insurance	2.7 Evergreen Special Agreement, Health Insurance for Vulnerable Groups		
Korea Credit Guarantee Fund	2.5	2.5 Accounts Receivable Credit Insurance of New Deal Project Operating Company	

Unit: Trillion KRW

Unit: Trillion KRW

ESG insurance primarily involves special agreements based on the subscriber's activities or provides insurance for targets that are difficult to enroll. Size refers to gross sales (gross premium).

In the case of insurance products, private finance accounts for more than 80%, with Samsung Fire & Marine Insurance accounting for 20% of the total, with KRW 3.7 trillion. By area, environmental (E) products dominate at 84% of the size, mainly with mileage and special offers for receiving contracts online.

Table 10 ESG Fund Rankings and Main Products

Table 10 ESG Fund Rankings and Iviain Products				
Institution Name	Size	Main Products		
Mirae Asset Securities	2.4	ETF (Electric Vehicle/Secondary Battery), ETF (Environmentally Friendly)		
KB Kookmin Bank	1.3	Korea Investment Global Electric Vehicle & Battery Securities Investment Trust, Midas Responsible Investment Trust		
KB Securities 0.4		KB Star ESG High-Grade Mid and Short-Term Bond Securities Self-Investment Trust, ESG Level-Up Securities Self-Investment Trust		

ESG fund refers to public or private fund products that construct a portfolio considering the ESG factors of the investment target, and size refers to total sales.

Most ESG fund are sold by securities firms and banks, with securities firms accounting for 75% and banks for 24%. ESG funds were also concentrated in energy-related products, such as secondary batteries, batteries, etc., with the largest amount related to the environment (E) at 65% and the amount related to ESG integration at 25.6%, which is higher than other types. The relative dominance of products with integrated strategies in funds compared to other products is analyzed as the cause.

Table 11 ESG Card Rankings and Main Products

Institution Name	Size	Main Products	
Busan Bank	1.6	Green Card, Dongbaekjeon	
Korea Post	1.2	Happy Debit Card, Our Neighborhood PLUS Debit Card	
Nonghyup Bank	0.4	Rural Love Debit Card, Green Card	

ESG card primarily refer to products that offer discounts or mileage benefits based on the card user's activities, and the scale refers to the total amount used. ESG card growth has surged by 39% compared to the previous year, with private banks leading the expansion, contributing KRW 1.3 trillion to the overall increase. In 2022, private banks took place for more than half of the total at KRW 2.6 trillion, and cards took the largest place concerning the

environment (E) by ESG area. The ESG card, a product launched in partnership with the Ministry of Environment, constitutes a substantial share,

totaling KRW 2.2 trillion.

ESG Financial Instrument and Classification System

Out of the total 1,118 reported ESG financial instrument, the number of cases that responded as having no classification system in application or established their own standards was 450, accounting for 40.3% of the total. Even when a classification system is chosen, the Sustainable Development Goals (SDGs) account for 25.9%, and the self-established standards account for 14.3%, indicating a trend of selecting more universal standards rather than those specialized for ESG finance.

ESG fund are the most common type of ESG financial instrument, with 740 cases reported, and as with all products, 331 cases have no standards in application. About 45% of reported ESG fund are marketed and sold without any standard.

ESG financial instrument have a positive aspect of attracting interest in ESG from general financial consumers and investors and raising funds for ESG finance but, at the same time, have a vulnerability due to no consistent standards currently, which may not provide sufficient confidence in their consumers and investors. It appears necessary to establish relevant standards and a supervisory system to establish a sound ESG ecosystem.

Figure 2 Detailed Description of ESG Financial Instrument by Type



Savings/Installment Savings Products Created to Utilize a Portion of the Profits from Savings/Installment Savings for ESG Purpose



Savings and installment savings subscriber









ESG savings/installment savings products

- specific class
- Offering preferential interest rates for offering preference in the prefer specific activities

3 Support/Donate a portion of financial institution's profits to ESG-related activities



Insurance

Insurance Products Created to Utilize a Portion of Insurance Premium Income for ESG Purpose

Insurance

company



Savings and installment savings subscriber



1 Premium discount

of insurance for

specific class









3 Vulnerable social groups



Support/Donate a portion of financial institution's profits to ESG-related activities



Card

Card Products that Provide Mileage for Activities that Align with ESG Objective

ESG savings/installment savings products

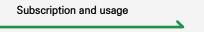
2 Premium discount

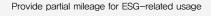
of insurance for

special activity



Card customer







ESG card



Fund (Retail)

ESG Fund Products Sold by Financial Institutions Such as Banks and Securities Firms.



ESG fund subscribers





Bank and securities firms ESG public and private equity fund sales



Asset management company Development and management of ESG public and private equity fund

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ESG Financial Issues Report

ESG investment of the NPS

At the end of 2022, the NPS's ESG investment surged by 195% after considering the total entrusted management assets as responsible investments, raising concerns about ESG washing.



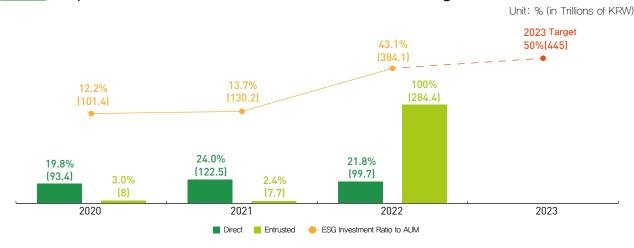
As of the end of 2022, the ESG investment size of the NPS was KRW 384.1 trillion (KRW 99.7 trillion in direct management, KRW 284.4 trillion in entrusted management), which showed a significant growth compared to KRW 130.2 trillion in 2021. In terms of assets, stocks increased to KRW 268.0 trillion and bonds to KRW 116.1 trillion (up from KRW 92.0 trillion and KRW 38.2 trillion, respectively, in 2021), showing a significant increase in both assets.

The growth in ESG investment size has also led to a significant increase in the proportion of ESG assets to total assets under management (AUM) of NPS in 2022 to 43.1% (AUM: KRW 890.5 trillion), up from 13.7% (AUM: KRW 948.7 trillion) in 2021.

The reason for this rapid increase in the scale of responsible investment is that since 2022, all domestic and foreign stocks and bond assets entrusted to asset management companies (KRW 284.4 trillion, excluding KRW 146.6 trillion in alternative investments) have been counted as 'ESG investment.' This amount corresponds to 74% of the total size of responsible investment. The NPS's entrusted responsible investment assets were only applied to the responsible investment type among the entrusted types of domestic stocks until the end of 2021, with a size of KRW 7.7 trillion. In 2022, only KRW 6 trillion was the assets entrusted as a responsible investment among the total assets under ESG investment

The National Pension Service has been granting extra points to fiduciary management companies that have established responsible investment policies or guidelines when selecting fiduciary management companies for domestic equity since 2020, following the 'Guideline to Grant Extra Points in the Selection and Evaluation of Fiduciary Management Companies' under the 'Follow-up measures on the Custodian responsibility of National Pension Trustees' resolved in 2019, and expanded this to fiduciary management companies for overseas equity and non-domestic bond in 2022, resulting in almost all management companies adopting responsible investment and stewardship codes. The NPS has classified all entrusted management assets as responsible investments simply because the fiduciary management company has prepared a responsible investment and stewardship code. In direct management, however, responsible investment assets were KRW 99.7 trillion in 2022, reflecting the decrease compared to the previous year (KRW 122.5 trillion in 2021).

Graph 13 Proportion of ESG Investment in Direct and Entrusted Managed Assets of the NPS



Asset Management Company's ESG Management Ratio



According to the NPS, it checks the implementation of responsible investment by receiving and verifying the responsible investment report or ESG, Sustainable or ESG Integration report (in the case of overseas management companies) containing the responsible investment policy and organization, responsible investment procedures, etc. from the asset management companies. However, it is only a way to evaluate the organization in the aspects of policies and systems, and it is difficult to determine whether the NPS's management of entrusted assets considers ESG substantially. Therefore, classifying the entire asset as a responsible investment without thorough monitoring of the entrusted asset management itself may lead to excessive inflation of ESG investment amounts, raising concerns about potential ESG washing.

This survey includes 19 institutions that are entrusted with the management of the NPS among the responding organizations. According to the NPS's logic that "all assets entrusted to management companies with a responsible investment and stewardship code are considered responsible investments," all assets under management by these 19 fiduciary management companies should be ESG investment. However, the responses show that, on average, these institutions have only 22% of their assets under management in ESG investment. This supports the skepticism that the classification of responsible investment assets of the NPS may not be trusted.

There are some criticisms that such a rush to secure ESG asset is merely a show to align with previously announced plans. In July 2022, the NPS announced that "the asset classes covered by ESG investment will be gradually expanded until more than 50% of the total assets under management are covered by ESG investment." In the survey questionnaire, under the section titled "Standards for ESG Finance," the NPS states that it intends to "expand the asset classes for responsible investment to include direct management and fiduciary management of domestic stocks in 2020, direct management of domestic bonds (including corporate bonds) in 2021, fiduciary management of domestic and overseas stocks and bonds in 2022, and direct management of overseas stocks and overseas bonds in 2023 (plan under development).

The NPS holds 13.7% of the total AUM of domestic financial institutions and 35.0% of the total ESG investment size, leading the domestic financial market. The NPS states that "responsible investment is implemented through ESG investment, which considers ESG factors and the exercise of shareholder rights." To prevent the risk of greenwashing and to promote substantive and non-formalistic responsible investment, it seems necessary to establish clear ESG investment and evaluation standards that comply with global standards. Strengthened procedures for selecting ESG management company, active management of the implementation of responsible investment guidelines after selection, and ESG integration evaluation of individual entrusted assets should be established, and they should be closely managed by exercising active shareholder rights, such as demanding ESG information disclosure from companies.

Classification System and Sustainable Disclosure

Implementation of the Revised Korean Green Taxonomy (K-Taxonomy) from 2023

The revised K-Taxonomy has been finalized and will be implemented at the beginning of this year. Out of 171 financial institutions, 72 have announced their implementation plans.

The revised K-Taxonomy, confirmed and announced by the Ministry of Environment in December 2022, has been implemented from January 2023.

The core of the amendment is that (i) research, development, and demonstration of nuclear-related technologies are included in the "green sector" and (ii) nuclear power generation (new construction and continued operation) and liquefied natural gas (LNG) are included in the "transition sector." 1 At the time of the announcement of K–Taxonomy at the end of 2021, natural gas was temporarily included in the "transition sector" due to the need for transition energy in the coal phase–out process, and nuclear power was to be decided through social consensus in light of future international trends and domestic conditions.

The Green Taxonomy, which defines the green economy and the green energy sector, was introduced to address: i) the need to establish standards to curb unreasonable behavior, such as excessive, exaggerated, and false information, represented by greenwashing; ii) clear principles and standards for green economic activities; and iii) support for the investment in more green funds. Greenwashing leads to a decline in market growth and consumer confidence, disruption of market order, and reduction of ESG-driven investments due to information asymmetries.

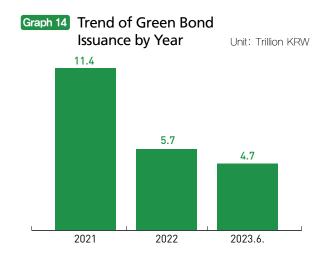
As of 2022, more than 20 countries, mainly in the EU, are in the process of implementing the Green Taxonomy, with most countries utilizing the EU's classification system. According to the Ministry of Environment, the Korean Green Taxonomy is also based on the EU Taxonomy but with some adjustments to suit the country's reality.

Of the 171 institutions that responded to the report's questionnaire, 72 institutions (13 public and 59 private) reported applying or planning to apply the Korean Green Taxonomy K-Taxonomy as of the end of 2022, indicating a slight increase from 66 institutions in the previous year. Asset classes covered by the Green Taxonomy were most often selected in order of investment, loans, and issuance of bonds.

The three prominent pension funds in Korea—National Pension Service (NPS), Teachers Pension, and Government Employees Pension Service—affirmed in the survey that they neither implement nor have future plans to adopt the K-Taxonomy but currently involve leveraging ESG rating provided by credit rating agencies or utilizing internally developed ESG evaluation systems. The NPS also states that the K-Taxonomy, which provides principles and standards for green economic activities, and ESG investment, which applies the ESG integration strategy, have no relation. They responded that it is difficult to apply the green bond guidelines, which aim to establish a green bond issuance system, to the NPS ESG Integration Strategy.

^{1.} According to the K-Taxonomy guidelines, green economic activities are divided into two categories: the 'Green Sector' and the 'Transition Sector.' The green sector includes economic activities related to genuine green economic activities, such as carbon neutrality and environmental improvement, and the transition sector is included in the Green Taxonomy for a limited period (2030–2035) as a transitional economic activity that is necessary on the way to the final goal of carbon neutrality.

The green bond market showed a sluggish atmosphere in 2022. According to a disclosure by the Korea Exchange, the total number of green bond issued in 2022 was 74, down 30% from 104 in 2021, and the issued amount was KRW 5.8 trillion (about KRW 11.4 trillion in 2021), a plunge of about half from the previous year. This is likely due to the general economic downturn, rising costs for bond issuance due to sharply rising interest rates, and declining investment in renewable energy. However, since 2023, the green bond market has been recovering, with 44 green bond issuances as of June 2023, totaling KRW 4.7 trillion.



There are ongoing discussions not only about the need for a social taxonomy but also about the Green Taxonomy. In February 2022, the EU published the final draft of the Social Taxonomy. In Korea, the Ministry of Economy and Finance announced that it has begun reviewing the enactment of social bonds in partnership with the Ministry of Trade, Industry and Energy and the Financial Services Commission in 2021. However, there have not been any specific plans or progress announced since then.

The largest segment of ESG finance is social (S) related financial activities, accounting for 74% (by value) of all ESG finance types (loans, financial instruments, bonds). However, in the absence of accurate domestic standards for social-related activities, each institution applies global standards or establishes its own standards, raising concerns about ESG washing.

Of the 171 total institutions that responded to the survey, 77 institutions (15 public and 62 private) plan to implement the Social Bond Guidelines once they are developed, and more than 10 institutions indicated that they will review their implementation after the guidelines are published. In this way, a "Korean Social Taxonomy" should be established soon to help financial institutions identify eligible projects more actively without being suspected of social washing.

Sustainable Finance Disclosures

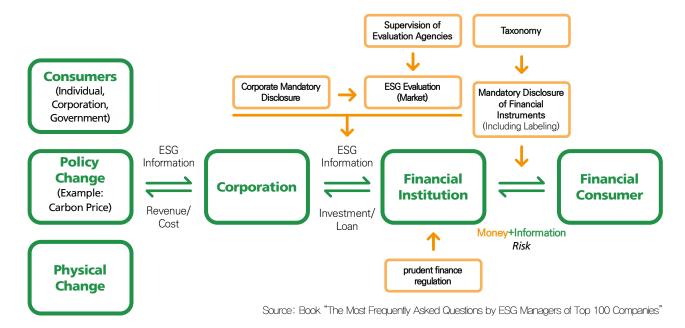
Financial disclosure is being actively debated in global markets. Financial disclosures are intended to disclose whether a financial institution's funds are appropriately invested in activities that meet ESG objectives. In the EU, financial disclosure for fund products has been required since March 2021 as part of the SFDR^{Sustainable Finance Disclosure Regulation}, and the US SEC issued financial disclosure standards for ESG fund and investment advisers in May 2022.

In Korea, a task force (TF) was launched with academia and the asset management industry to establish disclosure standards for ESG fund from March 2023, and the Financial Services Commission announced that it has set 'Disclosure Standards for ESG Fund' based on the results of the TF discussion on October 5.

The main content is that 'funds that identify themselves as ESG by including "ESG" in the name of the fund or indicating or writing that they consider 'ESG' in their investment objectives and strategies in the prospectus must disclose in advance the connection between ESG and important information, such as investment objectives and strategies, management capabilities, and investment risks in the securities report, and regularly report on their management progress" through the asset management report. These standards will apply to existing funds as well as new funds established after the revision and are expected to be fully implemented from February next year after completing the revision of the relevant standards and forms in October, followed by an industry preparation period (2 months) and an intensive examination period (2 months) for securities registration statement amendment reports. (Source: Financial Supervisory Service press release)

Recently, as societal interest in ESG has increased, the demand for ESG fund has also risen. ESG fund tends to have higher management fees compared to other funds as they need to reflect both the financial information and ESG information of a company during the investment process. In this process, asset management companies may fall into the temptation of greenwashing or ESG washing, which is the practice of passing off a fund as an ESG fund without adequately considering the actual ESG factors. Therefore, although it is late, the establishment of 'ESG fund disclosure standards' in Korea is welcome, and it is expected that investors can make investment decisions based on pre-disclosed information, and asset management companies can prevent greenwashing through responsible management.

Figure 3 ESG Operating Principles



International Sustainability Standards Board (ISSB) Announces Sustainability (ESG) Disclosure Standards

For the smooth implementation of sustainable finance disclosures, financial institutions must be able to collect information from the companies. This naturally leads to a demand for companies to disclose sustainability.

Last June, the ISSBInternational Sustainability Standards Board established by the IFRS^{International Financial Reporting Standards}, announced the world's first international sustainability disclosure standards. This standard consists of the General Requirements for Disclosure of Sustainability-related Financial Information, IFRS S1, and the Climate-related Disclosure, IFRS S2. The ISSB has announced plans to expand its disclosure areas and framework to various sustainability sectors, such as water and biodiversity, following IFRS S1 and S2.

Figure 4 IFRS S1, S2



Requires disclosure of the risks and opportunities related to sustainability expected to impact the cost of capital for corporations from short-term, medium-term, and long-term perspectives



Requires disclosure of climaterelated risks and opportunities across industries and sectors

The disclosure standards of the ISSB will be applied from the first accounting year after January 1, 2024, so the first disclosure will be implemented in 2025. However, the obligation to disclose Scope 3 under S1 and S2 has been deferred for one year.

The public announcement was enacted by integrating the recommendations of the TCFD^{Taskforce on Climate Financial Disclosure}. TCFD is an international organization established by the FSB^{Financial Stability Board} to establish measures to reflect climate change-related issues, which were discussed at the G20 Finance Ministers and Central Bank Presidents' meeting in 2015 in the financial sector. The key contents of the TCFD recommendations announced in 2017 are divided into four major areas: governance, strategy, risk management, and greenhouse gas emissions and targets. These are further broken down into a total of 11 detailed items. This aligns with the four key elements of the recently announced IFRS S2.

In the European Union, the EC^{European Commission} has approved the ESRS^{European Sustainability Reporting Standard}, which will be implemented sequentially starting in 2025, and in the United States, the SEC^{Securities & Exchange Commission} is preparing climate-related disclosure guidelines and gathering feedback with the plan to implement them in the fourth quarter of this year.

Among the efforts to materialize the measures to mandate ESG disclosure of domestic corporations in consideration of the global trend of ESG disclosure, the Financial Services Commission announced in 2021 a phased schedule for mandatory ESG disclosure, starting with KOSPI-listed companies with assets of KRW 2 trillion or more in the first phase in 2025, and expanding to companies with assets of KRW 1 trillion or more in 2027, KRW 500 billion or more in 2029, and all KOSPI-listed companies by 2030 in its 'Comprehensive Improvement Plan for Corporate Disclosure System,' which includes measures to strengthen corporate ESG disclosure. However, it was announced last October that the mandatory ESG disclosure would be postponed for more than a year until after 2026.

Table 12 Comparison of Global Disclosure Systems

		EU (European Union)	US (United States)	IFRS ISSB International Organizations		
	Name of Disclosure Standards	European Sustainabillity Reporting Standards(ESRS)	Climate-Related Disclosure/SEC	IFRS S1, S2		
	Target	Companies subject to CSRD	All listed companies, including future unlisted assets, subject to SEC standards for all disclosure	Voluntary Standards by Country		
Difference	Scope of Application	Overall ESG (General, Strategy, Governance, and Disclosure Requirements for Importance Assessment, etc.)	Climate-Related Disclosures (General Matters/Greenhouse Gas Emissions/Financial Statement Impact/Application Method)	Climate-Related Disclosure (Gradually planned to expand to overall ESG)		
	Key Features	Stakeholder Perspective (Dual Significance)	Investor Perspective (Single Materiality)	Investor Perspective (Single Materiality)		
	Implementation Date	2025 Public Announcement (Fiscal Year 2024)				
Commonality	Disclosure Location	Disclosure of general-purpose financ (consolidated basis, once a year at th	e end of the fiscal year).	financial statements, as part of the		
non	Recommendation Details	Climate disclosure reflects the TCFE) recommendations			
nmc	Implementation Period	Mandatory for all listed companies b	pefore 2025			
ŭ	Disclosure Method	Expansion of comparability and usal	oility through digitization of ESG disclos	sure information		

Table 13 Case of ESG Washing

Overseas Korea

1) DWS, a subsidiary of Deutsche Bank

- It was revealed that more than half of the total managed assets of USD 90 billion were invested according to ESG standards in the "2020 Sustainability Report." However, following an internal whistleblower's claim that "DWS's sustainability assets were overpackaged," the SEC and German financial authorities have launched an investigation into suspicions of overvaluation of ESG investment assets.
- Despite being unsuitable as an ESG-related product, an investigation has been launched on the suspicion of false disclosure, such as presenting it as an ESG instrument.

2) Goldman Sachs

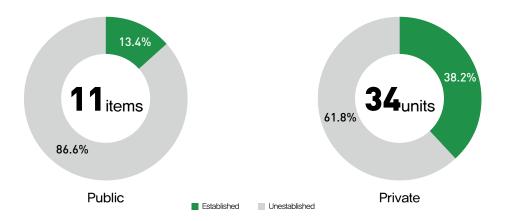
A fine of USD 4 million imposed for violation of ESG fund washing. It was also pointed out that there were violations for not establishing or complying with ESG-related policies and procedures from 2017 to 2020.

1) A Holding Company

Issued KRW 32 billion in green bonds in 2021, of which KRW 13 billion will be allocated to equity investments in overseas energy companies with whom it will establish a joint venture, and submitted a final report. However, due to the difficulty in calculating the environmental performance of equity investments, environmental impacts were reported based on the performance of relevant industries in Korea as an example. However, although the target of the equity investment is an energy company, it is difficult to believe that it contributes to actual greenhouse gas reduction or green economy activities, and due to the nature of the non-financial holding company's business, it is likely to be interpreted as financing for equity expansion to gain decision-making advantage in the future establishment of a joint venture, and it is analyzed as a case of possible greenwashing because it did not clearly present its environmental performance.

Status of ESG Finance Target

Graph 15 Proportion of Setting ESG Target in Public and Private Financial Institutions



The survey revealed that out of 171 responding institutions, 45 institutions (26%) have established ESG finance targets. In 2020, there were 32 institutions (24%), and in 2021, there were 44 institutions (26%).

Upon reviewing the reports from 2020 to 2022, it appears that financial institutions generally established their goals in 2021. In 2021, 16 institutions have established new targets. The NPS also established its ESG finance targets for 2021.

The criteria for setting goals were as follows: 17 institutions chose 'Other,' 10 chose 'Target Year Balance,' 7 chose 'Target Year Investment Amount,' and 5 chose 'Cumulative Amount of Fund injection.' Six institutions did not report according to the target standards. While a direct comparison is impeded by varying target years, the total target amount stands at KRW 283 trillion based on the 'Other' standard, KRW 68 trillion based on the 'Balance' standard, KRW 54 trillion based on the 'Cumulative Amount of Fund injection' standard, and KRW 200 trillion based on the 'Investment Amount' standard.

Comparison of the targets by each financial institution is challenging due to differences in both the target year and the target basis. The rise in financial institutions integrating ESG finance targets into their sustainability management and ESG reports is notable. Given the expanding ESG finance size, there is a perceived need to establish uniform standards to anticipate future capital flows and mitigate the risk of ESG washing.

Table 14 Institutions Establishing Individual ESG Finance Target by Sector¹

Unit: Trillion KRW

		Name of Financial Institution	Target Year	Target Amount	Target Basis
		Korea Credit Guarantee Fund	2023	2.68	Others
	Pension Fund	Government Employees Pension Service	2023	1.40	By Balance
		National Pension Service	2023	-	Others
		Korea Eximbank	2030	206.17	Others
Public	Public Bank	KDB Bank	2030	13.20	Investment Amount
		Industrial Bank of Korea (IBK)	2030	9.30	Investment Amount
		Korea Housing Finance Corporation	2027	173.90	Investment Amount
	Other Public Finance	Korea Post	2023	11.00	By Balance
		Korea Deposit Insurance Corporation	2023	1.35	Others
	Bank	KB Kookmin Bank	2023	28.63	By Balance
		Hana Bank	2030	28.00	Cumulative Amount of Fund injection
		Nonghyup Bank	2030	17.68	Others
		Woori Bank	2023	9.04	Cumulative Amount of Fund injection
		Shinhan Bank	2023	1.02	Cumulative Amount of Fund injection
	Insurance	Hanwha Life Insurance	2030	5.5-6.5	Others
	Company	Samsung Life Insurance	2030	20.00	By Balance
	(Life Insurance)	Mirae Asset Life Insurance	2030	7% of AUM	Investment Amount
Private	Insurance	Samsung Fire & Marine Insurance	2030	15.5	Cumulative Amount of Fund injection
	Company (Non-life	KB Insurance	2030	4.42	By Balance
	Insurance)	Nonghyup Property & Casualty Insurance	2030	2.04	Others
		Mirae Asset Securities	2025	45.00	Others
	Securities Firm	KB Securities	2023	1.36	By Balance
		Daol Investment & Securities	2030	1.10	Investment Amount
	Asset	NH-Amundi Asset Management	2023	0.43	Others
	Management	BNK Asset Management	2023	0.27	By Balance
	Company	Woori Global Asset Management	2023	0.13	Others

^{1.} Took the top three institutions by target amount per sector, except private banks, which took all five that set targets.

The ESG Finance Targets of the Top Five Private Financial Groups

Table 15 2023 ESG Finance Targets of the Top Five Private Financial Groups

	Target Year	Target Amount	Target Basis
Nonghyup Financial Group	2030	30.1	Others
Woori Financial Group	2030	100.0	Cumulative Amount of Fund injection
Shinhan Financial Group	2030	30.0	Cumulative Amount of Fund injection
KB Financial Group	2030	50.0	By Balance
Hana Financial Group	2030	60.0	Cumulative Amount of Fund injection

Unit: Trillion KRW

All five of Korea's largest private financial groups have reported ESG finance targets for three years. Woori, KB, and Hana Financial Groups have reported the same target for three years, and Shinhan has reported the same target for two years after the 2022 target change. NH Financial Group reported different targets in all three years.

Three of the five largest financial groups set their target basis in terms of the cumulative amount of fund injection. The targets for each financial group in terms of expected average annual new investment capital is Woori KRW 10 trillion, Shinhan KRW 3 trillion, Hana KRW 7.5, and KB KRW 16.8 trillion. The ratio of the average annual amount of new investment capital to AUM was Woori (2.52%), Hana (1.69%), Shinhan (0.56%), and KB (0.3%), in the respective order, except NH Financial Group, where the estimated amount of new investment capital could not be calculated due to mixed target basis.

All four financial groups except Woori have seen steady growth in ESG finance. Shinhan, NH, and Woori significantly increased their ESG finance size in 2021, with KRW 27 trillion, KRW 13 trillion, and KRW 12 trillion, respectively, and KB and Hana increased their volumes even more in 2022, with KRW 9 trillion and KRW 7 trillion, respectively.

Woori grew in size in 2021 but declined by KRW 3.67 trillion in 2022. Woori Bank accounts for 98% of Woori Financial Group's ESG finance size, with the main reason being that Woori's ESG loan volume decreased by about KRW 4.5 trillion year—on—year. The amount of technology financing in the social (S) sector decreased significantly.

APPENDIX



Survey and Analysis Methodology



Survey Target

• A survey was conducted targeting all public and private financial institutions in Korea.



Survey Methodology

- Public Financial Institutions: Questionnaires were sent to the ministries in charge of public financial institutions through the office of Yongwoo Lee, a Member of the National Assembly.
- Private Financial Institutions: Requested data from the Financial Supervisory Service through the office of Yongwoo Lee, a
 Member of the National Assembly, and the Financial Supervisory Service compiled data from each
 financial company.



Survey Contents

- Survey Period: June July 2023
- Requested Data: (As of the end of 2022) Asset status annual overview of ESG finance, the status of ESG loan, the status of
 ESG investment (Socially Responsible Investments), the status of ESG financial instrument, the status of
 ESG-related bond issuance, activation and objectives of ESG finance targets.



Survey Responding Institutions

- A total of 171 institutions responded
- Public Financial Institutions: 82
- Private Financial Institutions: 89 (9 banks, 16 life insurance companies, 10 non-life insurance companies, 32 securities firms,
 22 asset management companies)



Additional Data Research

- ESG Bond Issuance: Conducted based on the data disclosed from the 'Social Responsibility Investment Bonds' of the Korea Exchange from 2018 to the end of June 2023.
- ESG Public offering Funds: Referenced Morningstar Direct data, and the applicability of ESG investment for each public offering fund was determined by Morningstar based on the information in the investment description.



Data and Methods Used in Comprehensive Analysis

- The analysis in this report primarily uses data from the end of 2020, including various types of ESG finance (ESG loan, ESG investment, ESG financial instrument, ESG bond issuance) collected from the compiled data.
- ESG Loan: Collect data according to the type of loan for use in analysis.
- ESG Investment: Data was compiled according to the type of investment. However, to prevent double counting of entrusted
 assets, assets managed by asset management companies on behalf of clients were excluded from the
 calculation of ESG investment size for analysis.
- ESG Financial Instrument: Aggregate data by type of financial instrument and use for analysis.
- ESG Bond Issuance: Analyzed the aggregated data and data disclosed in 'Socially Responsible Investment Bonds' but excluded
 duplicate data by comparing 'bond name' and 'stock name' entered by financial institutions to prevent
 duplicate accounting of bond issuance.
- Yearly Analysis: Use data from the Status of ESG Finance from 2018 through the end of December 2022.
- Analysis by E·S·G Issues: Use only E·S·G categorized data in the aggregate.

ESG Finance Response Institution^{1,2}

Institution	Main Authority	ln-h	ouse ESG	Finance Tar	gets	K-Taxonomy		Korean Green Bond Guidelines
(Fund) Name	,	Setting the Target	Target Year	Target Basis	Target Amount (in billions of KRW)	Application Status	Applicable Items	Application Status
		Public F	inancial In	stitution				
Employment Insurance Fund	Ministry of Employment and Labor	No response	-		-	Х	-	Х
Government Employees Pension Fund	Ministry of Personnel Management	0	2023	By Balance	13,980	X	_	X
Korea Scientists & Engineers Mutual-aid Association	Ministry of Science and ICT	Х	-		-	0	2	0
Science and Technology Promotion Fund	Ministry of Science and ICT	Х	-		-	Х	-	Х
National Ocean Science Museum	Ministry of Oceans and Fisheries	No response	-		-	Х	-	No response
National Maritime Museum	Ministry of Oceans and Fisheries	Х	-		-	No resporse	-	No response
National Marine Biodiversity Institute of Korea	Ministry of Oceans and Fisheries	Х	-		_	X	_	X
National Pension Service	Ministry of Health and Welfare	0	2023	Others	-	X	-	Х
National Sports Promotion Fund	Ministry of Culture, Sports and Tourism	No response	-		-	No response	-	No response
Military Welfare Fund	Ministry of National Defense	No response	-		_	No response	-	No response
Military Pension Fund	Ministry of National Defense	No response	-		_	No response	-	No response r
Labor Welfare Promotion Fund	Ministry of Employment and Labor	No response	-		-	No response	-	No response
Geumgang Water Management Fund	Ministry of Environment	No response	-		-	No response	-	No response
Korea Technology Finance Corporation	Ministry of SMEs and Startups	0	-		-	0	2	0
Nakdong River Water Management Fund	Ministry of Environment	No response	-		-	No response	-	No response
Inter-Korean Cooperation Fund	Ministry of Unification	No response	-		-	No response	-	No response
Agricultural Price Stabilization Fund	Ministry of Agriculture, Food and Rural Affairs	No response	-		_	No response	-	No response
Agricultural and Fishery Disaster and Reinsurance Fund	Ministry of Agriculture, Food and Rural Affairs	No response	-		-	No response	-	No response
Agricultural and Rural Public Interest Promotion Direct Payment Fund	Ministry of Agriculture, Food and Rural Affairs	No response	-		-	No response	-	No response

^{1.} The institutions that have submitted data for the current year are explicitly indicated. Institutions that "pending response" are not indicated

^{2. 1:} Loan / 2: Investment / 3: Instrument / 4: Bond Issuance

Institution	Main Authority	ln-h	ouse ESG l	Finance Tar	gets	K-Taxonomy		Korean Green Bond Guidelines
(Fund) Name	Main Authority	Setting the Target	Target Year	Target Basis	Target Amount (in billions of KRW)	Application Status	Applicable Items	Application Status
Farmland	Ministry of Agriculture,	No	-		-	No	-	No
Management Fund	Food and Rural Affairs	response				response		response
Economic Development Cooperation Fund	Ministry of Economy and Finance	No response	-		-	No response	-	No response
Public Officials Benefit Association	Ministry of the Interior and Safety	Х	-		-	Х	-	Х
Cultural Arts Promotion Fund	Ministry of Culture, Sports and Tourism	Х	-		-	Х	-	Х
Cultural Heritage Protection Fund	Cultural Heritage Administration	No response	-		-	No response	_	No response
Radioactive Waste Management Fund	Ministry of Trade, Industry and Energy	X	-		-	X	-	X
Patriots and Veterans Fund	Ministry of Patriots and Veterans Affairs	No response	-		-	No response	-	No response
Lottery Fund	Ministry of Economy and Finance	No response	-		-	No response	-	No response
Busan Port Authority	Ministry of Oceans and Fisheries	X	-		-	0	4	0
Pension for Private School Teachers and Staff	Ministry of Education	Х	-		-	Х	-	Х
Private Schools Promotion Fund	Ministry of Education	Х	-		-	X	-	Х
Infrastructure Credit Guarantee Fund	Ministry of Economy and Finance	Х	-		-	Х	-	Х
Industrial Technology Promotion and Industrialization Promotion Fund	Ministry of Trade, Industry and Energy	No response	-		-	No response	-	No response r
Industrial Accident Compensation Insurance and Prevention Fund	Ministry of Employment and Labor	No response	-		-	Х	-	Х
Korean Federation of Community Credit Cooperatives	Ministry of the Interior and Safety	Х	-		-	X	-	Х
Asbestos Damage Relief Fund	Ministry of Environment	No response	-		-	0	3	0
Small Business Market Promotion Fund	Ministry of SMEs and Startups	Х	-		-	Х	-	X
Fisheries Development Fund	Ministry of Oceans and Fisheries	No response	-		-	No response	-	No response
Patriotic Government Project Fund	Ministry of Patriots and Veterans Affairs	No response	-		-	No response	-	No response
Community Media Foundation	Korea Communications Commission	Х	-		-	X	-	Х
Korea Credit Guarantee Fund	Financial Services Commission	0	2023	Others	26,750	0	1, 4	0

Institution	Main Authority	ln-h	ouse ESG	Finance Tar	gets	K-Taxonomy		Korean Green Bond Guidelines
(Fund) Name		Setting the Target	Target Year	Target Basis	Target Amount (in billions of KRW)	Application Status	Applicable Items	Application Status
Food Grain Stock Consolidating Fund	Ministry of Agriculture, Food and Rural Affairs	No response	-		-	No response	-	No response
Press Promotion Fund	Ministry of Culture, Sports and Tourism	Х	-		-	X	-	X
Yeosu Gwangyang Port Authority	Ministry of Oceans and Fisheries	Х	-		-	X	-	Х
Yeongsangang River, Seomjingang River Water Management Fund	Ministry of Environment	No response	-		-	No response	-	No response
Film Development Fund	Ministry of Culture, Sports and Tourism	Х	-		-	0	3	X
Korea Deposit Insurance Corporation	Financial Services Commission	0	2023	Others	13,500	Х	-	Х
Deposit Insurance Fund Bond Redemption Fund	Financial Services Commission	Х	-		-	X	-	Х
Foreign Exchange Equalization Fund	Ministry of Economy and Finance	No response	-		-	No response	-	No response
Korea Post	Ministry of Science and ICT	0	2023	By Balance	110,000	0	2	0
Ulsan Port Authority	Ministry of Oceans and Fisheries	Х	-		-	0	2	0
Nuclear Energy Fund	Ministry of Science and ICT	Х	-		-	Х	-	Х
Incheon Port Authority	Ministry of Oceans and Fisheries	Х	-		-	0	4	0
Wage Bond Guarantee Fund	Ministry of Employment and Labor	No response	-		-	Х	-	Х
Automobile Accident Damage Support Fund	Ministry of Land, Infrastructure and Transport	No response	-		-	No response	-	No response
Employment Promotion and Vocational Rehabilitation Fund for Persons with Disabilities	Ministry of Employment and Labor	No response	-		-	X	-	X
Electric Power Industry Fund	Ministry of Trade, Industry and Energy	X	-		-	X	_	0
Industrial Bank of Korea	Financial Services Commission	0	2030	Investment Amount	93,000	0	1, 2, 3, 4	0
Korea SMEs and Startups Agency	Ministry of SMEs and Startups	Х	-		-	Х	-	Х
Local Newspapers Development Fund	Ministry of Culture, Sports and Tourism	Х	-		-	Х	-	Х
Livestock Development Fund	Ministry of Agriculture, Food and Rural Affairs	No response	-		-	No response	-	No response
Han River Water Management Fund	Ministry of Environment	No response	-		-	No response	-	No response

Institution	Main Authority	ln-h	ouse ESG	Finance Tar	gets	K-Taxonomy		Korean Green Bond Guidelines
(Fund) Name	Main Authority	Setting the Target	Target Year	Target Basis	Target Amount (in billions of KRW)	Application Status	Applicable Items	Application Status
Korea Mine Rehabilitation and Mineral Resources Corporation	Ministry of Trade, Industry and Energy	X	_		-	X	-	Х
Korean Teachers' Credit Union	Ministry of Education	Х	-		-	0	2	0
Korea Trade Insurance Corporation	Ministry of Trade, Industry and Energy	0	2023	Cumulative Amount of Fund injection	2,339	X	-	Х
Korea Broadcast Advertising Corporation	Korea Communications Commission	X	-		_	X	_	Х
Korea Communications Agency	Ministry of Science and ICT	X	-		-	X	-	Х
Korea Communications Agency	Ministry of Science and ICT	X	-		_	X	_	Х
Korea Venture Investment Corp.	Ministry of SMEs and Startups	No response	-		_	No response	_	No response
Korea Fisheries Resources Agency	Ministry of Oceans and Fisheries	X	-		_	No response	_	No response
Export-Import Bank of Korea	Ministry of Economy and Finance	0	2030	Others	2,061,660	Х	-	Х
Korea Fisheries Infrastructure Public Agency	Ministry of Oceans and Fisheries	Х	-		-	X	-	Х
Korea Housing Finance Corporation	Financial Services Commission	0	2027	Investment Amount	1,739,000	Х	-	0
Korea Institute Aids to Navigation	Ministry of Oceans and Fisheries	Х	-		-	X	-	Х
Korea Institute of Ocean Science & Technology	Ministry of Oceans and Fisheries	Х	-		_	X	-	Х
Korea Maritime Transportation Safety Authority	Ministry of Oceans and Fisheries	No response	-		_	No response	_	No response
Korea Institute of Maritime and Fisheries Technology	Ministry of Oceans and Fisheries	X	-		-	X	-	Х
Korea Hydrography and Research Association	Ministry of Oceans and Fisheries	Х	-		-	X	-	Х
Korea Ocean Business Corporation	Ministry of Oceans and Fisheries	Х	-		-	0	1, 2, 4	0
Korea Institute of Marine Science & Technology Promotion	Ministry of Oceans and Fisheries	X	-		-	X	-	Х
Korea Marine Environment Management Corporation	Ministry of Oceans and Fisheries	X	-		-	×	-	Х

Institution	Main Authority	ln-h	ouse ESG l	Finance Tar	gets	K-Taxonomy		Korean Green Bond Guidelines
(Fund) Name		Setting the Target	Target Year	Target Basis	Target Amount (in billions of KRW)	Application Status	Applicable Items	Application Status
FTA Fund	Ministry of Agriculture, Food and Rural Affairs	No response	-		-	No response	-	No response
KDB Bank	Financial Services Commission	0	2030	Investment Amount	132,000	0	1, 2, 4	0
		Private	Financial In	stitution				
			Bank					
Kwangju Bank	JB Financial Group	Х	-		-	0	1, 2, 3, 4	0
National Agricultural Cooperative Federation	Nonghyup Financial Group	Х	-		-	X	-	Х
Busan Bank	BNK Financial Group	Х	-		-	Х	-	X
Shinhan Bank	Shinhan Financial Group	0	2023	Cumulative Amount of Fund injection	10,217	0	1, 2, 3, 4	0
Woori Bank	Woori Financial Group	0	2023	Cumulative Amount of Fund injection	90,400	0	1, 2, 3, 4	0
Hana Bank	Hana Financial Group	0	2030	Cumulative Amount of Fund injection	280,000	0	1, 3, 4	0
BNK Kyongnam Bank	BNK Financial Group	Х	-		-	0	1, 3, 4	0
KB Kookmin Bank	KB Financial Group	0	2023	By Balance	286,337	0	1, 2, 3, 4	0
Nonghyup Bank	Nonghyup Financial Group	0	2030	Others	176,815	0	1, 2, 3, 4	0
			Life Insurand	e				
Kyobo Life Insurance	Kyobo Life Insurance Company	X	-		-	0	1, 2, 4	0
Tong Yang Life Insurance	Dajja Insurance Group	X	-		-	Х	-	0
MetLife Life Insurance Company	MET US	X	-		-	X	-	Х
Mirae Asset Life Insurance	Mirae Asset	0	2030	Investment Amount	Assets Under Management 7%	0	2	0
Samsung Life Insurance	Samsung Group	0	2030	By Balance	200,000	0	1, 2, 3	0
Shinhan Life	Shinhan Financial Group	0	2023	Others	3,125	0	1, 2, 3	0
Hanwha Life Insurance	Hanwha Group	0	2030	Others	5.5–6.5 trillion KRW	0	1, 2, 3, 4	0
Heungkuk Life Insurance	Taekwang Group	Х	-		-	Х	-	Х
ABL Life Insurance	Dajja Insurance Group	Х	-		-	0	1, 2	0
AIA Life Insurance	AIA Group	Х	-		-	Х	-	Х
DB Life Insurance	DB Group	X	-		-	Х	-	X

Institution	Main Ausbauis	ln-h	ouse ESG	Finance Tar	gets	К-Тахс	Korean Green Bond Guidelines	
(Fund) Name	Main Authority	Setting the Target	Target Year	Target Basis	Target Amount (in billions of KRW)	Application Status	Applicable Items	Application Status
DGB Life Insurance	DGB Financial Group	0	2023	Investment Amount	1,000	0	1, 2	0
IBK Insurance	Industrial Bank of Korea	0	-		-	X	-	No response
KB Life Insurance	KB Financial Group	0	2023	By Balance	5,258	X	_	X
KDB Life Insurance	Korea Development Bank	X	-		-	0	2	0
Nonghyup Life Insurance	Nonghyup Financial Group	0	_		_	0	1, 2, 3, 4	0
		No	n-life Insura	ance				
Lotte Insurance		Х	-		-	Х	-	Х
Samsung Fire & Marine Insurance	Samsung Group	0	2030	Cumulative Amount of Fund injection	155,000	0	1, 2, 3	0
Korean Reinsurance	Korean Reinsurance Company	0	2050	By Balance	12,700	0	1, 2, 4	0
Hanwha General Insurance	Hanwha Group	0	2022	Others	KRW 100 billion	X	_	0
Hyundai Marine & Fire Insurance	Hyundai Marine & Fire Insurance	X	-		-	0	1, 2, 3	0
Heungkuk Fire & Marine Insurance	Taekwang Group	0	-	Others	-	Х	-	Х
Dongbu Insurance	DB Group	0	-		-	Х	-	X
KB Insurance	KB Financial Group	0	2030	By Balance	44,246	0	2	0
Nonghyup Property & Casualty Insurance	Nonghyup Financial Group	0	2030	Others	20,398	0	1, 2, 3, 4	0
SGI Seoul Guarantee Insurance	Seoul Guarantee Insurance Company	X	-		-	0	2, 3	0
			Securities Fir	·m				
Kyobo Securities	Kyobo Life Insurance Company	X	-		-	0	1, 2, 3, 4	0
Daol Investment & Securities	Daol Financial Group	0	2030	Investment Amount	11,000	0	1, 2, 3, 4	0
Daishin Securities	Daishin Financial Group	Х	-		-	Х	-	X
DS Investment & Securities		Х	-		-	0	2	0
Leading Investment & Securities		Х	-		-	0	2	0
Meritz Securities	Meritz Financial Group	X	-		-	Х	-	Х
Mirae Asset Securities	Mirae Asset	0	2025	Others	450,000	Х	-	0
Bookook Securities	Hanil Group	0	2025	By Balance	120	0	1, 2, 3	0
Samsung Securities	Samsung Group	0	2025	Others	100 Items	0	2, 3, 4	0
Sangsangin Securities	Sangsangin Financial Group	No response	-		-	No response	_	No response
Shinyoung Securities		X	-		-	0	2, 3, 4	0

Institution	Main Authority	ln-h	ouse ESG l	Finance Tar	gets	K-Taxo	Korean Green Bond Guidelines	
(Fund) Name		Setting the Target	Target Year	Target Basis	Target Amount (in billions of KRW)	Application Status	Applicable Items	Application Status
Shinhan Securities Co., Ltd.	Shinhan Financial Group	0	2023	Investment Amount	2,134	0	1, 2, 3, 4	0
Yuanta Securities	Yuanta Financial Group	Х	-		-	Х	-	Х
Eugene Investment & Securities	Eugene Group	X	_		_	0	2, 3	0
Yuhwa Securities		X	-		_	0	2	0
Ebest Investment & Securities		X	_		_	0	2	0
Kakaopay Securities	Kakao	X	-		_	0	3	0
Cape Investment & Securities	Cape	Х	-		_	X	-	Х
Korea Asset Investment Securities		Х	-		-	0	2	X
Kiwoom Securities	Dow Technology	Х	-		-	X	-	Х
Hana Securities	Hana Financial Group	Х	-		-	0	1, 2, 3, 4	0
Hi Investment & Securities	DGB Financial Group	No response	-		-	0	-	0
Korea Investment & Securities	Korea Investment Holdings	X	-		-	X	-	Х
Hanwha Investment & Securities	Hanwha Group	Х	-		-	0	1, 2, 3, 4	0
Hyundai Motor Securities	Hyundai Motor Group	0	2023	Others		0	2	0
Heungkuk Securities	Taekwang Group	X	-		-	0	1, 2, 3	0
BNK Securities	BNK Financial Group	0	2023		-	0	1, 2	0
DB Financial Investment	DB Group	Х	-		-	X	-	Х
IBK Investment & Securities	Industrial Bank of Korea	No response	-		-	No response	-	No response
KB Securities	KB Financial Group	0	2023	By Balance	13,572	0	1, 2, 3, 4	0
NH Investment & Securities	Nonghyup Financial Group	0	2025	Others	10,000	0	1, 2, 3, 4	0
SK Securities		0	2023	Others	40	0	4	0
		Ass	et Manager	ment		ı	ı	
Kyobo Axa Investment Managers	Kyobo Life Insurance Company	X	-		-	0	3	0
Daol Asset Management	Daol Financial Group	Х	-		_	Х	-	Х
Daishin Asset Management	Daishin Financial Group	Х	-		-	0	2, 3	0
DWS Asset Management	Deutsche Bank Group	Х	-		-	0	2	0
Midas Asset Management		Х	-		-	0	3	0
Multi Asset Global Investments	Mirae Asset	Х	-		-	0	1, 2, 3	0
Mirae Asset Global Investments	Mirae Asset	X	-		-	0	2	0

Institution	Main Authority	ln-h	ouse ESG I	Finance Tar	K-Taxonomy		Korean Green Bond Guidelines	
(Fund) Name		Setting the Target	Target Year	Target Basis	Target Amount (in billions of KRW)	Application Status	Applicable Items	Application Status
Barings	MassPublic offering	Х	-		-	Х	-	Х
Samsung Active Asset Management	Samsung Group	Х	-		-	0	2	X
Shinhan Asset Management		Х	_		-	X	_	X
Shinhan Asset Management	Shinhan Financial Group	Х	-		-	0	3	0
Woori Global Asset Management	Woori Financial Group	0	2023	Others	1,300	X	_	0
Woori Asset Management	Woori Financial Group	0	2023		_	0	2, 3	0
Trustone Asset Management		X	-		_	0	2, 3	0
Hi Asset Management	DGB Financial Group	Х	-		-	X	-	0
Hanwha Asset Management	Hanwha Group	Х	-		-	0	2, 3, 4	0
Hyundai Investment Asset Management	Hyundai Marine & Fire Insurance	Х	-		-	Х	-	Х
Heungkuk Asset Management	Taekwang Group	Х	-		-	0	3	0
BNK Asset Management	BNK Financial Group	0	2023	By Balance	2,686	0	3	0
IBK Asset Management	Industrial Bank of Korea	Х	-		-	0	1, 2	0
KDB Infrastructure Asset Management	Korea Development Bank	Х	-		-	Х	-	Х
NH-Amundi Asset Management	Nonghyup Financial Group	0	2023	Others	4,300	0	3	0

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