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July 2025

Results of the Fourth Market Functioning Survey concerning Climate Change

- Progress in the Improvement of Market Functioning and Challenges for the Future -

Financial Markets Department

Bank of Japan

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Executive Summary

To accelerate efforts in tackling climate change, it is crucial for financial markets to play a greater role in terms of financial intermediation by incorporating risks and opportunities arising from climate change into the pricing of financial instruments, such as stocks and bonds, and by providing a more favorable environment for the issuance of climate change-related ESG bonds (hereinafter "the ESG bonds"). Since 2022, the Bank of Japan has conducted the Market Functioning Survey concerning Climate Change to evaluate those developments and challenges in Japanese financial markets.

Respondents in the fourth survey viewed that climate-related risks and opportunities were priced into both the stock and corporate bond markets in Japan slightly more than the previous survey. To further incorporate these factors into market prices, the most frequently cited priority was "increasing issuers and/or investors that place a high value on climate-related risks and opportunities."

Regarding the current status of the ESG bond market, there was a slight shift in respondents' assessment of the economic advantages of issuing the ESG bonds. As the expansion of the investor base became limited, respondents' views on supply and demand conditions changed toward loosening. Their views on the advantages of issuance conditions for the ESG bonds over non-ESG bonds, such as the presence of a greenium, also became somewhat more cautious. The proportion of respondents selecting "gaining new investors and/or diversifying the investor base" as a reason for issuing the ESG bonds declined accordingly. As for the market outlook, both business corporates and investors appeared to remain willing to use the ESG bonds actively over a somewhat long term. However, business corporates seemed to be considering fundraising methods for climate change-related responses more flexibly, including options such as taking out loans or issuing non-ESG bonds. Under these circumstances, the most frequently cited challenge for expanding the ESG bond market was "increasing issuers and/or investors that place a high value on climate-related risks and opportunities."

Although there were slight changes in respondents' views on the economic aspects of the ESG bonds, companies maintained their overall stance on gaining understanding and securing necessary funds to address climate change. They have consistently placed greater importance on business strategy and reputation rather than economic benefits as primary reasons for issuing the ESG bonds, and this perspective continues to shape their approach. Transition

finance is being increasingly utilized, particularly in high-emitting sectors, and many companies plan to use it going forward. Respondents also indicated that they would utilize transition plans, for example, as tools for fundraising.

The international situation surrounding climate finance has changed since last autumn, against the backdrop of the change in administration in the United States and intensified discussions over industrial competitiveness in Europe. In this survey, there appeared to be no clear indication that these developments had a direct and significant impact on the views of market participants in Japan. Some respondents noted that Japan's approach to climate finance had been well-balanced to date, and thus there had been little notable influence of these international developments on domestic efforts. At the same time, these developments seem to have sparked growing interest in climate change-related initiatives among respondents. Many respondents expressed views on climate finance and disclosure from various perspectives, including cost-effectiveness, underlying philosophy, and practical effectiveness. Looking ahead, how such developments will affect the views of market participants in Japan is a key point of interest. As climate-related disclosure legislation continues to advance, the role and positioning of the ESG bonds within corporate strategies may shift. It is therefore be important to closely monitor these trends when assessing the functioning of climate-related financial markets.

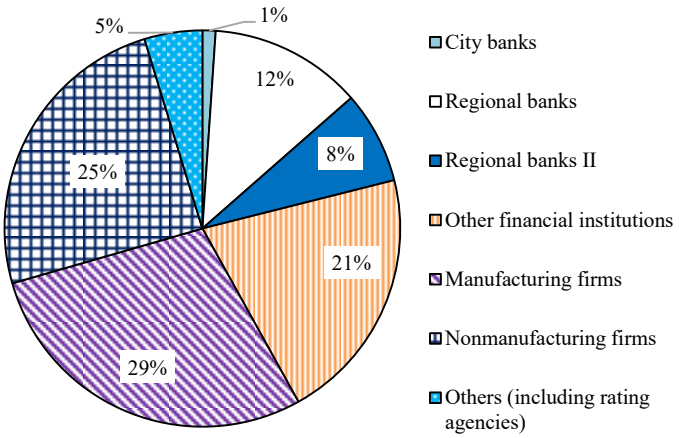
I. Introduction

Since 2022, the Bank of Japan has conducted the Market Functioning Survey concerning Climate Change, targeting a wide range of market participants including not only investors and financial institutions but also business corporates and others. The survey aims to continuously collect their views on the functioning of Japanese financial markets in relation to climate change and identify challenges for further improvement. The Bank publishes the results of the survey and hosts a meeting on the results.[1]

The fourth round of the survey was carried out between February 13 and March 31, 2025. The questionnaire for this round was distributed to 948 entities, including financial institutions, business corporates, and rating agencies, compared to 921 entities in the third survey. Of the distributed questionnaires, 465 entities responded, while the third survey received responses from 444 entities. Consequently, the response rate increased from 48 percent in the third survey to 49 percent in the fourth survey.

The Bank is appreciative of the valuable contributions from all the survey respondents. Furthermore, the Bank extends its gratitude to the Task Force on Climate-Related Financial Disclosures (TCFD) Consortium (Chair: Kunio ITO, Director of Hitotsubashi CFO Education and Research Center) as well as other associations and organizations for their support, all of which helped the Bank to survey a broad range of entities.

Overview of Respondents (Breakdown by Sector)



[1] "Meeting on the Market Functioning Survey concerning Climate Change" (https://www.boj.or.jp/en/paym/m-climate/index.htm)

As data accumulation has progressed over the past rounds of the survey, the fourth survey introduced a diffusion index (hereinafter "DI") format for some of the major question series.[2] This format allows for easier interpretation of directional trends in responses over time. In addition, given that the number of respondents has stabilized and the impact of sample changes has become smaller, this survey did not aggregate the responses of entities that participated in both the third and fourth surveys.

[2] Changes in the DI in past surveys were influenced to some extent by sample changes, as the number of respondents increased. For a comparison of past survey results on a continuous respondent basis excluding the effects of those sample changes, please refer to the results of the previous surveys.

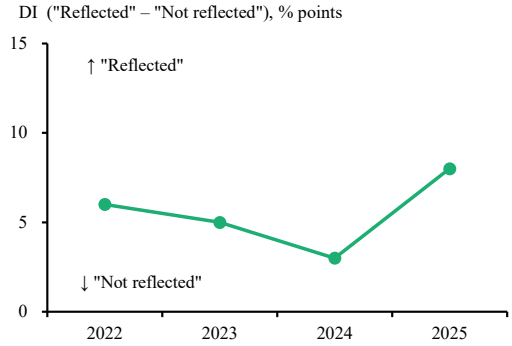
II. Results of the Fourth Market Functioning Survey concerning Climate Change

A. Pricing of Climate-related Risks and Opportunities in Financial Instruments

1. Pricing of Climate-related Risks and Opportunities

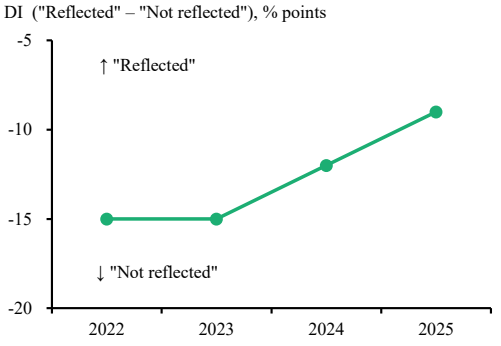
Regarding market participants' views on whether climate-related risks and opportunities were reflected in the pricing of stocks and corporate bonds in Japanese financial markets, the DI for stock prices rose slightly to 8 compared to the previous survey, while the DI for corporate bond prices increased modestly to minus 9. Comparing these two prices, the proportion of respondents who indicated that climate-related risks and opportunities were reflected in stock prices remained higher than those who viewed them as reflected in corporate bond prices (Charts 1 and 2).

Chart 1: DI for Climate-related Risks and Opportunities in Stock Prices in Japan



Note: The total number of respondents was 284 in 2022, 375 in 2023, 437 in 2024, and 459 in 2025, excluding those who did not provide answers. The DI is calculated as the proportion of respondents who selected "reflected" or "somewhat reflected" minus the proportion of those who selected "not reflected" or "not reflected much." Responses of "reflected" and "not reflected" are assigned a weight of 1, while "somewhat reflected" and "not reflected much" are assigned a weight of 0.5.

Chart 2: DI for Climate-related Risks and Opportunities in Corporate Bond Prices in Japan

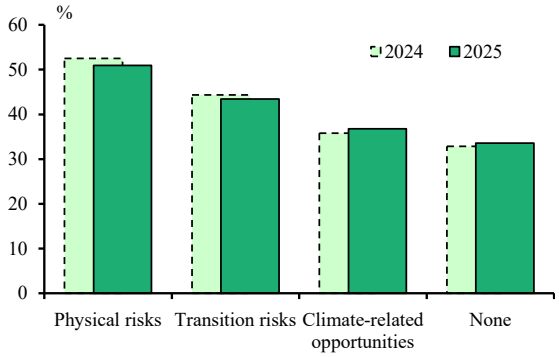


Note: The total number of respondents was 281 in 2022, 367 in 2023, 429 in 2024, and 452 in 2025, excluding those who did not provide answers. The DI is calculated as the proportion of respondents who selected "reflected" or "somewhat reflected" minus the proportion of those who selected "not reflected" or "not reflected much." Responses of "reflected" and "not reflected" are assigned a weight of 1, while "somewhat reflected" and "not reflected much" are assigned a weight of 0.5.

When asked about which factors of climate-related risks and opportunities they believed were not reflected in the prices of stocks and corporate bonds, approximately 50 percent of respondents identified "physical risks," followed by "transition risks" and "climate-related opportunities," for

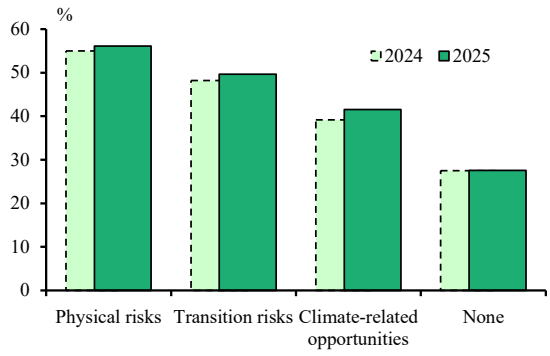
both types of financial instruments.[3] Comparing these two prices, many respondents indicated that these factors were reflected to a lesser extent in corporate bond prices than in stock prices. Compared to the previous survey, there was a slight increase in the proportion of respondents who indicated that each type of climate-related risk was not reflected in corporate bond prices. Meanwhile, the proportion of respondents who selected "none," indicating that all factors were reflected, remained largely unchanged. For stock prices, no significant changes were observed from the previous survey results (Charts 3 and 4).

Chart 3: Climate-related Risks and/or Opportunities That Are Not Reflected in Stock Prices in Japan



Note: The total number of respondents was 444 in 2024 and 465 in 2025. Multiple answers were allowed.

Chart 4: Climate-related Risks and/or Opportunities That Are Not Reflected in Corporate Bond Prices in Japan



Note: The total number of respondents was 444 in 2024 and 465 in 2025. Multiple answers were allowed.

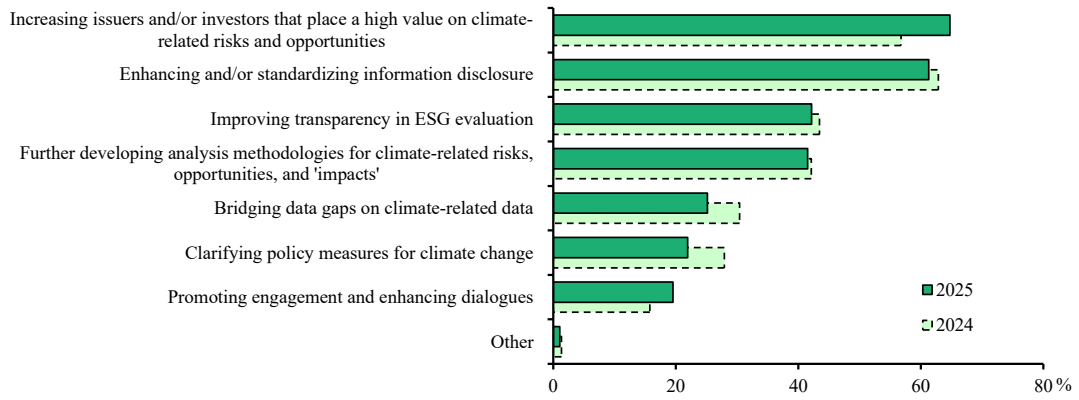
[3] "Climate-related risks (physical risks)" refers to risks that physical phenomena triggered by climate change, such as large-scale disasters or rising sea levels, will have an economic loss for issuers' businesses. "Climate-related risks (transition risks)" refers to the risks of an economic loss for issuers' businesses due to changes in policy, technology, or consumer preference as society transitions toward carbon-neutral. "Climate-related opportunities" refers to profit opportunities and growth opportunities brought about by efforts to respond to climate change issues.

2. Factors Necessary to Price in Climate-related Risks and Opportunities

When asked to select up to three factors respondents considered necessary for further reflecting climate-related risks and opportunities in stock and corporate bond prices, approximately 60 percent of them selected "increasing issuers and/or investors that place a high value on climate-related risks and opportunities" and "enhancing and/or standardizing information disclosure."

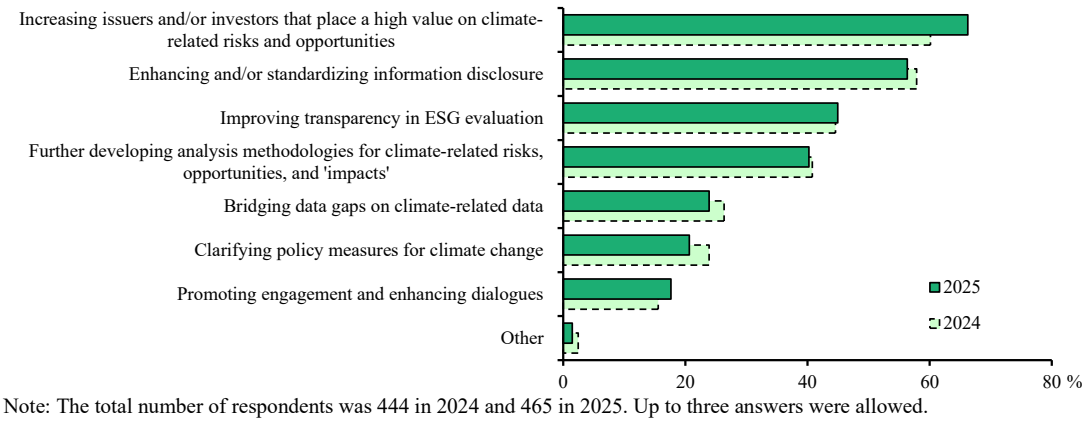
Compared to the previous survey, for both stock and corporate bond prices, the proportion of respondents who selected "increasing issuers and/or investors that place a high value on climate-related risks and opportunities" rose, and the proportion of those who selected "promoting engagement and enhancing dialogues" slightly increased. Meanwhile, there was a slight decline for both types of financial instruments in the proportion of respondents who selected "bridging data gaps on climate-related data" and "clarifying policy measures for climate change" (Charts 5 and 6).

Chart 5: Factors Necessary to Reflect Climate-related Risks and Opportunities in Stock Prices in Japan



Note: The total number of respondents was 444 in 2024 and 465 in 2025. Up to three answers were allowed.

Chart 6: Factors Necessary to Reflect Climate-related Risks and Opportunities in Corporate Bond Prices in Japan



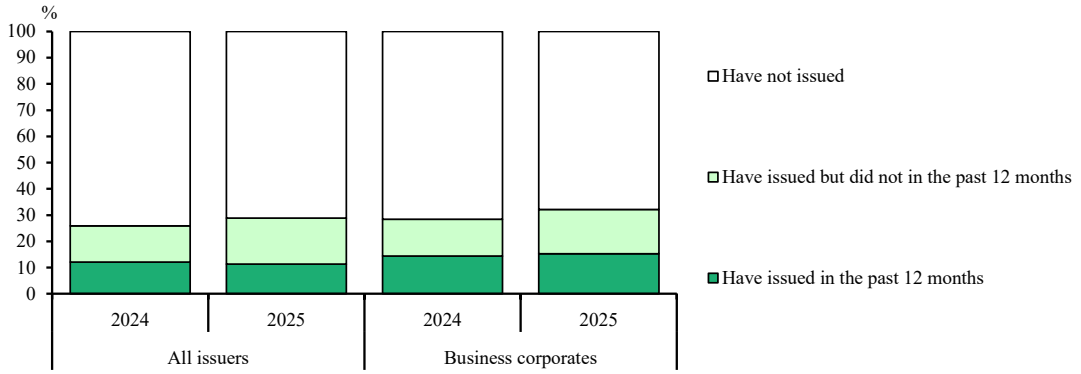
Note: The total number of respondents was 444 in 2024 and 465 in 2025. Up to three answers were allowed.

B. Climate Change-related ESG Bond Market

1. Experience and Purposes of Issuing Climate Change-related ESG Bonds

According to the survey results, the proportion of issuers[4] who confirmed that they had issued climate change-related ESG bonds[5] (hereinafter "the ESG bonds") in Japan increased slightly to approximately 30 percent compared to the previous survey (Chart 7). This figure includes those who responded "have issued in the past 12 months" and "have issued but did not in the past 12 months." Meanwhile, the proportion of issuers who have issued the ESG bonds within the past 12 months remained nearly unchanged from the previous survey at approximately 10 percent.[6]

Chart 7: Respondents That Have Issued Climate Change-related ESG Bonds



Note: The total number of respondents was 363 in 2024 and 381 in 2025, excluding those who did not provide answers and those who selected "not applicable (not an issuer)."

Issuers who have issued the ESG bonds within the past 12 months were also asked about their reasons for doing so. Approximately 80 percent of them selected options related to benefits for their business strategy and reputation such as the following: "climate change response has become more important in the entity's business strategy" and "issuing the ESG bonds improves the entity's reputation and/or its ability to give explanations to stakeholders." Compared to the previous survey, while there was a slight increase in the proportion of respondents who selected these two

[4] In this survey, the term "issuers" refers specifically to business corporates and financial institutions that indicated they had issued the ESG bonds or identified themselves as issuers but had not yet issued the ESG bonds.

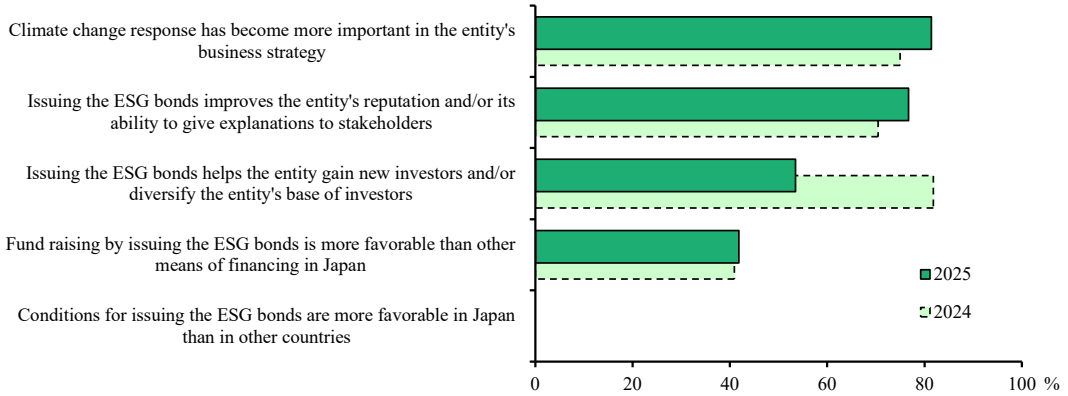
[5] "Climate change-related ESG bonds" refers to corporate bonds with labels, such as green bonds, sustainability bonds with use of proceeds related to efforts on climate change, sustainability-linked bonds with performance targets related to efforts on climate change (SLBs), transition bonds, and transition-linked bonds (TLBs), that comply with corresponding international standards and/or guidelines set by the Japanese government.

[6] Issuers who have issued the ESG bonds within the past 12 months include those who have issued the ESG bonds for the first time within the past 12 months and those who have issued the ESG bonds both before and within the past 12 months.

options, there was a notable decline in the proportion who chose "issuing the ESG bonds helps the entity gain new investors and/or diversify the entity's base of investors" (Chart 8).

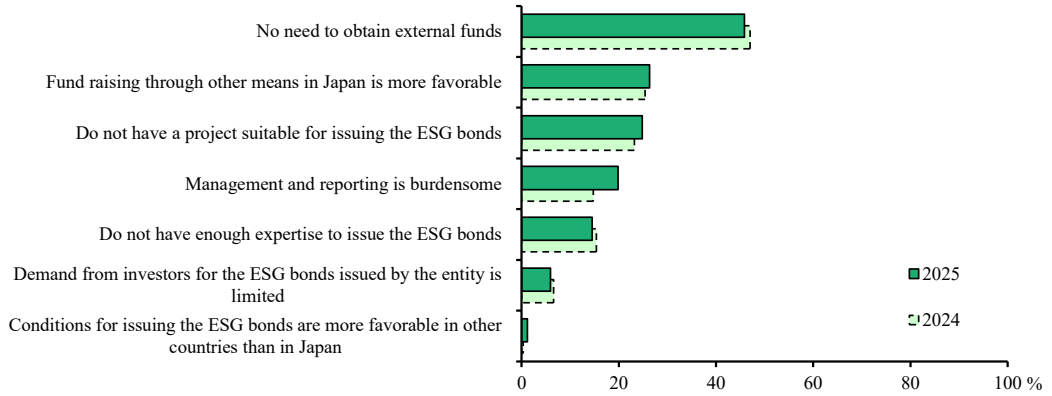
On the other hand, among those who have not issued the ESG bonds in the past 12 months, the most commonly cited reason, which was selected by approximately 45 percent of respondents, was "no need to obtain external funds," followed by "fund raising through other means of financing in Japan is more favorable" and "the entity does not have a project suitable for issuing the ESG bonds." Compared to the previous survey, there was a slight increase in the proportion of respondents who selected "management and reporting is burdensome" (Chart 9).

Chart 8: Reasons for Issuing Climate Change-related ESG Bonds in the Past 12 Months



Note: The total number of respondents was 44 in 2024 and 43 in 2025. These figures represent issuers who indicated that they had issued the ESG bonds within the past 12 months. Multiple answers were allowed.

Chart 9: Reasons for Not Issuing Climate Change-related ESG Bonds in the Past 12 Months

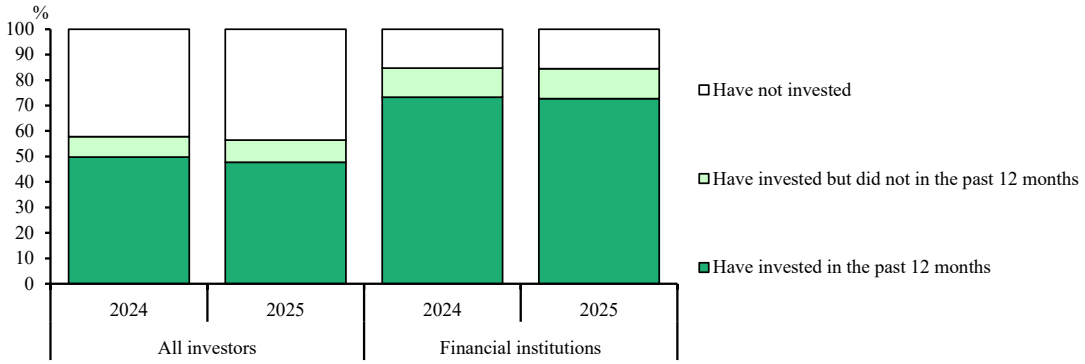


Note: The total number of respondents was 319 in 2024 and 338 in 2025. These figures represent issuers who indicated that they had not issued the ESG bonds within the past 12 months. Multiple answers were allowed.

2. Experience and Purposes of Investing in Climate Change-related ESG Bonds

When asked about their investments in the ESG bonds in Japan, nearly 55 percent of investors responded that they had invested in them (classified in the chart as "have invested in the past 12 months" and "have invested but did not in the past 12 months"), with the majority having done so within the past year.[7] Among this group, the proportion of financial institutions that had invested in the ESG bonds was approximately 85 percent, which was notably higher than the overall average for all investor respondents. Compared to the previous survey, there was no significant change in these results (Chart 10).

Chart 10: Respondents That Have Invested in Climate Change-related ESG Bonds



Note: The total number of respondents was 239 in 2024 and 241 in 2025, excluding those who did not provide answers or selected "not applicable (not an investor)."

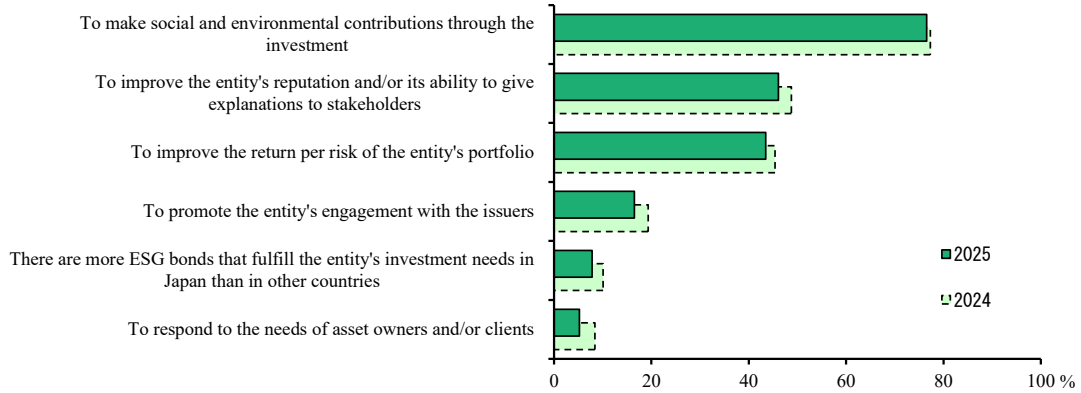
Among investors who had invested in the ESG bonds within the past 12 months, nearly 75 percent stated that their motivation was "to make social and environmental contributions through the investment." Additionally, almost 45 percent indicated respectively that they invested in the ESG bonds "to improve the entity's reputation and/or its ability to give explanations to stakeholders" or "to improve the return per risk of the entity's portfolio." Compared to the previous survey, there was no significant change in these results (Chart 11).

Meanwhile, among respondents who had not invested in the ESG bonds in the past 12 months, many cited reasons such as "the entity does not believe the investment will lead to an improvement in the return per risk of the entity's portfolio" and "no need from asset owners and/or clients." Compared to the previous survey, there was a slight increase in the proportion of respondents that selected "the entity does not believe the investment will lead to an improvement in the return per

[7] In this survey, the term "investors" refers specifically to business corporates and financial institutions that either reported having invested in the ESG bonds or identified themselves as investors but had not yet invested in the ESG bonds.

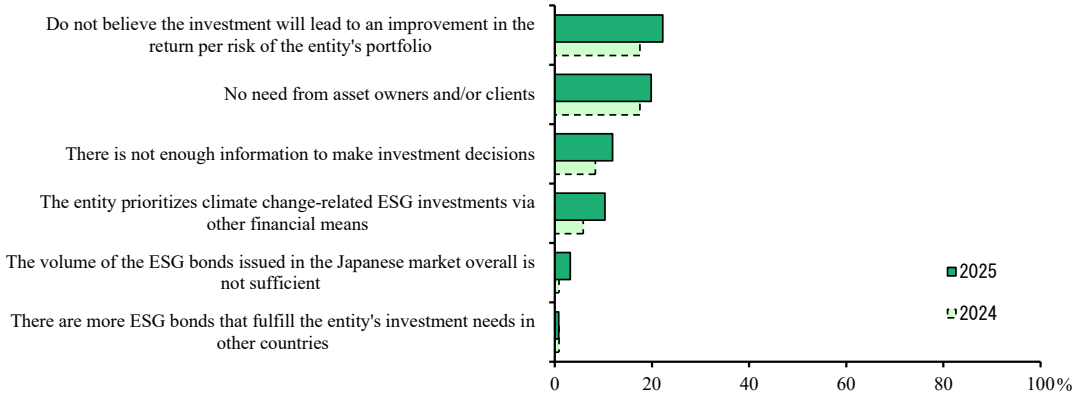
risk of the entity's portfolio" and "the entity prioritizes climate change-related ESG investments via other financial means" (Chart 12).

Chart 11: Reasons for Investing in Climate Change-related ESG Bonds in the Past 12 Months



Note: The total number of respondents was 119 in 2024 and 115 in 2025. These figures represent investors who indicated that they had invested in the ESG bonds within the past 12 months. Multiple answers were allowed.

Chart 12: Reasons for Not Investing in Climate Change-related ESG Bonds in the Past 12 Months

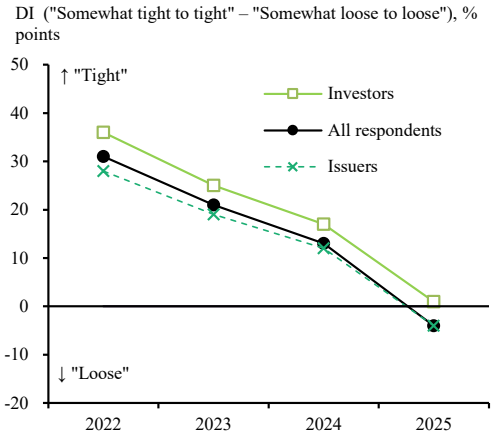


Note: The total number of respondents was 120 in 2024 and 126 in 2025. These figures represent investors who indicated that they had not invested in the ESG bonds within the past 12 months. Multiple answers were allowed.

3. Supply and Demand Conditions and Issuance Conditions of Climate Change-related ESG Bonds

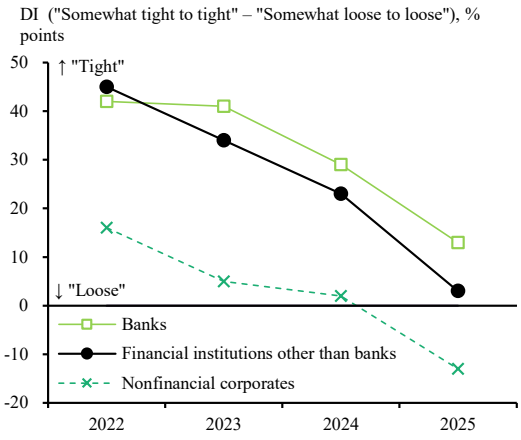
Regarding the supply and demand conditions for the ESG bonds in Japan, the DI declined compared to the previous survey, turning to minus 4, which indicates that conditions were "loose" rather than "tight." The DI, broken down by issuer and investor and by sector, showed a similar downward trend. By industry, supply and demand conditions for the ESG bonds remained "tight" for banks, while non-bank financial institutions stayed around a neutral level. Conditions for nonfinancial business corporates shifted from "tight" to "loose" (Charts 13 and 14).

Chart 13: DI for Supply and Demand Conditions of Climate Change-related ESG Bonds in Japan (by Issuer/Investor)



Note: The total number of respondents was 282 in 2022, 363 in 2023, 423 in 2024, and 446 in 2025, excluding those who did not provide answers. The DI is calculated as the proportion of respondents who selected "somewhat tight to tight" minus the proportion of those who selected "somewhat loose to loose."

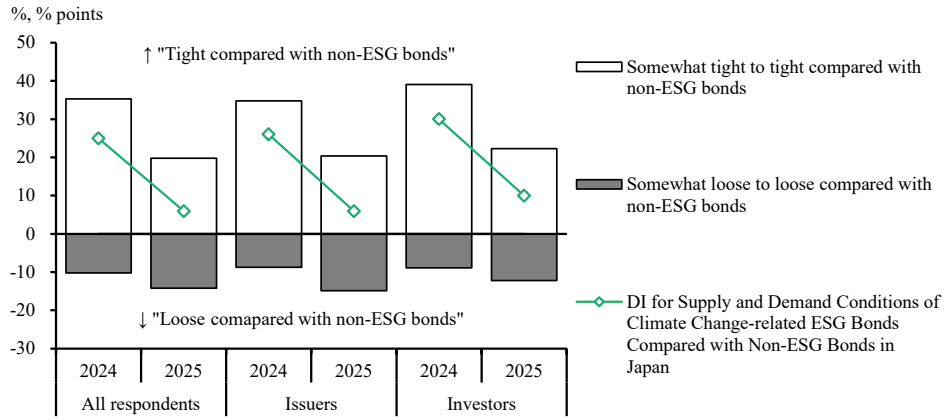
Chart 14: DI for Supply and Demand Conditions of Climate Change-related ESG Bonds in Japan (by Sector)



Note: The total number of respondents was 282 in 2022, 363 in 2023, 423 in 2024, and 446 in 2025, excluding those who did not provide answers. The DI is calculated as the proportion of respondents who selected "somewhat tight to tight" minus the proportion of those who selected "somewhat loose to loose."

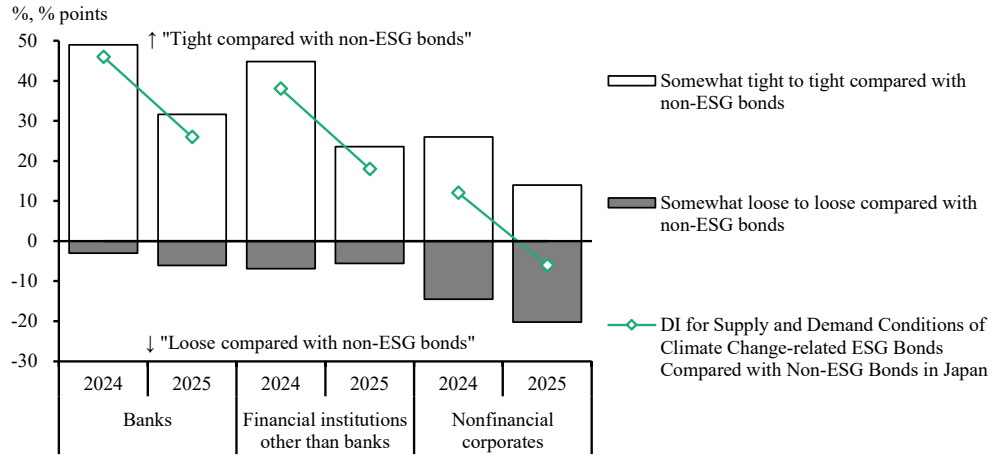
Regarding the supply and demand conditions for the ESG bonds compared with non-ESG bonds in Japan, the DI both by issuer and investor and by sector declined from the previous survey. By industry, the DI level remained at "tight" rather than "loose" for banks and non-bank financial institutions, while it was slightly "loose" rather than "tight" for nonfinancial business corporates (Charts 15 and 16).

Chart 15: DI for Supply and Demand Conditions of Climate Change-related ESG Bonds Compared with Non-ESG Bonds in Japan (by Issuer/Investor)



Note: The total number of respondents was 422 in 2024 and 444 in 2025, excluding those who did not provide answers. The DI is calculated as the proportion of respondents who selected "somewhat tight to tight compared with non-ESG bonds" minus the proportion of those who selected "somewhat loose to loose compared with non-ESG bonds."

Chart 16: DI for Supply and Demand Conditions of Climate Change-related ESG Bonds Compared with Non-ESG Bonds in Japan (by Sector)



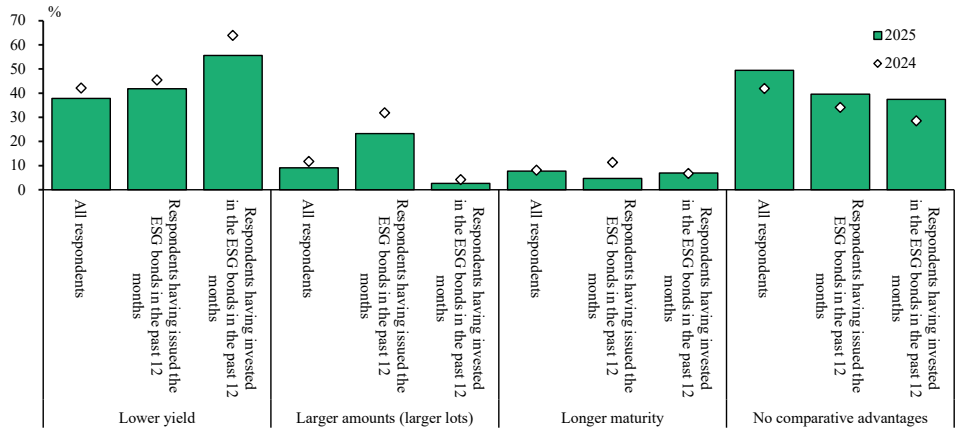
Note: The total number of respondents was 422 in 2024 and 444 in 2025, excluding those who did not provide answers. The DI is calculated as the proportion of respondents who selected "somewhat tight to tight compared with non-ESG bonds" minus the proportion of those who selected "somewhat loose to loose compared with non-ESG bonds."

When asked about differences in the issuance conditions of the ESG bonds compared with non-ESG bonds, nearly 40 percent of respondents mentioned that "the ESG bonds are issued at lower yield." Meanwhile, approximately 50 percent chose "the ESG bonds do not have advantages in terms of issuance conditions." This proportion was lower among respondents who had issued or invested in the ESG bonds within the past 12 months. Compared to the overall group, respondents who had issued the ESG bonds were more likely to select "the ESG bonds are issued in larger amounts (larger lots)," and those who had invested in the ESG bonds were more likely to choose "the ESG bonds are issued at lower yield." In addition, nearly 60 percent of respondents who had issued the ESG bonds within the past 12 months indicated that there were some advantages in

issuance conditions, while nearly 40 percent responded that there were no advantages.

Compared to the previous survey, there was a slight decrease in the proportion of respondents who selected "the ESG bonds are issued at lower yield" and "the ESG bonds are issued in larger amounts (larger lots)." Meanwhile, the proportion of respondents who selected "the ESG bonds do not have advantages in terms of issuance conditions" increased slightly. Similar trends were observed among respondents who had issued or invested in the ESG bonds within the past 12 months (Chart 17).

Chart 17: Perceptions of Issuance Conditions for Climate Change-related ESG Bonds Compared with Non-ESG Bonds



Note: The total number of respondents was 444 in 2024 and 465 in 2025. The number of respondents who had issued in the past 12 months was 44 in 2024 and 43 in 2025. The number of respondents who had invested in the past 12 months was 119 in 2024 and 115 in 2025. Multiple answers were allowed.

Box 1: Japan's ESG Bond Market

This box provides an overview of (a) the ESG bond issuance trends in Japan and (b) issuance trends and characteristics by industry and bond type.

A. The ESG Bond Issuance Trends in Japan

1. Outstanding Amount

In the Japanese corporate bond market, the outstanding amount of the ESG bonds has continued to increase. By the end of 2024, the total surpassed 8 trillion yen, accounting for approximately 9.5 percent of the entire Japanese corporate bond market, and the number of issuers also exceeded 220. Both figures are record highs (Charts B1-1 and B1-2).

By bond type, use-of-proceeds ESG bonds (green bonds, sustainability bonds, and transition bonds) accounted for about 80 percent of the total outstanding amount of the ESG bonds in Japan. Green bonds in particular made up roughly half of the total, and transition bonds, which were first issued in 2021, expanded to account for 10 percent as of 2024. Meanwhile, although the share of non-use-of-proceeds ESG bonds (SLBs and TLBs) has risen to around 20 percent over the past three years, it remains relatively small compared with use-of-proceeds bonds.

By industry, high-emitting sectors, the real estate and construction sectors (including investment corporations), and financial institutions (excluding investment corporations) together accounted for around 70 percent of the total outstanding amount of the ESG bonds in Japan. The share of high-emitting sectors has increased moderately since it surpassed 20 percent in 2022 (Chart B1-3).

Chart B1-1:
Outstanding Amount of the ESG Bonds by Bond Type

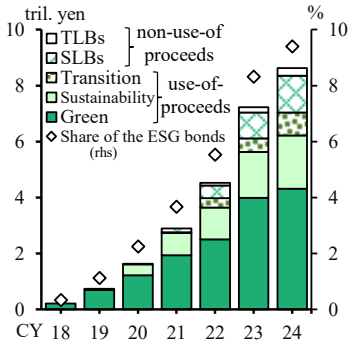


Chart B1-2:
Number of the ESG Bond Issuers

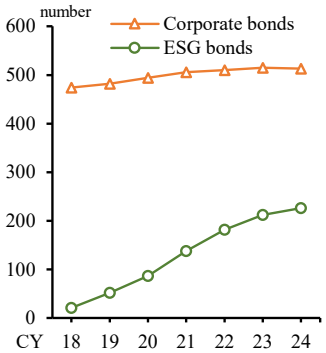
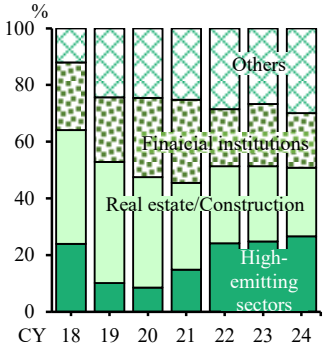


Chart B1-3:
The Share of Outstanding Amount of the ESG Bonds by Industry



Note: The data cover yen-denominated corporate bonds that were publicly offered in Japan (excluding perpetual subordinated bonds and those issued by SPCs). The ESG bonds include green bonds, sustainability bonds, SLBs, transition bonds, and TLBs. The number of issuers refers to entities with the outstanding ESG bonds or corporate bonds at specific points in time. For the definition of high-emitting sectors, see footnote 8 in section C.
Sources: JPX Market Innovation & Research; I-N Information Systems.

2. Issuance Amount

The issuance amount of the ESG bonds continued to increase through 2023 but declined in 2024 due to the waning impact of large-scale projects. The share of the ESG bond issuance relative to the total Japanese corporate bond market also fell to approximately 10 percent, partly reflecting an increase in the issuance of non-ESG bonds (Charts B1-4 and B1-5). By industry, issuance by financial institutions as well as the real estate and construction sectors declined significantly. Issuance in these sectors has historically been volatile, and in 2024 it dropped sharply from the previous year, mainly due to the dissipation of the effect of large-scale projects. As a partial cause of this volatility, some respondents noted that expectations of higher interest rates had prompted issuers to bring forward issuance plans, and that non-ESG bonds had been preferred for their greater issuance flexibility. Meanwhile, some pointed out that issuers' demand for the ESG bond issuance remained solid, as indicated by continued high issuance levels in high-emitting sectors and a sustained increase in issuance in sectors outside of financial institutions, the real estate and construction sectors, and high-emitting industries. Given this situation, they considered that the decline in the ESG bond issuance in 2024 was largely attributed to temporary factors (Chart B1-6).

Chart B1-4:
The ESG Bond Issuance
by Project Size

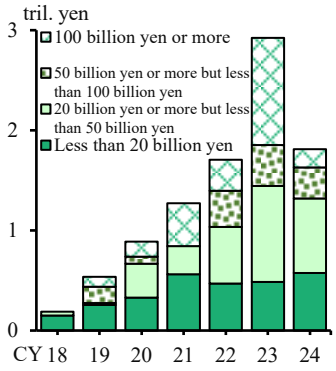


Chart B1-5:
The ESG Bond Issuance
by Bond Type

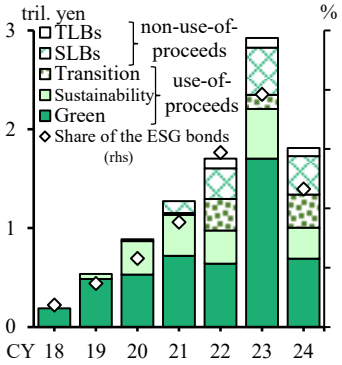
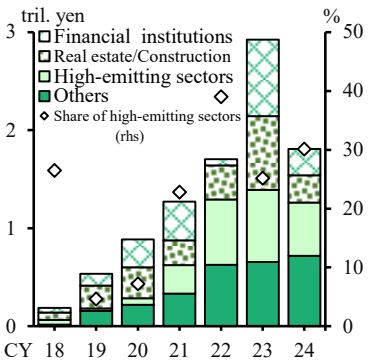


Chart B1-6:
The ESG Bond Issuance
by Industry



Note: Project size is classified based on the total amount of the ESG bonds issued in a single offering.
Sources: JPX Market Innovation & Research; I-N Information Systems.

B. The ESG Bond Issuance Trends and Characteristics by Industry and Bond Type

1. By Industry

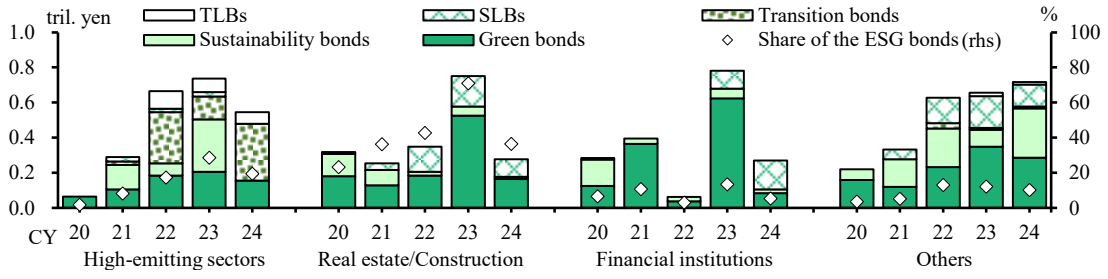
This section illustrates the ESG bond issuance trends and characteristics by industry, focusing on preferences for certain types of the ESG bonds over others, and for the ESG bonds versus non-ESG bonds. Firstly, high-emitting sectors, in particular, actively issued transition bonds: the share of transition bonds in their ESG bond issuance was significantly higher than in other

industries. The share of non-use-of-proceeds ESG bonds (SLBs and TLBs) was low in high-emitting sectors, and TLBs were preferred over SLBs. Although the share of the ESG bond issuance relative to total corporate bond issuance by high-emitting sectors declined from the previous year, it remained around 20 percent in 2024, which was above the industry average of approximately 10 percent across all sectors, indicating that high-emitting sectors maintained a relatively active stance toward the ESG bond issuance (Chart B1-7).

Secondly, the real estate and construction industries had the highest share of the ESG bonds in their corporate bond issuance, at approximately 35 percent. They actively issued green bonds, primarily for green buildings, which are clearly identifiable as eligible green assets. Thirdly, financial institutions, which had mainly been issuing green bonds, have gradually increased their issuance of SLBs in recent years. Although the ESG bond issuance by financial institutions has been volatile, the average share of the ESG bonds in their total corporate bond issuance over the long term has remained roughly in line with the overall industry average.

Lastly, other industries issued green bonds, sustainability bonds, and SLBs in a relatively well-balanced manner. Although issuance has been on an increasing trend, the share of the ESG bonds in their total corporate bond issuance has remained around 10 percent over the past three years, indicating no significant change in their stance toward the ESG bond issuance.

Chart B1-7: The ESG Bond Issuance by Industry and Bond Type



Sources: JPX Market Innovation & Research; I-N Information Systems.

2. By Bond Type

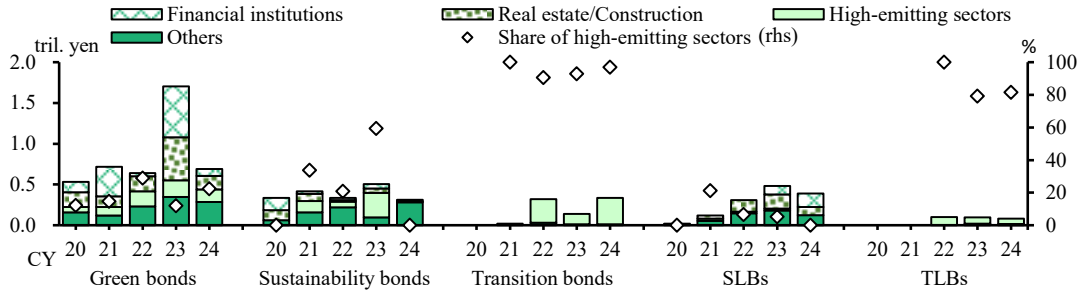
Regarding issuance trends by bond type, first, the issuance of green bonds, which is the largest category among the ESG bonds, declined significantly in 2024 compared to the previous year, mainly due to the waning impact of large-scale projects in the real estate and financial sectors, as noted above (Chart B1-8). High-emitting sectors, primarily the electric power industry, accounted for around 20 percent of green bond issuance.

SLBs, which had the second-highest issuance volume, were mainly issued by financial institutions (primarily leasing companies), as well as by the real estate and construction sectors, while issuance by high-emitting sectors remained limited.

Sustainability bonds, the third-largest category by issuance, were issued by land transportation companies and, in the past, by transportation equipment manufacturers, both of which belong to high-emitting sectors.

More than 80 percent of transition bonds and TLBs were issued by high-emitting sectors, indicating that the use of transition finance in the corporate bond market has progressed primarily within these sectors. Transition bond issuance increased again in 2024, as major electric power companies began issuing transition bonds to finance nuclear power projects. Meanwhile, TLBs were issued by only a few issuers, and their total issuance volume remained relatively small.

Chart B1-8: The ESG Bond Issuance by Bond Type and Industry



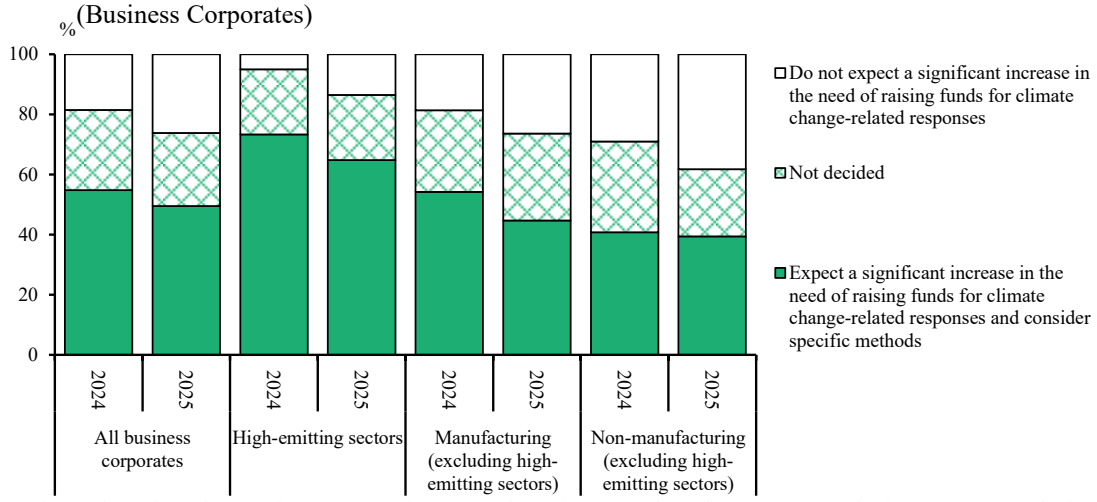
Source: JPX Market Innovation & Research.

C. Prospects and Challenges of the Climate Change-related ESG Bond Market

1. Plans for Climate Finance Toward Fiscal 2030

In response to questions about whether issuers expected a significant increase in the demand for funds for climate change-related responses toward fiscal 2030, about 50 percent of business corporates indicated that they did so and were considering specific fundraising methods. By sector, approximately 65 percent of respondents in high-emitting sectors[8] gave this response, compared to around 40 percent of manufacturers and non-manufacturers outside high-emitting sectors. Compared to the previous survey, the proportion of business corporates selecting "expect a significant increase in the need of raising funds for climate change-related responses and consider specific methods" or "not decided" declined slightly, while the proportion selecting "do not expect a significant increase in the need of raising funds for climate change-related responses" increased slightly (Chart 18).

Chart 18: Expectation for Demand for Funds for Climate Change-related Responses toward Fiscal 2030



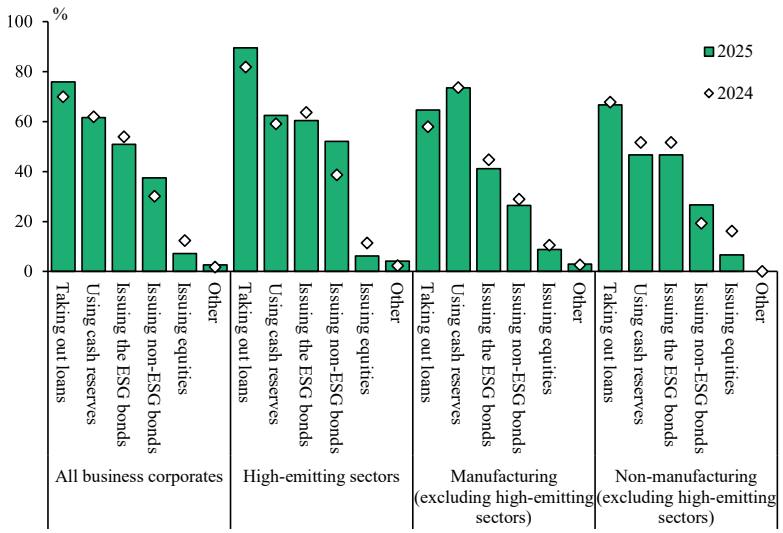
Note: The total number of respondents was 206 in 2024 and 226 in 2025. These figures represent business corporates (both manufacturing and non-manufacturing) among issuers, excluding those who did not provide answers.

Issuers who expected a significant increase in the demand for funds and were considering specific fundraising methods were also asked about their primary fundraising approaches. About 75 percent of business corporates selected "taking out loans," and approximately 60 percent chose "using cash reserves." This was followed by "issuing the ESG bonds," selected by about 50

[8] In this survey, the term "high-emitting sectors" refers specifically to the following eight sectors for which a "Roadmap for Promoting Transition Finance" has been developed by the Ministry of Economy, Trade and Industry or the Ministry of Land, Infrastructure, Transport and Tourism: pulp and paper; chemical; oil and coal; glass and ceramics; iron and steel; automobile; electric power and gas; and marine and air transportation. Please note that companies are classified solely by sector, and not all companies within these sectors are necessarily high emitters.

percent, and "issuing non-ESG bonds," chosen by around 35 percent. Compared to the previous survey, the proportion of business corporates selecting "taking out loans" and "issuing non-ESG bonds" increased slightly, while the proportion selecting "issuing the ESG bonds" and "issuing equities" decreased slightly. Among issuers who selected "issuing the ESG bonds," the share of those who had never issued the ESG bonds decreased to about 35 percent, down from approximately 45 percent in the previous survey. By sector, the proportion of issuers selecting "taking out loans" and "issuing non-ESG bonds" rose in high-emitting sectors. In contrast, the proportion selecting "using cash reserves," "issuing the ESG bonds," and "issuing equities" decreased among non-manufacturers outside high-emitting sectors, while the share selecting "issuing non-ESG bonds" increased somewhat (Chart 19).

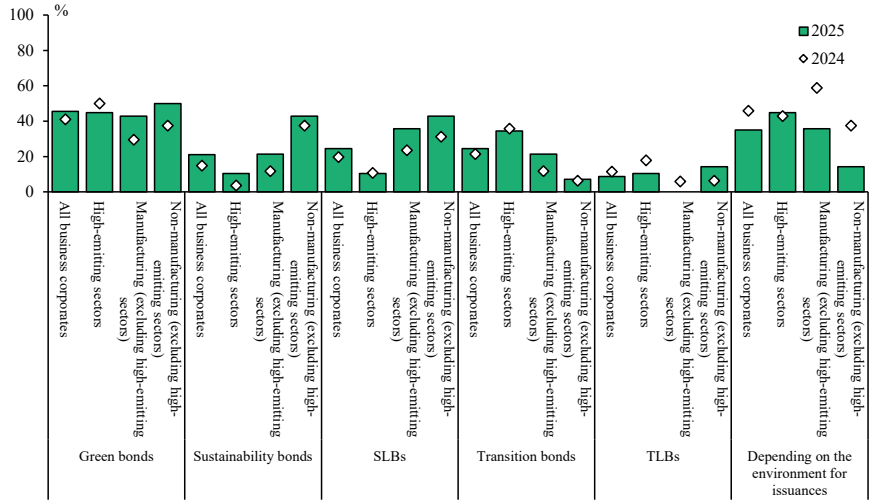
Chart 19: Main Fundraising Methods for Climate Change-related Responses toward Fiscal 2030 (Business Corporates)



Note: The total number of respondents was 113 in 2024 and 112 in 2025. These figures represent business corporates that identified themselves as issuers, excluding those who selected "the entity does not expect a significant increase in the demand for funds for climate change-related responses" or "not decided" and those who did not provide answers. Multiple answers were allowed.

The survey also asked issuers who selected "issuing the ESG bonds" which type of the ESG bonds they were considering as their main fundraising method. In response, about 45 percent of business corporates chose "green bonds," while approximately 25 percent selected "transition bonds." Compared to the previous survey, the proportion of business corporates selecting "green bonds," "sustainability bonds," and "SLBs" increased slightly, while the proportion selecting "depending on the environment for issuances" declined slightly (Chart 20).

Chart 20: Specific Types of Climate Change-related ESG Bonds for Fundraising (Business Corporates)



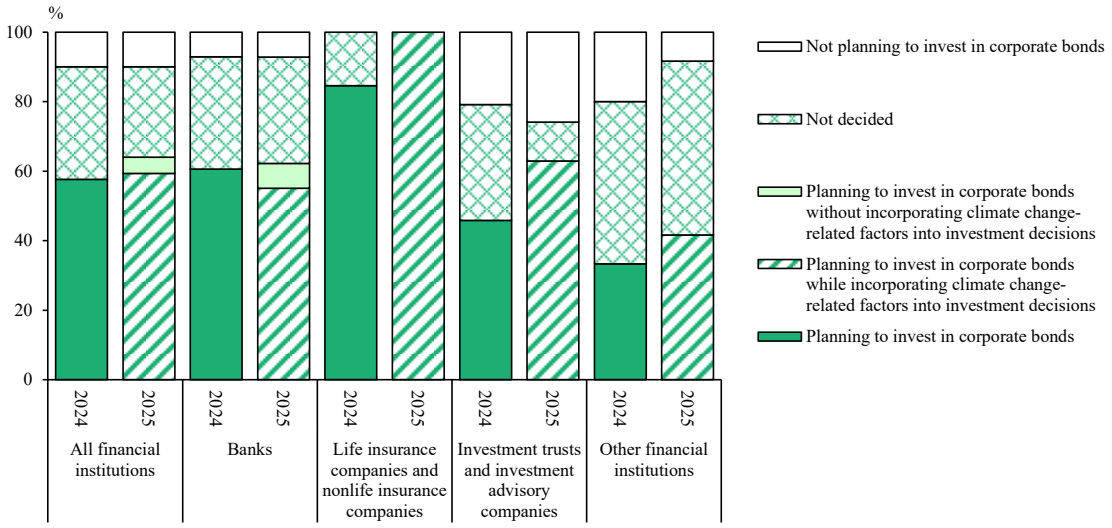
Note: The total number of respondents was 61 in 2024 and 57 in 2025. These figures represent business corporates that identified themselves as issuers, indicating "issuing the ESG bonds" as the main expected fundraising method. Multiple answers were allowed.

Before asking investors about their plans to invest in corporate bonds related to climate change efforts through fiscal 2030, the survey first inquired about their general plans for investment in corporate bonds. In this initial question, about 60 percent of financial institutions indicated that they were "planning to invest in corporate bonds while incorporating climate change-related factors into investment decisions," while fewer than 10 percent were "planning to invest in corporate bonds without incorporating climate change-related factors into investment decisions," and about 10 percent were "not planning to invest in corporate bonds." By sector, insurance companies stood out, with all respondents in this group indicating they were "planning to invest in corporate bonds while incorporating climate change-related factors into investment decisions." Compared to the previous survey, the proportion of insurance companies and investment trusts and investment advisory companies selecting "not decided" decreased somewhat, while the proportion of those who were "planning to invest in corporate bonds" increased somewhat (Chart 21).

When investors who chose "planning to invest in corporate bonds while incorporating climate change-related factors into investment decisions" were asked about their plans on this, the most common response was "will incorporate climate change-related factors as part of ESG investing," which was selected by approximately 65 percent of respondents. This was followed by "will invest in corporate bonds to achieve volume targets set for sustainable finance (e.g., the amount of new investment/lending or their total amount outstanding)," chosen by about 45 percent. By sector, over 90 percent of insurance companies selected both "will incorporate climate change-related factors as part of ESG investing" and "will invest in corporate bonds in line with a target for loan

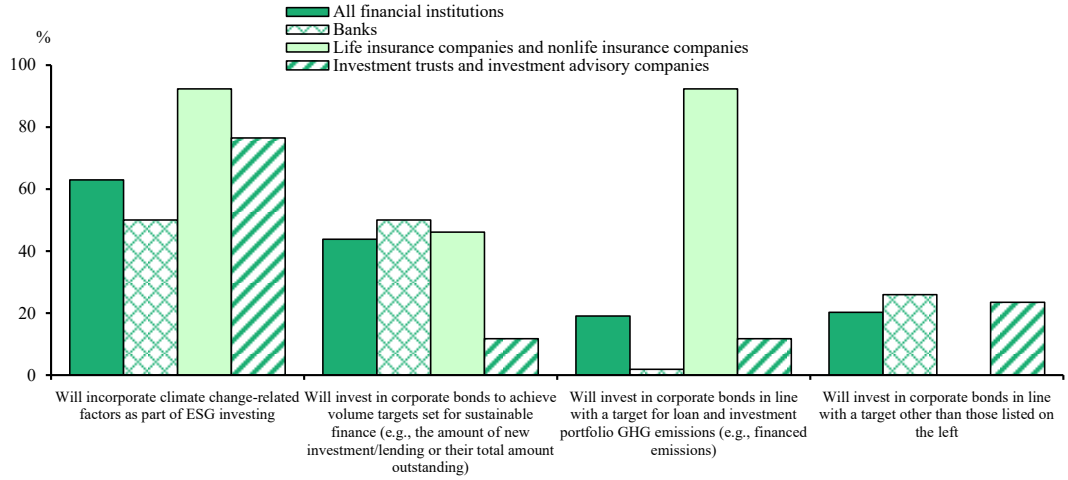
and investment portfolio GHG emissions (e.g., financed emissions)." This was the highest proportion among all sectors. In contrast, the proportion of non-insurance companies selecting "will invest in corporate bonds in line with a target for loan and investment portfolio GHG emissions (e.g., financed emissions)" was low, with almost no banks choosing this option. Across all financial institutions, only about 20 percent selected this response (Chart 22).

Chart 21: Plans for Investing in Corporate Bonds toward Fiscal 2030 (Financial Institutions)



Note: The total number of respondents was 151 in 2024 and 150 in 2025. These figures represent financial institutions among investors, excluding those who selected "difficult to answer" and those who did not provide answers.

Chart 22: Plans for Investing in Corporate Bonds While Taking Climate Change-related Factors into Account (Financial Institutions)

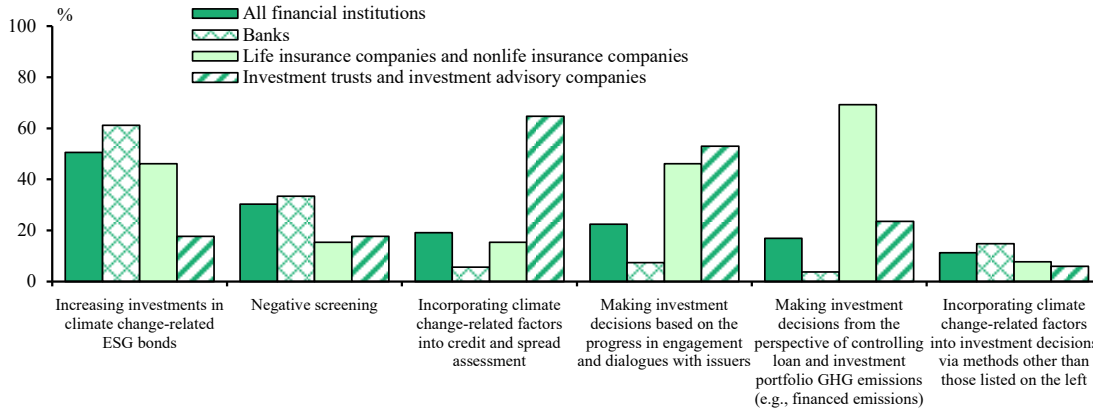


Note: The total number of respondents was 89. This figure represents financial institutions that identified themselves as investors, excluding those who selected "planning to invest in corporate bonds without incorporating climate change-related factors into investment decisions," "not planning to invest in corporate bonds," or "not decided" and those who did not provide answers. Responses from other financial institution categories are not shown separately in the chart due to small sample sizes, but they are included in the total for "all financial institutions." Multiple answers were allowed.

Respondents who indicated that they were considering investing in corporate bonds while incorporating climate change-related factors into investment decisions were asked to select up to three specific investment methods they believed would have a significant impact on issue selection. About 50 percent of financial institutions chose "increasing investments in climate change-related ESG bonds," approximately 30 percent selected "negative screening," and 10-25 percent selected other investment methods.

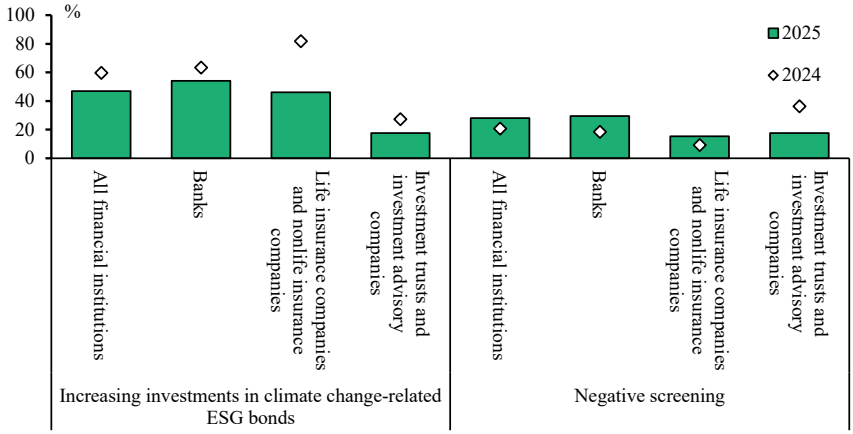
Looking at the characteristics of each method by sector, "increasing investments in climate change-related ESG bonds" was selected by a smaller proportion of investment trusts and investment advisory companies compared to other sectors, which is consistent with their lower selection rate in the previous question for "will invest in corporate bonds to achieve volume targets set for sustainable finance (e.g. the amount of new investment/lending or their total amount outstanding)." While as high as approximately 65 percent of investment trusts and investment advisory companies selected "incorporating climate change-related factors into credit and spread assessment," that was selected by a small proportion of other sectors. The share of respondents selecting "making investment decisions based on the progress in engagement and dialogues with issuers" was relatively high at 45-55 percent among insurance companies and investment trusts and investment advisory companies, while the proportion among banks was low at less than 10 percent. Similarly, as high as about 70 percent of insurance companies selected "making investment decisions from the perspective of controlling loan and investment portfolio GHG emissions (e.g., financed emissions)," compared to less than only 10 percent of banks (Chart 23). Although caution should be exercised in interpreting the results due to the addition of new response options in this survey, a look at the changes in items that were also included in the previous survey shows a decline in the proportion of respondents selecting "increasing investments in climate change-related ESG bonds" among those planning to invest in corporate bonds, particularly among insurance companies, where the decline was notable. Meanwhile, the proportion of respondents selecting "negative screening" increased slightly, especially among banks, while it decreased among investment trusts and investment advisory companies (Chart 24).

Chart 23: Methods for Investing in Corporate Bonds While Incorporating Climate Change-related Factors into Investment Decisions (Financial Institutions)



Note: The total number of respondents was 89. This figure represents financial institutions that identified themselves as investors, excluding those who selected "planning to invest in corporate bonds without incorporating climate change-related factors into investment decisions," "not planning to invest in corporate bonds," or "not decided" and those who did not provide answers. Responses from other financial institution categories are not shown separately in the chart due to small sample sizes, but they are included in the total for "all financial institutions." Up to three answers were allowed.

Chart 24: Methods for Investing in Corporate Bonds While Incorporating Climate Change-related Factors into Investment Decisions (Financial Institutions, Comparison with Previous Survey)

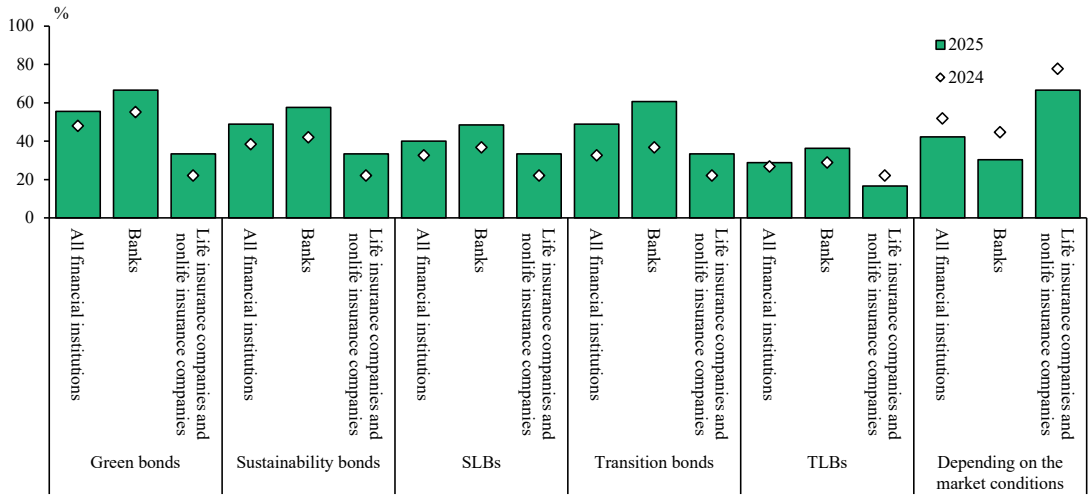


Note: The total number of respondents was 87 in 2024 and 96 in 2025.These figures represent financial institutions that identified themselves as investors, excluding those who selected "not planning to invest in corporate bonds" and "not decided." Responses from other financial institution categories are not shown separately in the chart due to small sample sizes, but they are included in the total for "all financial institutions." Multiple answers were allowed in 2024, and up to three answers were allowed in 2025.

When asked which type of the ESG bonds they were planning to increase investing in, about 50 percent of financial institutions that planned to "increase investments in climate change-related ESG bonds" selected "green bonds," "sustainability bonds," and "transition bonds," all of which are use-of-proceeds bonds. In contrast, 40 percent selected "SLBs" and about 30 percent chose "TLBs," both of which are non-use-of-proceeds bonds. This indicates that the share of respondents selecting this type of bonds was relatively low. Compared to the previous survey, the proportion of financial institutions increased somewhat for all types of bonds. The proportion of banks selecting "transition bonds" increased notably, while the percentage selecting "depending

on the market conditions" decreased somewhat (Chart 25).

Chart 25: Specific Types of Climate Change-related ESG Bonds Considered for Increased Investment (Financial Institutions)

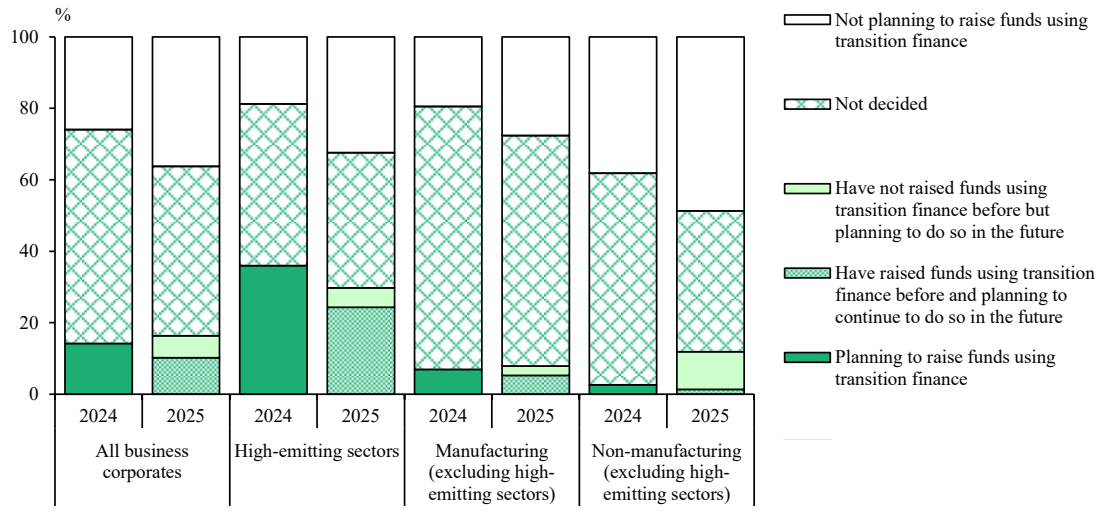


Note: The total number of respondents was 52 in 2024 and 45 in 2025. These figures represent financial institutions that identified themselves as investors, and selected "planning to increase investments in the ESG bonds." Responses from investment trusts and investment advisory companies as well as other financial institution categories are not shown separately in the chart due to small sample sizes, but they are included in the total for "all financial institutions." Multiple answers were allowed.

2. Stance on Transition Finance and Associated Challenges

In response to questions asking issuers about their plans for transition finance, the most common answer among business corporates, which was selected by approximately 45 percent, was "not decided." About 35 percent chose "not planning to raise funds using transition finance," and nearly 15 percent responded that they were "planning to raise funds using transition finance (including regardless of whether or not they have experience in using transition finance)." Meanwhile, the proportion of respondents selecting "planning to raise funds using transition finance (including regardless of whether or not they have experience in using transition finance)" was notably higher at nearly 30 percent in high-emitting sectors, compared to around 10 percent in other industries. Compared to the previous survey, across all industries, the share of respondents selecting "not decided" decreased, while the share selecting "not planning to raise funds using transition finance" increased. In addition, the proportion of issuers in high-emitting sectors selecting "planning to raise funds using transition finance" decreased slightly, while the proportion in non-manufacturing industries outside high-emitting sectors increased (Chart 26).

Chart 26: Plans for Using Transition Finance (Business Corporates)



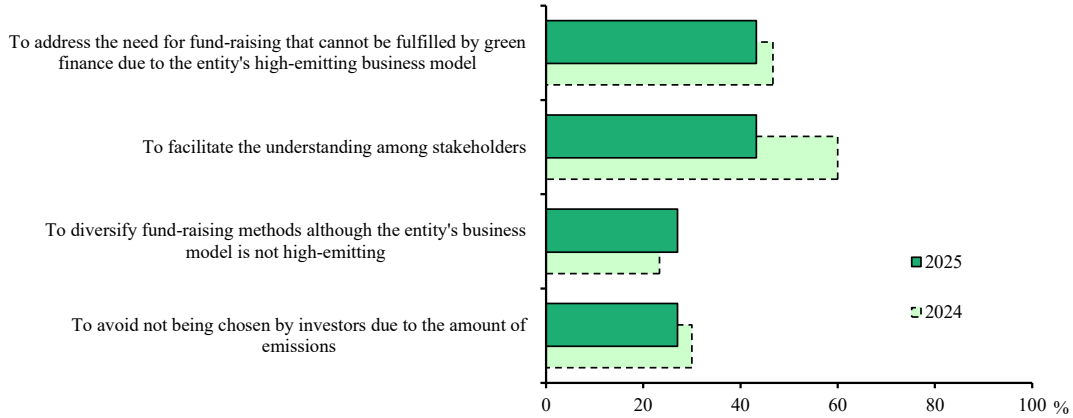
Note: The total number of respondents was 212 in 2024 and 226 in 2025. These figures represent business corporates (both manufacturing and non-manufacturing) among issuers, excluding those who did not provide answers.

Among respondents who answered that they were "planning to raise funds using transition finance," approximately 45 percent indicated that their intention was "to address the need for fund-raising that cannot be fulfilled by green finance due to the entity's high-emitting business model" and "to facilitate the understanding among stakeholders of the need to use a combination of available technologies to reduce emissions." In addition, about 25 percent selected "to diversify fund-raising methods although the entity's business model is not high-emitting" and "to avoid not being chosen by investors due to the amount of emissions." Compared to the previous survey, the

proportion of respondents selecting "to facilitate the understanding among stakeholders of the need to use a combination of available technologies to reduce emissions" decreased (Chart 27).

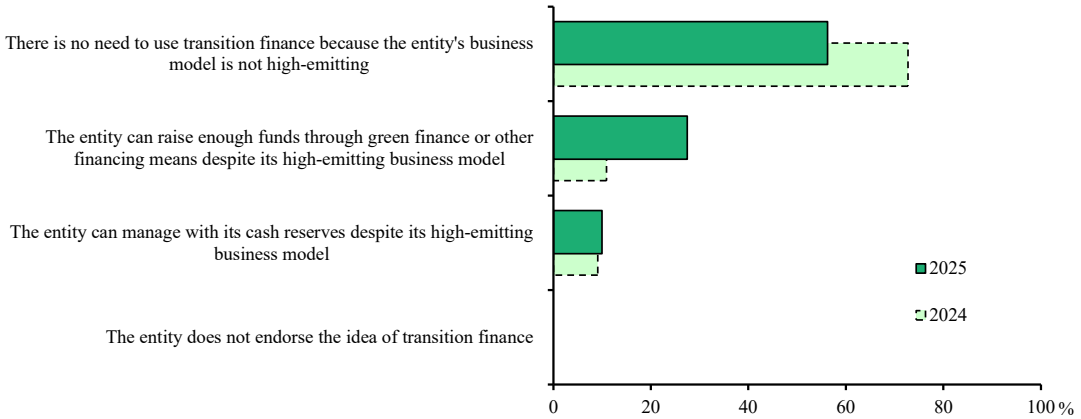
In contrast, among respondents who indicated that they did not plan to use transition finance, about 55 percent selected "there is no need to use transition finance because the entity's business model is not high-emitting." Compared to the previous survey, the proportion selecting this option decreased, while the proportion selecting "the entity can raise enough funds through green finance or other financing means despite its high-emitting business model" increased (Chart 28).

Chart 27: Reasons for Planning to Use Transition Finance (Business Corporates)



Note: The total number of respondents was 30 in 2024 and 37 in 2025. These figures represent business corporates that identified themselves as issuers and answered that they were "planning to raise funds using transition finance," excluding those who did not provide answers. Multiple answers were allowed.

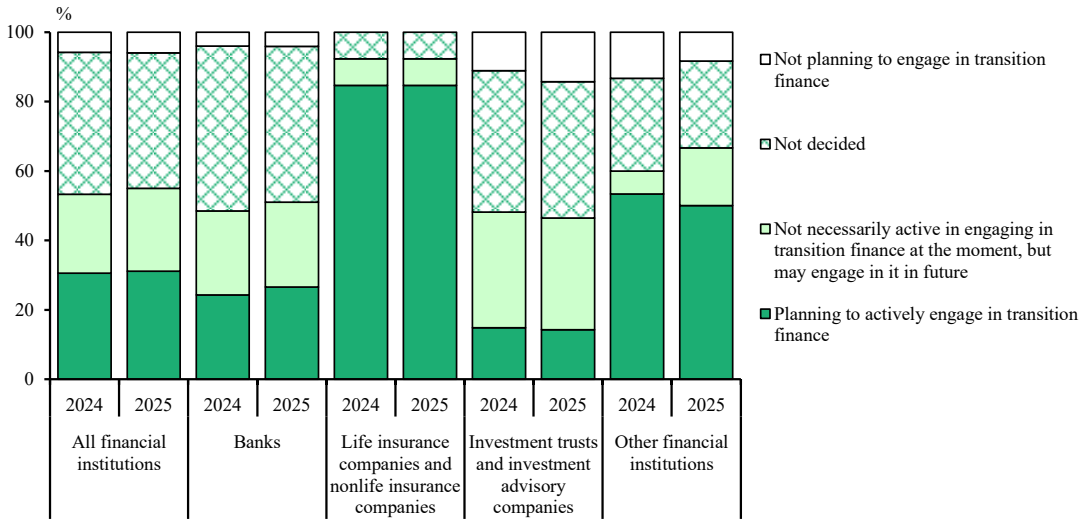
Chart 28: Reasons for Not Planning to Use Transition Finance (Business Corporates)



Note: The total number of respondents was 55 in 2024 and 80 in 2025. These figures represent business corporates that identified themselves as issuers and answered that they were "not planning to use transition finance," excluding those who did not provide answers. Multiple answers were allowed.

In response to questions about their stance on transition finance, approximately 30 percent of investors answered that they were "planning to actively engage in transition finance," while roughly 40 percent selected "not decided." About 25 percent noted that they were "not necessarily active in engaging in transition finance at the moment, but may engage in it in the future," and fewer than 10 percent indicated that they were "not planning to engage in transition finance." By sector, about 85 percent of insurance companies responded that they were "planning to actively engage in transition finance," and none selected "not planning to engage in transition finance." Compared to the previous survey, overall results showed no significant change, although the share of respondents selecting "not decided" decreased slightly. By sector, the proportion of banks selecting "not decided" decreased slightly, while the proportion selecting "planning to actively engage in transition finance" increased slightly (Chart 29).

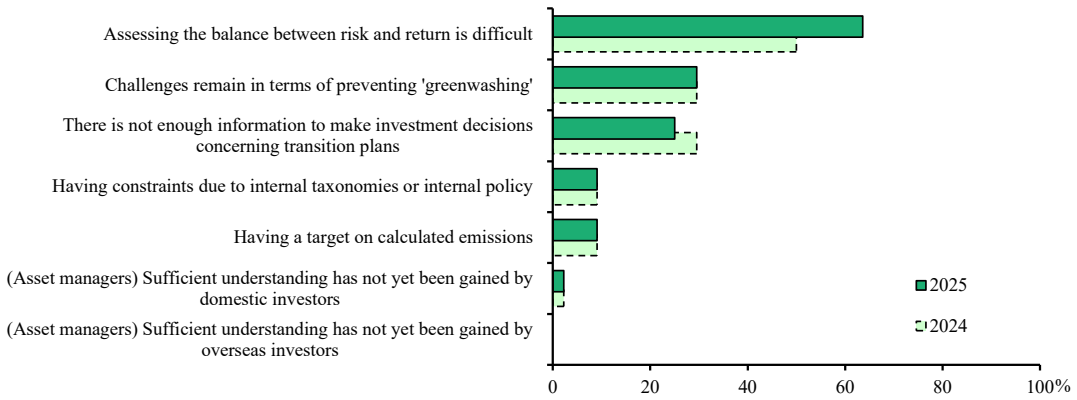
Chart 29: Plans for Engaging in Transition Finance (Financial Institutions)



Note: The total number of respondents was 154 in 2024 and 151 in 2025.These figures represent financial institutions that identified themselves as investors, excluding those who did not provide answers.

When asked to select up to three reasons for choosing "not necessarily active in engaging in transition finance at the moment, but may engage in it in the future" or "not planning to engage in transition finance," approximately 65 percent of respondents selected "assessing the balance between risk and return is difficult." 25-30 percent chose "challenges remain in terms of preventing 'greenwashing'" and "there is not enough information to make investment decisions concerning transition plans," while only about 10 percent selected "having a target on its calculated emissions." Compared to the previous survey, the proportion of respondents selecting "assessing the balance between risk and return is difficult" increased, while the proportion selecting "there is not enough information to make investment decisions concerning transition plans" decreased slightly (Chart 30).

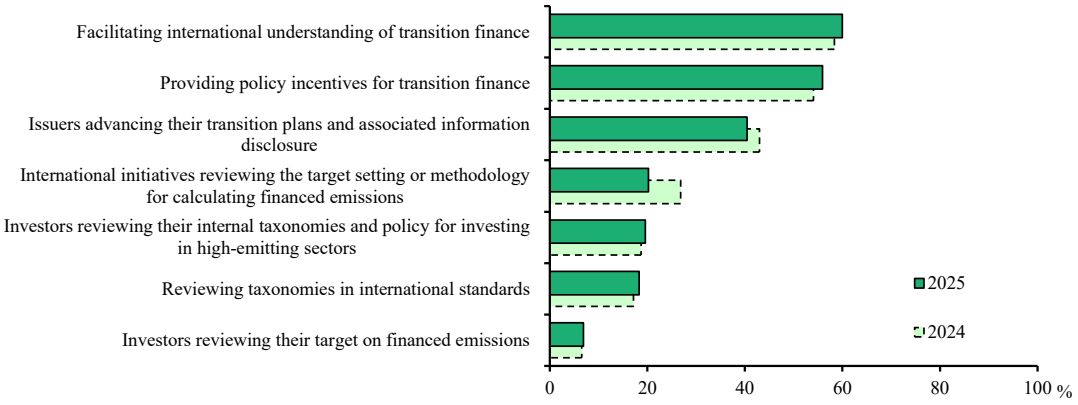
Chart 30: Reasons for Not Actively Planning to Engage in Transition Finance (Financial Institutions)



Note: The total number of respondents was 44 in 2024 and 44 in 2025. These figures represent financial institutions that identified themselves as investors and selected "not necessarily active in engaging in transition finance at the moment, but may engage in it in the future" or "not planning to engage in transition finance," excluding those who did not provide answers. Up to three answers were allowed.

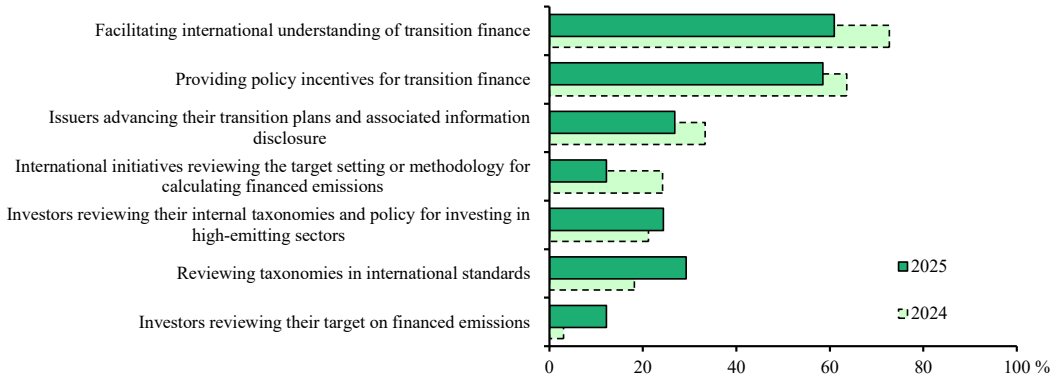
Lastly, the survey asked both issuers and investors to select up to three factors they viewed as challenges to facilitating the smooth advancement of transition finance in the future. The most common response, cited by 60 percent of respondents, was "facilitating international understanding of transition finance," followed by "providing policy incentives for transition finance," which was selected by about 55 percent. Among issuers and investors who indicated plans to use or actively engage in transition finance in previous questions, the proportion of issuers selecting "investors reviewing their internal taxonomies and policy for investing in high-emitting sectors" and "reviewing taxonomies in international standards" was higher than among all respondents. Similarly, the proportion of investors selecting "issuers advancing their transition plans and associated information disclosure" and "international initiatives reviewing the target setting or methodology for calculating financed emissions" was higher than the overall average. Compared to the previous survey, the proportion of respondents selecting "international initiatives reviewing the target setting or methodology for calculating financed emissions" decreased (Charts 31 to 33).

Chart 31: Challenges for Facilitating Transition Finance Smoothly (All Respondents)



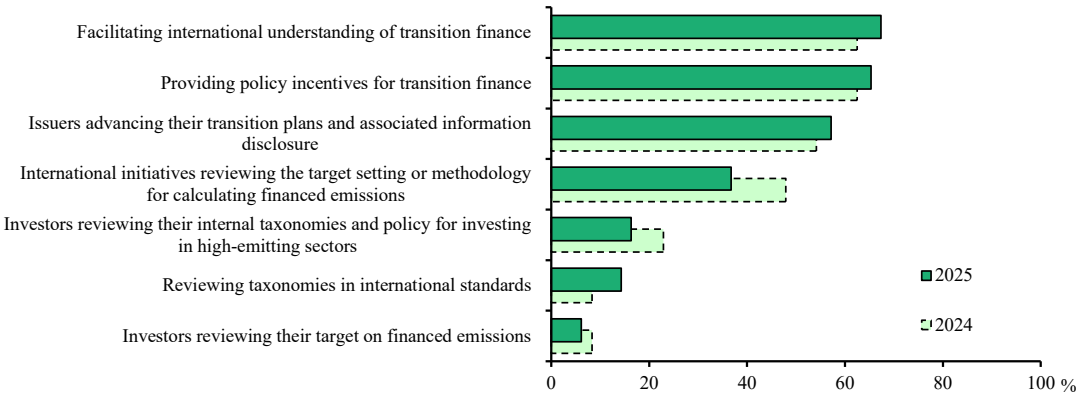
Note: The total number of respondents was 444 in 2024 and 465 in 2025. Up to three answers were allowed.

Chart 32: Challenges for Facilitating Transition Finance Smoothly (Issuers Planning to Use Transition Finance)



Note: The total number of respondents was 33 in 2024 and 41 in 2025. Up to three answers were allowed.

Chart 33: Challenges for Facilitating Transition Finance Smoothly (Investors Planning to Actively Engage in Transition Finance)

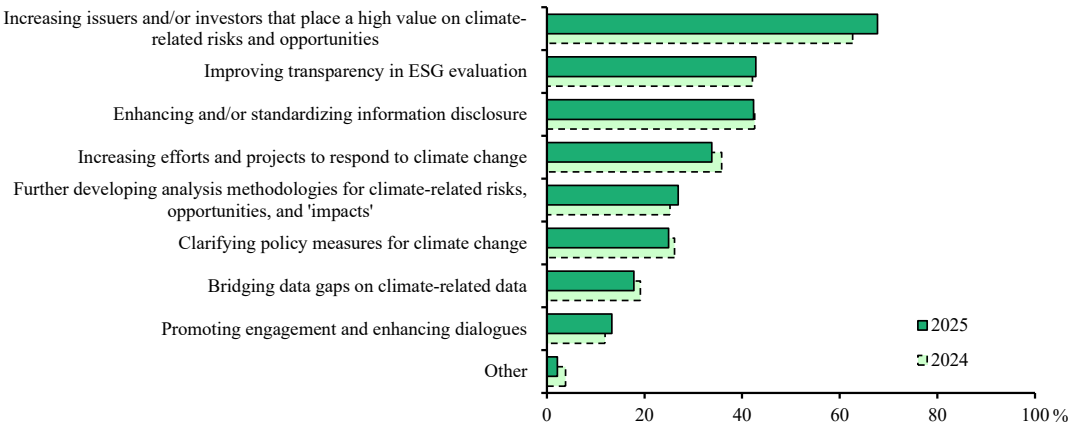


Note: The total number of respondents was 48 in 2024 and 49 in 2025. Up to three answers were allowed.

3. Challenges to Expanding the Climate Change-related ESG Bond Market

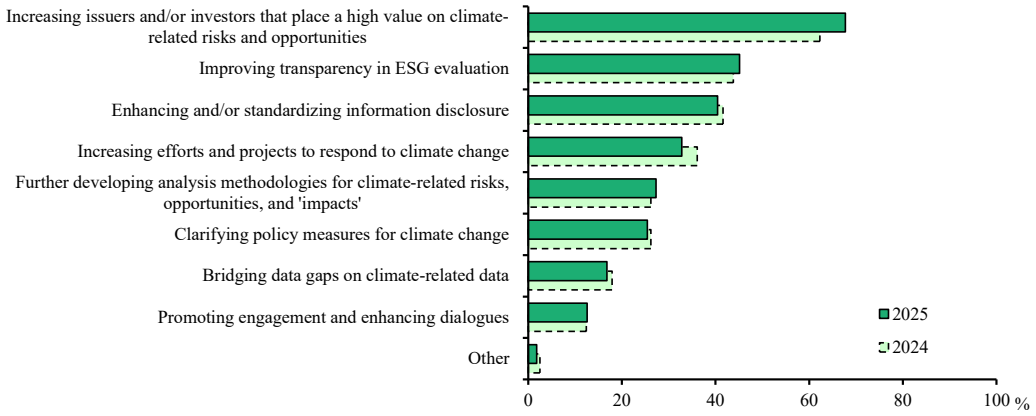
The survey asked both issuers and investors to select factors they considered necessary to increase the size of the ESG bond market in Japan. The most commonly selected factor, which was chosen by about 70 percent of respondents, was "increasing issuers and/or investors that place a high value on climate-related risks and opportunities." This was followed by "improving transparency in ESG evaluation" and "enhancing and/or standardizing information disclosure," which were selected by 40-45 percent of respondents, and "increasing efforts and projects to respond to climate change," selected by about 35 percent. Additionally, 15-30 percent of respondents selected "further developing analysis methodologies for climate-related risks, climate-related opportunities, and 'impacts'," "clarifying policy measures for climate change," and "bridging data gaps on climate-related data." Furthermore, no significant differences were observed between issuers and investors in their responses. Compared to the previous survey, the proportion of respondents selecting "increasing issuers and/or investors that place a high value on climate-related risks and opportunities" rose for both groups (Charts 34 to 36).

Chart 34: Challenges for Increasing the Size of the Climate Change-related ESG Bond Market in Japan (All Respondents)



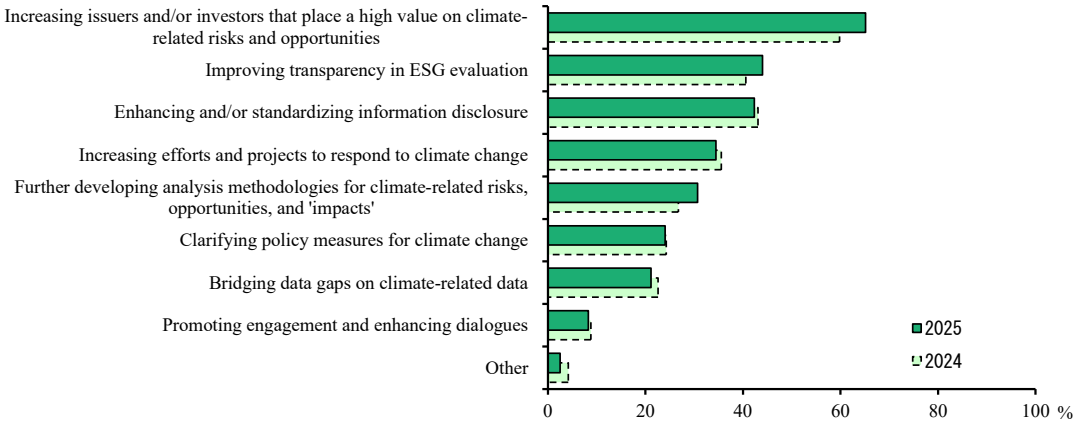
Note: The total number of respondents was 444 in 2024 and 465 in 2025. Up to three answers were allowed.

Chart 35: Challenges for Increasing the Size of the Climate Change-related ESG Bond Market in Japan (Issuers)



Note: The total number of respondents was 363 in 2024 and 381 in 2025. Up to three answers were allowed.

Chart 36: Challenges for Increasing the Size of the Climate Change-related ESG Bond Market in Japan (Investors)



Note: The total number of respondents was 239 in 2024 and 241 in 2025. Up to three answers were allowed.

4. Views on the Further Development and Challenges of Japanese Financial Markets in Contributing to Climate Change Response

From the perspective of how Japanese financial markets are evolving to better address climate change, this survey included an open-ended question in terms of, for example, assessment of progress in market initiatives over the past year, emerging trends, such as overseas developments and international perceptions of Japan's climate finance efforts, and newly recognized challenges. While respondents highlighted a range of issues, many pointed to developments overseas, including in the United States and Europe. As in the previous survey, many respondents also commented on the expansion of the base of issuers and investors that place a high value on climate-related risks and opportunities, the enhancement and standardization of information disclosure, and transition finance. Additionally, compared to earlier surveys, more respondents expressed views on climate-related disclosures and climate finance from the perspectives of cost-effectiveness, underlying philosophy, and practical effectiveness.

With regard to developments overseas (see Box 4 for further details), several respondents referenced recent changes in disclosure regulations in the United States and Europe. Some noted that rules originally designed in pursuit of a philosophy were being reconsidered, as the cost of implementation had become a significant burden for society at large. Others noted they were closely watching the impact on companies' international competitiveness of such efforts to reduce the burden of climate-related disclosures. Companies operating overseas voiced concerns about declining predictability and consistency in climate-related policies. They also raised concerns that revisions to disclosure requirements near the implementation phase could hinder efficient resource allocation, as mandatory disclosures demand significant resources. In contrast, some respondents viewed these developments as region-specific to some extent and unlikely to have a major impact on Japan's climate policies. Some respondents noted that Japan's balanced and consistent policy approach had provided a sense of reassurance for market participants. Additionally, some emphasized that climate change remained a long-term challenge, and that recent developments had not altered the fundamental trajectory toward addressing the issue.

Regarding the expansion of the base of issuers and investors that place a high value on climate-related risks and opportunities, some respondents expressed positive views on improvements in awareness, knowledge, and experience in sustainability issues among both companies and investors. However, some issuers noted that financial institutions' investment and lending decisions appeared to be less influenced by emissions levels, and that there were alternative ways to communicate their climate-related efforts to stakeholders. In this context, they pointed out that

momentum for utilizing sustainable finance might have weakened from a cost-effectiveness perspective. Additionally, some respondents emphasized that, while sustainable finance had garnered attention in recent years, it was important to establish mechanisms that allowed institutional investors, who are primarily expected to maximize financial returns, to recognize the economic rationale behind such investments.

Regarding the expansion and standardization of information disclosure, the Sustainability Standards Board of Japan (SSBJ) finalized its Sustainability Disclosure Standards in March 2025. These domestic standards were developed based on the international standards issued by the International Sustainability Standards Board (ISSB) in June 2023. Some respondents welcomed the progress Japan has made toward standardizing sustainability disclosure. However, as in the previous survey, some business corporates highlighted challenges such as the difficulty of disclosing sustainability information, particularly Scope 3 emissions, concurrently with the annual securities report, and the burden of securing sufficient internal resources and establishing the necessary systems, considering that sustainability disclosure based on Sustainability Disclosure Standards finalized by the SSBJ is to be mandatory. At the same time, respondents expressed expectations for further infrastructure development to improve the efficiency and comparability of disclosure, such as by standardizing and embodying calculation methodologies, formulating guidelines, and building platforms for climate-related data. In terms of how disclosed information is used, some respondents noted that what types of information were of greatest interest to investors and how that information could be effectively utilized should be clarified and shared with stakeholders, including issuers. Others stressed the importance of disclosing transition plans to build stakeholder trust, including using those plans as tools for fundraising (see Box 3 for market participants' views on transition plans). Regarding Scope 3 emissions, some respondents acknowledged the meaning and importance of understanding the structure of emissions throughout the supply chain. That said, they also pointed out that as companies often lack direct control over Scope 3 sources and face challenges in ensuring measurement accuracy, the cost of measuring those emissions could hurt corporate competitiveness. With respect to financed emissions, some respondents noted that it might be necessary to reconsider the conceptual basis for using financed emissions before moving toward rigorous measurement in practice as there was growing international debate, including in Europe, over whether setting financed emissions as a reduction target was truly effective in addressing climate change.

With regard to transition finance, some respondents noted that the Japanese government's continued issuance of climate transition bonds had attracted global attention and played a

significant role in promoting international understanding of Japan's efforts. Some respondents also observed that there was growing recognition that taxonomies and divestment alone could not resolve all challenges, and that this was an opportune moment for Japan to showcase its transition approach, with the global focus on decarbonization shifting toward identifying realistic and pragmatic solutions (see Box 2 for domestic and international efforts to promote transition finance). On the other hand, as in the previous survey, many respondents pointed to challenges in establishing a framework that secures incentives for investors actively engaging in transition finance and in ensuring the credibility of transition finance. Specifically, they noted that these challenges included developing methodologies for assessing financed emissions and applying the concept of avoided emissions.

Box 2: Domestic and International Efforts to Promote Transition Finance

In this survey, "facilitating international understanding of transition finance" was the most common response indicated by respondents as one of the main challenges to facilitating transition finance smoothly. This box summarizes the current status of transition finance in the ESG bond market and domestic and international efforts to promote transition finance, mainly referring to the 2024 report of the International Capital Market Association (ICMA) (hereinafter "the Report").[9]

A. Current Status of Transition Finance in the ESG Bond Market

The Report points out that one of the challenges of transition finance in the ESG bond market is a low supply of funds for high-emitting sectors.[10] Specifically, high-emitting sectors account for only 2% of the global outstanding amount of green bonds and sustainability bonds, both of which are use-of-proceeds bonds. SLBs, which are non-use-of-proceeds bonds, seem to have a high potential for further use by high-emitting sectors given that their share of issuance amount by these sectors is as high as around 20%. However, the absolute amount of their issuance has been small. As a result, the proportion of high-emitting sectors in the outstanding amount of these three categories is as little as 3.6 percent.

In light of this situation, the Report states that transition finance in the ESG bond market has a huge potential for further development on both use-of-proceeds bonds and non-use-of-proceeds bonds as a financing tool for high-emitting sectors. It also points out that progress in developing various frameworks to ensure credibility, such as (1) taxonomies, (2) roadmaps, and (3) criteria for evaluating ambition, could contribute to facilitating transition finance.

B. Efforts to Promote Transition Finance in the ESG Bond Market

Globally, most of the ESG bonds have been issued based on the principles developed by the ICMA. These principles aim to support the credibility of the ESG bond market by providing guidelines on transparency and disclosure, as well as to attract more funds in the market for supporting sustainable development by raising awareness of sustainability among financial market participants. Since these principles provide high-level criteria, the aforementioned frameworks have been developed to supplement them and thereby ensure credibility. In promoting transition finance, attracting more funds while ensuring credibility has been a challenge. The following introduces the aforementioned frameworks, touching upon widely cited challenges in each framework and efforts that have been made to overcome them.

[9] ICMA (2024), *Transition Finance in the Debt Capital Market*.

[10] To be precise, it refers to the fossil fuel sector and hard-to-abate industries. It does not necessarily match with the definition of high-emitting sectors in footnote 8 in Section C.

1. Taxonomy

Taxonomies are frameworks provided by governments and other agencies that define clear and specific criteria for identifying which economic activities are sustainable. They are considered a prominent tool that can ensure the credibility of finance, as they enable transparent evaluation of use-of-proceeds for the ESG bonds by identifying whether they are eligible for taxonomies based on criteria such as quantitative thresholds. On the other hand, some have pointed to the challenge in taxonomies in attracting more funds necessary for projects, including those in the area of climate transition. This is because taxonomies initially focused mainly on economic activities capable of achieving zero emissions, and because, as the ICMA[11] and the OECD[12] noted, taxonomies had difficulty in responding flexibly to changes such as technological innovation due to their static aspect, in that taxonomies are formulated based on technologies and predictability that existed at that time. In response to these issues, some jurisdictions have expanded the scope of economic activities identified as sustainable in taxonomies by adding economic activities in the field of climate transition and/or by introducing additional time-bounded thresholds applicable as optional criteria at each transitional stage toward net zero. Moreover, to address the static characteristic of taxonomies, they are updated regularly. Meanwhile, although taxonomies are also intended to be used for setting sustainability performance targets (SPTs) of SLBs, due to their nature of specifying eligible economic activities, they are mainly used for use-of-proceeds ESG bonds.

2. Roadmaps for High-emitting Sectors

Roadmaps, developed by governments and other agencies, outline the sectoral pathways to the goal of carbon neutrality, which consist of not only technologies available today but also future technological innovation. Roadmaps enable companies to explain their pathway in a dynamic and flexible manner, taking into account the difference in each company's efforts and future technological innovation. They also make it easy to present an outlook of the overall strategy realizable by employing multiple technologies. By referring to roadmaps, companies can develop their own transition strategies and transition plans toward low-carbon and/or decarbonization while ensuring credibility. On the other hand, it has been pointed out that, when such roadmaps do not include specific thresholds or timelines, the credibility and effectiveness of transition strategies and transition plans need to be evaluated individually by project, and that regular reporting by fundraisers and engagement by financiers after fundraising are important. It is also

[11] ICMA (2021), *Overview and Recommendations for Sustainable Finance Taxonomies*.

[12] OECD (2022), *OECD Guidance on Transition Finance: Ensuring Credibility of Corporate Climate Transition Plans*, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/7c68a1ee-en

highlighted as a key challenge that roadmaps are still being developed and not necessarily available in many overseas jurisdictions and sectors. However, efforts have been made to develop roadmaps in some jurisdictions. Roadmaps are used in both use-of-proceeds bonds and non-use-of-proceeds bonds.

3. Criteria for Evaluating Ambition

As a tool to assess the ambition of targets for non-use-of-proceeds bonds, such as SLBs, and to enhance credibility, organizations such as the Transition Pathway Initiative (TPI) and the Science-based Targets initiative (SBTi) have developed globally applicable benchmarks. On the other hand, it has been pointed out that there is a trade-off in setting ambitious targets as it would increase reputational and market risk if targets are not achieved. In this regard, in some jurisdictions, governments have responded by setting guidance to promote investors to engage in dialogue with issuers regarding failures by issuers to meet their targets, or by introducing provisions in the bond issuance framework that allow issuers to explain the reasons for their failure.

C. Efforts in Each Jurisdiction

The following is an overview of how the above frameworks have developed and been used in Europe, Japan, and ASEAN.

First, Europe has adopted the EU Taxonomy as its main framework and focused on ensuring credibility by increasing transparency in judging the eligibility of use-of-proceeds. In recent years, in order to facilitate transition finance in a wide range of sectors, including high-emitting sectors, the European Commission reviewed the EU Taxonomy and added nuclear and natural gas energy activities in environmentally sustainable economic activities under the Taxonomy in January 2023. Besides this, the European Commission formulated sector-specific transition pathways, proposing action plans and conditions required in several specific sectors. In addition, it published the *Commission Recommendation (EU) 2023/1425 on facilitating finance for the transition to a sustainable economy* in June 2023, which clarifies that entities can raise transition finance not only through financing of use-of-proceeds for specific economic activities but also through financing of non-use-of-proceeds at an entity level, such as SLBs. However, it has been pointed out that European investors are cautious about non-use-of-proceeds financing that is not based on the taxonomies, partly due to concerns about greenwashing, and thus SLBs are not actively issued in Europe.

In Japan, transition finance has been promoted from a relatively early stage. Based on the idea that it is important to regard transition as a dynamic concept and to ensure flexibility, the Government of Japan set out the *Basic Guidelines on Climate Transition Finance* in May 2021,

and formulated sector-specific technology roadmaps,[13] mainly focusing on high-emitting sectors, as a framework to enhance credibility. Companies can raise funds through use-of-proceeds financing by referring to sector-specific technology roadmaps, as well as through non-use-of-proceeds financing at an entity level by formulating transition strategies toward net zero in accordance with the roadmaps. Under those policy developments, funding for high-emitting sectors through the ESG bonds, including transition labels, has progressed relatively well,[14] with about 20% of the ESG bonds in Japan being issued by high-emitting sectors, as illustrated in Box 1.

In order to enhance effectiveness of such transition finance, the Government of Japan published a guidance[15] on post-financing engagement with fundraisers. Given that transition is dynamic, it emphasizes the importance of continuous dialogue by financers with fundraisers. At the private sector level, some financial institutions have formulated and disclosed their own investment and financing criteria for transition finance, ensuring credibility by clarifying necessary conditions for investment and financing. Furthermore, there are a good number of cases where companies and financial institutions received certifications from international benchmarking organizations in order to increase credibility of their transition plans.

Lastly, ASEAN has been promoting transition finance through the ASEAN Taxonomy, as well as frameworks such as roadmaps and international benchmarks, referring to the abovementioned efforts in Japan and Europe.

The ASEAN Taxonomy adopts a traffic light approach that classifies economic activities as "Green," "Amber," and "Red." In addition to qualitative criteria (the Foundation Framework), time-bounded thresholds at each transitional stage toward net zero (the Plus Standard) are also available as criteria to classify economic activities into those categories. The *ASEAN Transition Finance Guidance*, revised in October 2024, categorizes transition finance into asset-level finance (use-of-proceeds) and entity-level finance (non-use-of-proceeds), and then presents the corresponding frameworks clearly. Specifically, as for asset-level finance, the guideline illustrates

[13] Ministry of Economy, Trade and Industry website (3.Roadmap for Promoting Transition Finance). https://www.meti.go.jp/english/policy/energy_environment/transition_finance/index.html

[14] The share of high-emitting sectors in the issuance amount of the ESG bonds in Japan was 8.4% in 2024 (the simple average over the period from 2022 to 2024 is 8.5%), when defining high-emitting sectors as "oil and coal, glass and ceramics, mining, iron and steel, chemicals, shipping, and aviation sectors," adjusting the definition of high-emitting industries used in Japan to be closer to the ICMA's classification of the fossil fuel sector and hard-to-abate industries.

[15] Financial Services Agency, Ministry of Economy, Trade and Industry, and Ministry of the Environment (2023), *Transition Finance Follow-up Guidance*. https://www.meti.go.jp/policy/energy_environment/global_warming/transition/transition_finance_follow-up_guidance_eng.pdf

that economic activities identified as a transition stage under the ASEAN Taxonomy (mainly the "Amber" category) are regarded as eligible for transition finance. Regarding entity-level finance, it notes that companies implementing ambitious and credible transitions that align with the Paris Agreement are regarded as eligible for transition finance. The guideline also encourages these entities, as necessary, to ensure ambition and credibility of targets by referring to sectoral pathways formulated by organizations such as the International Energy Agency (IEA) and the SBTi, while also utilizing regional technological roadmaps (formulated in Singapore and Malaysia).

D. Conclusion

In facilitating transition finance, attracting more funds while ensuring credibility has been a challenge. With respect to how to pursue both goals, differences have been observed in policy arrangement across jurisdictions and in approaches at an entity level, both of which are stemming from regional characteristics including industrial structures. This box introduced continuous efforts under each approach. As for Japan's initiatives, in order to facilitate further international understanding of Japan's transition finance approach, the government revised the *Basic Guidelines on Climate Transition Finance* in March 2025, which provides the characteristics of Japan's approach with international comparison and presents examples of transition bond issuance in Japan.[16] It is hoped that needed funds will be supplied more smoothly through the market by facilitating international understanding and by developing more balanced frameworks that are based on regional characteristics, technological advances, and compatibility of each type of the ESG bonds (i.e. use-of-proceeds bonds or not).

In addition, although it was not addressed as a separate topic in this box, the Report highlights that transition plans could also be a prominent framework for promoting transition finance in that they can support the issuance of both use-of-proceeds and non-use-of-proceeds bonds by enhancing the credibility of use-of-proceeds and by facilitating target setting. The Report also indicates that transition finance is achievable through investments in general corporate bonds of companies disclosing transition plans. Transition plans are discussed in Box 3.

[16] Financial Services Agency, Ministry of Economy, Trade and Industry, and Ministry of the Environment (2025), *Basic Guidelines on Climate Transition Finance*.

Box 3: Opinions from Market Participants on Transition Plans

There is growing interest in transition plans, which outline how companies intend to achieve carbon neutrality. In 2021, the TCFD published guidance on transition plans,[17] and a number of companies have disclosed their plans voluntarily thus far.[18] Subsequently, the IFRS Sustainability Disclosure Standards, which are expected to serve as the basis for mandatory sustainability disclosures in many jurisdictions, including Japan, stipulate that an entity shall disclose information about any climate-related transition plan the entity has. In this context, as noted in Box 2, expectations are also increasing for making use of transition plans as a tool to support the smooth promotion of transition finance.

In this regard, the OECD[19] notes that a transition plan is the most suitable instrument for companies utilizing transition finance to convey information to investors to assess the integrity of the business strategy. It also states that a credible transition plan can support the issuance of the ESG bonds such as SLBs and transition bonds by reducing the risk of greenwashing. Similarly, the International Organization of Securities Commissions (IOSCO)[20] presents some cases where investors view information on transition plans as important for assessing whether the SPTs in SLBs are sufficiently ambitious and relevant, and whether issuers are likely to achieve those targets. In Japan, the *Basic Guidelines on Climate Transition Finance*[21] identifies a science-based "climate transition strategy" as a key disclosure element, recommended from the perspective of ensuring both the credibility and eligibility of transition finance. In addition, the *Transition Plan Guidebook*, published by the TCFD Consortium in 2024, suggests that there is interoperability between the concepts of "transition plan" and "climate transition strategy."

As noted above, the importance of transition plans has been recognized. Meanwhile, the IOSCO has expressed concern about the lack of standardization of transition plan disclosures and the resultant lack of consistency and comparability given that there are differing disclosure rules across jurisdictions and various initiatives, such as the Transition Plan Taskforce (TPT) and the

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[17] TCFD (2021), *Guidance on Metrics, Targets, and Transition Plans*.

[18] According to the following survey conducted by the TCFD Consortium with TCFD members, a little more than 30% of financial institutions and slightly less than 50% of non-financial institutions have disclosed their transition plans.
TCFD Consortium (2024), *FY 2024 TCFD Consortium Member Survey Result*.

[19] OECD (2022), *OECD Guidance on Transition Finance: Ensuring Credibility of Corporate Climate Transition Plans*, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/7c68a1ee-en

[20] IOSCO (2024), *Report on Transition Plans Disclosures*.

[21] Financial Services Agency, Ministry of Economy, Trade and Industry, and Ministry of the Environment (2025), *Basic Guidelines on Climate Transition Finance 2025*.

CDP.

In light of this situation, this round of the survey introduced new open-ended questions to gather market participants' views on transition plan disclosure and its associated challenges, as well as on the potential for utilizing transition plans in corporate finance in Japan. The following summarizes the respondents' opinions.

A. Approaches to Transition Plan Disclosure

Many respondents who have disclosed their transition plans noted that they viewed transition plans as tools to enhance the transparency and credibility of their decarbonization efforts. While some indicated that they disclosed transition plans from the perspective of social significance, others highlighted the utility of transition plans in securing financing, particularly through the issuance of transition bonds. Regarding disclosure frameworks, several respondents reported disclosing transition plans in line with the TCFD recommendations, while others indicated an awareness of the need to align with the SSBJ standards given that the final version has been released. Meanwhile, even among respondents who have not yet disclosed transition plans, there appears to be growing interest. For example, some noted that they would examine the necessity of disclosure based on materiality, reflecting the announcement of the SSBJ standards. Others stated that they intended to monitor how large companies, which are subject to the SSBJ standards earlier, respond to the new rules. Some respondents considered transition plan disclosure to be a low priority because they do not have high-emitting business models.

Chart B3-1: Approaches to Transition Plan Disclosure

(Purpose and reasoning behind disclosing transition plans)

- ✓ The purpose of disclosure is to help investors understand the feasibility of the transition by visualizing the process. (issuers/investors)
- ✓ It is necessary to disclose information in line with international standards to ensure investment eligibility for overseas investors. (issuers)
- ✓ Transition plans are disclosed in the same section as business plans, partly with a view to issuing transition bonds. (issuers)
- ✓ Transition plans are published out of a sense of social responsibility, in response to growing global expectations for disclosure. (investors)
- ✓ Transition plans are disclosed in accordance with the TCFD framework, as we declare support for the TCFD recommendations. (issuers)
- ✓ Refining disclosure of transition plans to align with the SSBJ standards is being considered. (issuers)

(Reasons and background for not disclosing transition plans)

- ✓ With the announcement of the SSBJ standards, it is necessary to consider whether to disclose transition plans from the perspective of materiality. (issuers/investors)
- ✓ It is necessary to monitor how prime-listed companies that are subject to the SSBJ standards earlier respond to the new disclosure requirements. (issuers)
- ✓ Since the business model is not high-emitting, transition plans have not yet been formulated. (issuers)
- ✓ There is a need to better understand the disclosure requirements for transition plans, as we are still in the information-gathering stage. (issuers/investors)

B. Challenges in Disclosing Transition Plans

Some issuers noted the difficulty of determining the appropriate granularity and scope of information to disclose, citing a lack of standardization in specific disclosure requirements given that there are various transition plan-related initiatives. They also pointed to a lack of transparency in how investors and rating agencies utilize disclosed information in their investment decisions and evaluations. In addition, several respondents highlighted that when transition plans included highly uncertain future information or Scope 3 emissions, it became difficult to ensure the accuracy of the disclosures. Moreover, some issuers expressed concerns that, while investors were expecting companies to disclose the financial impact of their decarbonization efforts and its relevance to corporate value enhancement, disclosing such information would not be necessarily straightforward. From a practical perspective, issuers also pointed to the heavy burden posed by a large number of disclosure requirements and by the lack of interoperability across jurisdictions, which necessitates separate compliance processes in each jurisdiction.

Chart B3-2: Challenges in Disclosing Transition Plans

- ✓ Transition plans are not standardized, and the evaluation criteria used by investors and ESG rating agencies are ambiguous. (issuers/investors)
- ✓ It is unclear to what extent, in terms of scope and granularity, entities should disclose information in their transition plans. (issuers)
- ✓ It is difficult to incorporate in transition plans information such as future trends in the green product market, the development status of decarbonization-related infrastructure, and the level of public support. (issuers)
- ✓ Disclosing Scope 3 emissions with credibility is challenging because calculation methodologies have not been sufficiently established. (issuers)
- ✓ Although investors expect companies to disclose the financial impact of their decarbonization efforts and its relevance to enhancing corporate value, doing so is not necessarily straightforward. (issuers/investors)

- ✓ The operational burden is significant due to diversifying disclosure requirements across various initiatives. (issuers/investors)
- ✓ Disclosure requirements vary by jurisdiction, with different rules on what is to be included in transition plans. (issuers)

C. Opinions on the Utilization of Transition Plans

Regarding the utilization of transition plans, some investors indicated that they used them to assess the eligibility of transition finance for investments and to evaluate the effectiveness of issuers' decarbonization efforts. In addition, many investors stated that they assessed mid- to long-term corporate value through engagement based on transition plans. Some investors considered the following disclosed information as important: the concreteness of the transition strategy; the progress of emissions reduction and its alignment with the disclosed plan; and the financial impact of the transition efforts. As for challenges in utilizing transition plans, some respondents pointed out that the content of disclosures varied significantly from company to company and that there was a lack of comparable quantitative data. Others noted that they were uncertain about how to assess climate-related risks and opportunities due to limited internal expertise and human resources.

Chart B3-3: Opinions on the Utilization of Transition Plans

(Way of utilizing transition plans and disclosed information emphasized by respondents)

- ✓ Transition plans are expected to be used to evaluate the eligibility of transition finance for investments. (investors)
- ✓ Transition risks in high-emitting sectors are going to be incorporated into investment and lending evaluations through the verification and assessment of effectiveness in issuers' decarbonization efforts. (investors)
- ✓ Outcomes from dialogue with entities based on their transition plans are utilized to assess mid- to long-term corporate values. (investors)
- ✓ Among the disclosed information, particular emphasis is placed on the concreteness of the transition strategy toward achieving decarbonization goals and on the progress of GHG emissions reduction. Specifically, due attention is paid to whether progress aligns with the plan, how decarbonization efforts affect their finance, and whether effective measures have been implemented consistently. (investors)

(Challenges in utilization)

- ✓ Company disclosures lack comparability due to variation in content. (investors)
- ✓ A shortage of internal expertise and human resources makes it difficult to make informed investment decisions based on climate-related information. (investors)

Box 4: Developments in the International Situation Surrounding Climate Finance

Since the previous survey, the international situation surrounding climate finance has been changing particularly in the United States and Europe. Although the situation remains fluid, this box provides a brief overview of key developments based on the information available at this time.[22]

A. Developments in Climate-related Disclosure Rules

In both the United States and Europe, there has been a move to reconsider climate-related disclosure rules, driven by the change in administration in the United States and ongoing discussions in Europe about enhancing competitiveness.

In the United States, the Securities and Exchange Commission (SEC) finalized rules in March 2024 to strengthen disclosures such as climate-related risks and greenhouse gas (GHG) emissions. However, in April 2024, the SEC was sued allegedly due to concerns about the disclosure burden on companies and subsequently issued a voluntary stay of the rules. Later, in March 2025, the SEC announced that it had voted to cease defending the rules in ongoing litigation. As a result, the implementation of the finalized disclosure rules is widely seen as having been effectively withdrawn.

In Europe, climate-related disclosure rules such as the Corporate Sustainability Reporting Directive (CSRD, effective from January 2023) and the Corporate Sustainability Due Diligence Directive (CSDDD, effective from July 2024) have been developed. Meanwhile, the so-called Draghi Report,[23] commissioned by the European Commission and released in September 2024, emphasized the need to balance climate action with industrial competitiveness. Following this publication, discussions intensified about reconsidering disclosure rules from the perspective of the compliance burden on EU companies and its potential impact on competitiveness. In this context, the European Council adopted the *Budapest Declaration on the New European Competitiveness Deal* in November 2024, calling on the European Commission to propose a reduction of reporting requirements by at least 25 percent. In response, the European Commission issued the Omnibus Package in February 2025. The package proposes amendments to streamline related legislation, including the CSRD and the CSDDD, by delaying application timelines for certain companies, narrowing the scope of entities subject to the rules, and simplifying disclosure requirements.

[22] This box is based on the information available by the end of April 2025.

[23] Mario Draghi (2024), *The Future of European Competitiveness*, European Commission.

B. Developments in International Initiatives

The Glasgow Financial Alliance for Net Zero (GFANZ) is a coalition of private-sector initiatives by international financial institutions, established at COP26 in Glasgow in November 2021 with the aim of supporting the transition to net zero. It comprised of several initiatives, including the Net-Zero Banking Alliance (NZBA), the Net Zero Asset Managers Initiative (NZAMI), the Net-Zero Asset Owner Alliance (NZAOA), and the Net-Zero Insurance Alliance (NZIA).

These initiatives required participating financial institutions to set and disclose reduction targets for financed emissions (FE), which are GHG emissions attributed to their lending and investment activities.[24] Based on these targets, financial institutions had been engaging in dialogue with portfolio companies on emission reductions. However, since December 2024, major U.S. financial institutions have withdrawn from initiatives such as the NZBA and the NZAMI, and this trend has subsequently spread to financial institutions outside the United States, including those in Japan. This is reportedly due to criticism in the United States that participation in such frameworks could constitute a violation of U.S. antitrust laws.[25] Despite these departures, many of the withdrawing institutions state that they remain committed to their climate-related goals, including net-zero targets, and will continue to pursue decarbonization efforts. Meanwhile, in January 2025, the NZAMI ceased its activities, and the GFANZ announced that it would undergo restructuring and shift its focus toward activities such as promoting investment in emerging countries.

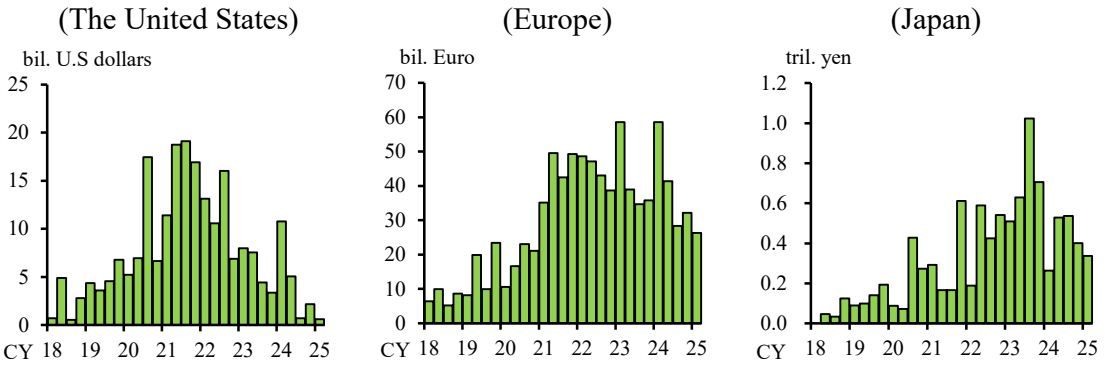
C. Status of the ESG Bond Issuance by Companies in Major Countries

Under these circumstances, regarding the ESG bond issuance by companies in major countries, a decline in issuance by U.S. companies is outstanding. The volume of the U.S. dollar-denominated ESG bonds issued by U.S. companies had been gradually decreasing since 2021, and thereafter the decline became more pronounced in the second half of 2024. Issuance during the January-March 2025 period remained limited (Chart B4-1). By contrast, companies in Europe have continued to issue the euro-denominated ESG bonds, and Japanese companies have maintained a certain level of yen-denominated issuance. However, in both regions, issuance volumes have remained somewhat lower compared to previous levels.

[24] It was pointed out that the FE target could hinder transition finance if the FE target achievement becomes an end in itself (see Box 2: Current Status of Transition Finance and Its Challenges of the *Results of the Third Market Functioning Survey concerning Climate Change*).

[25] The NZIA was disbanded in April 2024 after a succession of withdrawal.

Chart B4-1: Issuance Amount of the ESG Bonds (Flow)



Note: The United States covers the U.S. dollar-denominated publicly offered ESG bonds by U.S. companies. Europe covers the EUR-denominated publicly offered ESG bonds by European companies. Japan covers the yen-denominated publicly offered ESG bonds by Japanese companies.
Source: LSEG

III. Conclusion: Key Findings

The key findings from this round of the survey are summarized below.

Regarding the pricing of climate-related risks and opportunities in financial instruments, the survey results indicated that pricing had progressed slightly compared to the previous survey in both the stock and corporate bond markets in Japan. Respondents assessed that these risks and opportunities were more incorporated in stock prices than in bond prices. No significant changes were observed in the factors that respondents believed were not priced into financial instruments. To promote further integration of climate-related risks and opportunities into market pricing, respondents most frequently emphasized the importance of "increasing issuers and/or investors that place a high value on climate-related risks and opportunities."

Regarding the current status of the climate change-related ESG bond market, the survey suggested that the respondents' assessments of the economic advantages of the ESG bonds compared to non-ESG bonds, such as greenium and strong demand, had become somewhat more cautious, amid the limited expansion of the investor base. Views and impressions on the supply and demand conditions for the ESG bonds as well as those in comparison with non-ESG bonds shifted toward loose compared to the previous survey. Business corporates, in particular, changed their views: they perceived supply and demand conditions for non-ESG bonds to be somewhat tighter than for the ESG bonds, reversing their views from the previous survey. In terms of issuance conditions, there was a slight decline in the perception that the ESG bonds offered an economic advantage over non-ESG bonds, along with a decrease in the proportion of respondents selecting "the ESG bonds are issued at lower yield," which is an indicator of greenium. While many respondents continued to cite importance in business strategy and reputation as reasons for issuing the ESG bonds, the share selecting "gaining new investors and/or diversifying the investor base" declined. The proportion choosing "conditions for issuing the ESG bonds are more favorable" remained low. Additionally, there was a slight increase in the number of respondents identifying management and reporting burdens as reasons for not issuing the ESG bonds. In summary, although issuers continue to value the ESG bonds for their business strategic and reputational benefits, they appear to have moderated their expectations for the economic superiority of the ESG bonds. There is no strong indication that this moderation in issuer expectations had a broad impact on issuance levels, given that the decline in total ESG bond issuance in 2024 relative to the previous year, following consistent growth through 2023, was largely attributable to a drop in issuance in certain sectors stemming from dissipation of the effect of large-scale projects (see Box

1).

Regarding the prospects for the climate change-related ESG bond market, both business corporates and investors remained willing to use the ESG bonds actively from a somewhat long-term perspective. On the issuer side, a majority of business corporates, particularly those in high-emitting sectors, indicated that they expected a significant increase in funding needs for climate change-related responses, with around 50 percent also considering the use of the ESG bonds. Notably, about 35 percent of respondents who considered the use of the ESG bonds had not yet issued the ESG bonds, suggesting that the issuer base is likely to broaden further as their funding plans become more concrete. However, compared to the previous survey, there was a slight increase in the proportion of respondents, including those in high-emitting sectors, who were considering fundraising methods for climate change-related responses more flexibly, including options such as taking out loans or issuing non-ESG bonds. On the investor side, a relatively large number of respondents indicated that their investment policies incorporated climate-related factors, by including them as part of ESG investing or by setting volume targets for sustainable finance. While specific investment strategies varied by industry, a relatively large share of respondents expressed plans to increase investment in the ESG bonds. However, relatively few indicated that they would incorporate climate-related factors into credit and spread assessments or make investment decisions based on controlling GHG emissions in their loan and investment portfolios.

Regarding transition finance, the proportion of companies that had not yet decided their stance decreased, on the back of progress in their consideration of utilizing transition finance. At the same time, the proportion of companies that responded they did not plan to raise funds using transition finance increased, including those who indicated they could raise funds through other financing means, and there was a slight increase in the proportion of respondents who indicated plans to use transition finance. On the investor side, there was no significant change in the overall stance of financial institutions, although the proportion of respondents who had not yet decided on their approach to transition finance declined slightly. Among the challenges to facilitating the smooth advancement of transition finance, as in the previous survey, respondents most frequently highlighted the importance of facilitating international understanding (see Box 2). In addition, among investors actively engaged in transition finance, a higher proportion, compared to both all respondents and those in the previous survey, selected "issuers advancing their transition plans and associated information disclosure" as a challenge, suggesting growing attention to transition

plans (see Box 3).

Concerning the challenges to expanding the climate change-related ESG bond market in Japan, respondents most frequently cited "increasing issuers and/or investors that place a high value on climate-related risks and opportunities," with the proportion selecting this option rising compared to the previous survey. This perception appears to have strengthened as the expansion of the investor base became limited and market perception of supply and demand conditions for the ESG bonds shifted toward loose. The survey also revealed that companies were becoming more flexible on funding climate change-related responses, considering funding measures other than the ESG bonds as an option. As noted in Box 2, transition plans are viewed as tools that can promote the ESG bond issuance, while there is also a view that investments in non-ESG bonds issued by companies disclosing credible transition plans could be classified as transition finance. As climate-related disclosure regulations continue to evolve, the role and strategic positioning of the ESG bonds in companies may shift. Accordingly, close monitoring of these trends is essential in assessing the functioning of climate-related financial markets. Furthermore, since last autumn, the international situation surrounding climate finance has changed, influenced by changes in U.S. leadership and heightened debates in Europe over industrial competitiveness (see Box 4). This survey found no clear evidence that these international shifts had directly and significantly influenced the perspectives of Japanese market participants. Some respondents observed that these trends would not have significant impact on domestic efforts since Japan's approach to climate finance had thus far been balanced. Nevertheless, the international context appears to have sparked interest in climate-related strategies among respondents. Many respondents expressed views on climate finance and disclosure from various perspectives, including cost-effectiveness, underlying philosophy, and practical effectiveness. The potential impact of these global developments on future market dynamics is an important area to watch.

Appendices

A. Fourth Market Functioning Survey concerning Climate Change: Survey Questions

1. Market Functioning

(Stock Market)

Question 1

Do you think risks and opportunities brought about by climate change (hereafter, climate-related risks and opportunities) are reflected in the stock prices of issuers in the Japanese stock market?

1. Yes (Reflected)
2. Somewhat yes (Somewhat reflected)
3. Somewhat no (Not reflected much)
4. No (Not reflected)

Question 2

Are there any climate-related risks and/or opportunities that you think are not reflected in the stock prices of issuers in the Japanese stock market?

(Choose all that apply, unless you choose 4.)

1. Climate-related risks (Physical risks[1])
2. Climate-related risks (Transition risks[2])
3. Climate-related opportunities[3]
4. None (Climate-related risks and opportunities are reflected in the stock prices)

(Optional) Please provide, if any, the reasons or motivations for selecting the answers, or comments on the outlook for the selected answers.

Question 3

Which of the following do you think are necessary to reflect climate-related risks and opportunities more in the stock prices of issuers in the Japanese stock market in future? Choose up to three answers that are important to your entity.

(Choose up to three answers.)

1. Increasing issuers and/or investors that place a high value on climate-related risks and opportunities
2. Bridging data gaps on climate-related data
3. Enhancing and/or standardizing information disclosure
4. Further developing analysis methodologies for climate-related risks, climate-related opportunities, and 'impacts'
5. Improving transparency in ESG evaluation (e.g., more transparency in evaluation methodologies and clarifying the relationship with credit ratings)
6. Promoting engagement and enhancing dialogues
7. Clarifying policy measures for climate change
8. Other

(Optional) Please provide specific details, if any, regarding the selected answers.

(Corporate Bond Market)

Question 4

Do you think climate-related risks and opportunities are reflected in the corporate bond prices of issuers in the Japanese corporate bond market?

1. Yes (Reflected)
2. Somewhat yes (Somewhat reflected)
3. Somewhat no (Not reflected much)
4. No (Not reflected)

Question 5

Are there any climate-related risks and/or opportunities that you think are not reflected in the corporate bond prices of issuers in the Japanese corporate bond market?

(Choose all that apply, unless you choose 4.)

1. Climate-related risks (Physical risks[1])
2. Climate-related risks (Transition risks[2])
3. Climate-related opportunities[3]
4. None (Climate-related risks and opportunities are reflected in the corporate bond prices)

(Optional) Please provide, if any, the reasons or motivations for selecting the answers, or comments on the outlook for the selected answers.

Question 6

Which of the following do you think are necessary to reflect climate-related risks and opportunities more in the corporate bond prices of issuers in the Japanese corporate bond market in future? Choose up to three answers that are important to your entity.

(Choose up to three answers.)

1. Increasing issuers and/or investors that place a high value on climate-related risks and opportunities
2. Bridging data gaps on climate-related data
3. Enhancing and/or standardizing information disclosure
4. Further developing analysis methodologies for climate-related risks, climate-related opportunities, and 'impacts'
5. Improving transparency in ESG evaluation (e.g., more transparency in evaluation methodologies and clarifying the relationship with credit ratings)
6. Promoting engagement and enhancing dialogues
7. Clarifying policy measures for climate change
8. Other

(Optional) Please provide specific details, if any, regarding the selected answers.

Question 7

Which of the following is the closest to your entity's view/impression about the supply and demand conditions of climate change-related ESG bonds[4] in Japan?

(Assessment of the supply and demand conditions of the ESG bonds)

1. Somewhat tight to tight
2. More or less balanced
3. Somewhat loose to loose

(Assessment of the supply and demand conditions of the ESG bonds compared with non-ESG bonds)

1. Somewhat tight to tight compared with non-ESG bonds
2. More or less the same compared with non-ESG bonds
3. Somewhat loose to loose compared with non-ESG bonds

(Optional) Please provide, to the extent possible, the differences in the supply and demand conditions depending on the type of the ESG bonds (e.g., green bonds, sustainability bonds, sustainability-linked bonds, transition bonds, and transition-linked bonds).

Question 8

In relation to your assessment in Question 7, do you think there are any differences between climate change-related ESG bonds and non-ESG bonds in terms of issuance conditions such as yields, amounts, and maturities?

(Choose all that apply, unless you choose 4.)

1. The ESG bonds are issued at lower yield, if all else is equal
2. The ESG bonds are issued in larger amounts (larger lots), if all else is equal
3. The ESG bonds are issued with longer maturity, if all else is equal
4. The ESG bonds do not have advantages in terms of issuance conditions

(Optional) Please provide, to the extent possible, the differences in issuance conditions depending on the type of climate change-related bonds (e.g., green bonds, sustainability bonds, sustainability-linked bonds, transition bonds, and transition-linked bonds).

Question 9

Which of the following do you think are necessary to increase the size of the climate change-related ESG bond market in Japan? Choose up to three answers that are important to your entity.

(Choose up to three answers.)

1. Increasing efforts and projects to respond to climate change
2. Increasing issuers and/or investors that place a high value on climate-related risks and opportunities
3. Bridging data gaps on climate-related data
4. Enhancing and/or standardizing information disclosure
5. Further developing analysis methodologies for climate-related risks, climate-related opportunities, and 'impacts'
6. Improving transparency in ESG evaluation (e.g., more transparency in evaluation methodologies and clarifying the relationship with credit ratings)
7. Promoting engagement and enhancing dialogues
8. Clarifying policy measures for climate change
9. Other

(Optional) Please provide specific details, if any, regarding the selected answers.

2. Stance on Issuing and Investing in Climate Change-related ESG Bonds

Question 10

Has your entity ever issued climate change-related ESG bonds in Japan?

1. Yes (Issued in the past 12 months)
2. Yes (But not issued in the past 12 months)
3. No
4. Not applicable (Not an issuer)

* "Past 12 months" refers to the period from April 2024 through March 2025.

(Questions for issuers[5])

(For those who chose "1. Yes (Issued in the past 12 months)")

Question 10-A

Why did your entity choose to issue the ESG bonds in Japan as a means of financing in the past 12 months?

(Choose all that apply.)

1. Climate change response has become more important in the entity's business strategy
2. Issuing the ESG bonds improves the entity's reputation and/or its ability to give explanations to stakeholders
3. Issuing the ESG bonds helps the entity gain new investors and/or diversify the entity's base of investors
4. Fund raising by issuing the ESG bonds is more favorable than other means of financing in Japan (e.g., non-ESG bonds and loans)
5. Conditions for issuing the ESG bonds are more favorable in Japan than in other countries
6. Other

(Optional) Please provide specific details, if any, regarding the selected answers.

(For those who chose "2. Yes (But not issued in the past 12 months)" or "3. No")

Question 10-B

Why did your entity not choose to issue the ESG bonds in Japan as a means of financing in the past 12 months?

(Choose all that apply.)

1. No need to obtain external funds
2. The entity does not have a project suitable for issuing the ESG bonds
3. Demand from investors for the ESG bonds issued by the entity is limited
4. The entity does not have enough expertise to issue the ESG bonds
5. Management and reporting associated with the issuance of the ESG bonds is burdensome
6. Fund raising through other means of financing in Japan (e.g., non-ESG bonds and loans) is more favorable than issuing the ESG bonds (please provide, to the extent possible, specific details in the box below)

7. Conditions for issuing the ESG bonds are more favorable in other countries than in Japan
8. Other

(Optional) Please provide specific details, if any, regarding the selected answers. Also, if you chose 6, please provide, to the extent possible, the specific means of financing your entity uses in Japan. Specifically, given that the issuance of the ESG bonds in Japan declined from the previous year for the first time in 2024, please provide, to the extent possible, if there are any changes in your entity's stance on issuing the ESG bonds (e.g., prioritizing issuance of non-ESG bonds, which can be issued more quickly than the ESG bonds, with expectations for further interest rate rises).

Question 11

Does your entity expect a significant increase in the demand for funds for climate change-related responses toward fiscal 2030[6]? If so, which of the following will be the main fund-raising method for your entity?

(Choose all that apply, unless you choose 1 or 8.)

1. The entity does not expect a significant increase in the demand for funds for climate change-related responses
2. Issuing equities
3. Issuing non-ESG bonds
4. Issuing climate change-related ESG bonds
5. Taking out loans
6. Using cash reserves
7. Other than the above (e.g., bank deposits, insurance premiums)
8. Not decided (the consideration is not advanced enough to predict the direction)

(Optional) Please provide specific details, if any, regarding the reason why your entity is planning to use the selected fund-raising method, or any constraints or challenges in raising funds with the selected method.

(For those who chose "4. Issuing climate change-related ESG bonds")

Question 11-A

Specifically, which type of the ESG bonds is your entity planning to issue?

(Choose all that apply, unless you choose 6.)

1. Green bonds
2. Sustainability bonds
3. Sustainability-linked bonds
4. Transition bonds
5. Transition-linked bonds
6. The type of the ESG bonds will vary depending on the environment for their issuances

(Optional) Please provide specific details about your entity's policy for issuing a specific type of the ESG bonds, or any challenges identified in issuing a specific type of the ESG bonds.

Question 12

What is your entity's stance on transition finance[7] as an issuer?

1. Have raised funds using transition finance before and planning to continue to do so in the future
2. Have not raised funds using transition finance before but planning to do so in the future
3. Not planning to raise funds using transition finance
4. Not decided

(For those who chose "1. Have raised funds using transition finance before and planning to continue to do so in the future" or "2. Have not raised funds using transition finance before but planning to do so in the future")

Question 12-A

Why is your entity planning to use transition finance?

(Choose all that apply.)

1. To address the need for fund-raising that cannot be fulfilled by green finance due to the entity's high-emitting business model
2. To diversify fund-raising methods although the entity's business model is not high-emitting
3. To facilitate the understanding among stakeholders of the need to use a combination of available technologies to reduce emissions in phases because the technology to reduce emissions has not yet been established
4. To avoid not being chosen by investors due to the amount of emissions
5. Other

(Optional) Please provide specific details, if any, regarding the selected answers.

(For those who chose "3. Not planning to raise funds using transition finance")

Question 12-B

Why is your entity not planning to use transition finance?

(Choose all that apply.)

1. The entity can manage with its cash reserves despite its high-emitting business model
2. The entity can raise enough funds through green finance or other financing means (e.g., non-ESG bonds and loans) despite its high-emitting business model
3. There is no need to use transition finance because the entity's business model is not high-emitting
4. The entity does not endorse the idea of transition finance

5. Other

(Optional) Please provide specific details, if any, regarding the selected answers. Also, please describe if there are any constraints or challenges in using transition finance (e.g., the difficulty in laying out credible transition strategies).

Question 13

Has your entity ever invested in climate change-related ESG bonds[4] in Japan?

1. Yes (Invested in the past 12 months)
2. Yes (But not invested in the past 12 months)
3. No
4. Not applicable (Not an investor)

* "Past 12 months" refers to the period from April 2024 through March 2025.

(Questions for investors[5])

(For those who chose "1. Yes (Invested in the past 12 months)")

Question 13-A

Why did your entity choose to invest in the ESG bonds in Japan in the past 12 months?

(Choose all that apply.)

1. To improve the return per risk of the entity's portfolio
2. To make social and environmental contributions through the investment
3. To promote the entity's engagement with the issuers
4. To improve the entity's reputation and/or its ability to give explanations to stakeholders
5. There are more climate change-related ESG bonds that fulfill the entity's investment needs in Japan than in other countries
6. To respond to the needs of asset owners and/or clients
7. Other

(Optional) Please provide specific details, if any, regarding the selected answers.

(For those who chose "2. Yes (But not invested in the past 12 months)" or "3. No")

Question 13-B

Why did your entity not choose to invest in the ESG bonds in Japan in the past 12 months?

(Choose all that apply.)

1. The entity does not believe the investment will lead to an improvement in the return per risk of the entity's portfolio
2. The volume of the ESG bonds issued in the Japanese market overall is not sufficient
3. There is not enough information to make investment decisions including concerns over 'greenwashing'
4. The entity prioritizes climate change-related ESG investments via other financial means in Japan (e.g., providing loans)
5. There are more climate change-related ESG bonds that fulfill the entity's investment needs in other countries than in Japan
6. No need from asset owners and/or clients
7. Other

(Optional) Please provide specific details, if any, regarding the selected answers.

Question 14

How will your entity incorporate climate change-related factors into corporate bond investment decisions toward fiscal 2030[6]? (If your entity is an asset management company or the like, please select answers based on your clients' investment policies in general.)

(Choose all that apply, unless you choose 5, 6, or 7.)

1. Will incorporate climate change-related factors as part of ESG investing
2. Will invest in corporate bonds to achieve volume targets set for sustainable finance (e.g., the amount of new investment/lending or their total amount outstanding)
3. Will invest in corporate bonds in line with a target for loan and investment portfolio GHG emissions (e.g., financed emissions)
4. Will invest in corporate bonds in line with a target other than the above
5. Will not incorporate climate change-related factors into corporate bond investment decisions
6. Not planning to invest in corporate bonds
7. Not decided

(Optional) Please provide specific details, if any, regarding the selected answers.

(For those who chose 1, 2, 3, or 4 in Question 14)

Question 14-A

Under the investment policy selected above, which of the following methods specifically impacts your entity's selection of corporate bonds? Choose up to three answers that you think have significant impacts.

(Choose up to three answers.)

1. Increasing investments in climate change-related ESG bonds
2. Excluding specific sectors or specific bonds (e.g., high-emitting sectors or corporates) from the investment portfolio, considering climate change-related factors (negative screening)
3. Incorporating climate change-related factors into credit and spread assessment
4. Making investment decisions based on the progress in engagement and dialogues with issuers
5. Making investment decisions from the perspective of controlling loan and investment portfolio GHG emissions (e.g., financed emissions)
6. Incorporating climate change-related factors into investment decisions via methods other than the above

(Optional) Please provide specific details, if any, regarding the selected answers.

(For those who chose "1. Increasing investments in climate change-related ESG bonds")

Question 14-B

Specifically, which type of the ESG bonds is your entity planning to increase investing in?

(Choose all that apply, unless you choose 6.)

1. Green bonds
2. Sustainability bonds
3. Sustainability-linked bonds
4. Transition bonds
5. Transition-linked bonds
6. The type of the ESG bonds will vary depending on the market conditions

(Optional) Please provide specific details, if any, regarding the selected answers, such as your entity's policy on investing in a specific type of the ESG bonds, or any challenges identified in investing in a specific type of the ESG bonds.

Question 15

What is your entity's stance on transition finance[7] as an investor?

1. Planning to actively engage in transition finance
2. Not necessarily active in engaging in transition finance at the moment, but may engage in it in the future
3. Not planning to engage in transition finance
4. Not decided

(For those who chose "2. Not necessarily active in engaging in transition finance at the moment, but may engage in it in the future" or "3. Not planning to engage in transition finance")

Question 15-A

Why is your entity's stance on engaging in transition finance not necessarily active at the moment? Choose up to three answers that are important to your entity.

(Choose up to three answers.)

1. The entity has constraints due to its internal taxonomies (i.e., standards used for classifying climate-related investments and lending), or internal policy for investing in and lending to specific sectors
2. The entity has a target on its emissions (e.g., Scope 3 emissions set in the form of financed emissions or facilitated emissions), making it difficult to engage in initiatives that would increase its calculated emissions
3. There is not enough information concerning transition plans to make investment decisions
4. Assessing the balance between risk and return is difficult
5. Challenges remain in terms of preventing 'greenwashing'
6. (In case your entity is entrusted to manage assets of overseas investors) Sufficient understanding has not yet been gained on transition finance by overseas investors

7. (In case your entity is entrusted to manage assets of domestic investors) Sufficient understanding has not yet been gained on transition finance by domestic investors
8. Other

(Optional) Please provide specific details, if any, regarding the selected answers.

3. For the Development of the Markets

(Transition Finance)

Question 16

Which of the following do you think are important to facilitate transition finance smoothly going forward? Choose up to three answers that are important to your entity.

(Choose up to three answers.)

1. Facilitating international understanding of transition finance
2. Reviewing taxonomies in international standards
3. International initiatives reviewing the target setting or methodology for calculating financed emissions
4. Investors reviewing their internal taxonomies and policy for investing in high-emitting sectors
5. Investors reviewing their targets on financed emissions
6. Issuers advancing their transition plans and associated information disclosure
7. Providing policy incentives for transition finance
8. Other

(Optional) Please provide, if any, the reasons or motivations for selecting the answers.

(Information Disclosure)

Question 17

The Japanese Sustainability Disclosure Standards, which are currently being finalized by the Sustainability Standard Board of Japan (SSBJ), will require companies to disclose transition plans if they have them. In some jurisdictions outside Japan, transition plan disclosure will become mandatory, and various frameworks and initiatives on transition plans have been established.

* Respondents were asked to answer one of the following questions from A to E depending on their previous answers.

(For issuers)

A. If your entity discloses its transition plan, please describe, to the extent possible, the intention of the disclosure (e.g., the role of the disclosure in the entity's engagement in climate finance), as well as its stance and challenges as an issuer. If your entity does not disclose its transition plan, please describe, to the extent possible, its stance on the disclosure and challenges for the future.

(For investors)

B. In light of the above, as an investor, please describe, to the extent possible, how your entity utilizes issuers' transition plans -- including the areas it pays the closest attention to -- the areas where more information disclosure is expected, and challenges either at the market level, on the issuer side, or on the investor side.

(For issuers and investors)

C. If your entity discloses its transition plan, please describe, to the extent possible, the intention of the disclosure (e.g., the role of the disclosure in the entity's engagement in climate finance), as well as its stance and challenges as an issuer. If your entity does not disclose its transition plan, please describe, to the extent possible, its stance on the disclosure and challenges for the future.

Additionally, as an investor, please describe, to the extent possible, how your entity utilizes issuers' transition plans -- including the areas it pays the closest attention to -- the areas where more information disclosure is expected, and challenges either at the market level, on the issuer side, or on the investor side.

(For rating agencies)

D. In light of the above, please describe, to the extent possible, challenges in transition plan disclosure -- either at the market level, on the issuer side, or on the investor side -- the areas where more disclosure is expected for ESG evaluations and/or credit ratings, and challenges your entity faces.

(For respondents that are not issuers, investors, or rating agencies)

E. In light of the above, please describe, to the extent possible, challenges -- either at the market level, on the issuers side, or on the investor side -- in enhancing transition plan disclosure and further utilizing it, as well as comments surrounding the issue.

Question 18

Apart from transition plan disclosure, please provide, to the extent possible, if there are any challenges in responding to the upcoming mandatory disclosure of climate-related risks and opportunities in practice (e.g., calculation and evaluation of Scope 3 emissions, interoperability with disclosures in different jurisdictions) or in enhancing information disclosure and further utilizing it (e.g., quantitative measurement of impacts).

(Other)

Question 19

From the viewpoint of fostering Japanese financial markets to further address climate change, please provide, if any, comments on the progress in market initiatives compared to a year ago, trends your entity is paying attention to -- for example, overseas developments (e.g., presidential transition in the United States, developments in Europe) or international understanding on climate finance initiatives in Japan -- and new challenges you have observed.

4. Publication of the Name of Your Entity

Question 20

Please indicate whether you consent to the disclosure of your entity's name in the list of survey respondents.

1. We give consent
2. We do not give consent

Notes: 1. "Climate-related risks (physical risks)" refers to the risks that physical phenomena triggered by climate change, such as large-scale disasters or rising sea levels, will have an economic loss for issuers' businesses (e.g., damage to facilities and/or difficulty in continuing with business due to climate disasters and impact on business due to climate change in a longer term such as rising sea levels and rising sea temperatures).

2. "Climate-related risks (transition risks)" refers to the risks of an economic loss on issuers' businesses due to changes in policy, technology, or consumer preference as society transitions toward carbon-neutral (e.g., changes in policies such as those regarding carbon pricing, technological developments, and delays in changing business models in response to heightened consumer preference for "green" instruments).

3. "Climate-related opportunities" refers to profit opportunities and growth opportunities brought about by efforts to respond to climate change issues (e.g., resource efficiency and cost savings, adoption of low-emission energy sources, and development of new products and services).

4. "Climate change-related ESG bonds" refers to corporate bonds with labels, such as green bonds, sustainability bonds with use of proceeds related to efforts on climate change, sustainability-linked bonds with performance targets related to efforts on climate change, transition bonds, and transition-linked bonds, that comply with corresponding international standards and/or guidelines set by the Japanese government.

5. If your entity is both an issuer and an investor, please answer both sets of questions for issuers and for investors.

6. In line with its objective to achieve carbon neutrality by 2050, Japan has set ambitious goals as its "Nationally Determined Contribution." Specifically, it aims to reduce greenhouse gas emissions by 46 percent by fiscal 2030 from its fiscal 2013 levels and continue efforts to meet the challenging target of reducing the emissions by 50 percent.

7. Transition finance is a financing approach that provides funds for companies committed to reducing greenhouse gas emissions based on a long-term decarbonization strategy. For details, see the Japanese government's website on transition finance.
https://www.meti.go.jp/english/policy/energy_environment/transition_finance/index.html

B. Fourth Market Functioning Survey concerning Climate Change: List of Respondents (Respondents That Consented to Disclosure of Their Participation in the Survey)

- ABeam Consulting Ltd.
- ADVANTEST CORPORATION
- AGC Inc.
- Aichi Bank, Ltd.
- The Amagasaki Shinkin Bank
- Amundi Japan Ltd.
- Aomori Michinoku BANK, Ltd.
- Aozora Bank, Ltd.
- Asahi Kasei Corp.
- Asahi Life Asset Management Co., Ltd.
- Asahi Mutual Life Insurance Company
- Asset Management One Co., Ltd.
- The Awa Bank, Ltd.
- The Bank of Fukuoka, Ltd.
- THE BANK OF KOCHI, LTD.
- The Bank of Kyoto, Ltd.
- Bank of The Ryukyus, Limited
- The Bank of Toyama, Ltd.
- The Bank of Yokohama, Ltd.
- BIPROGY Inc.
- Bloomberg L.P.
- BNP PARIBAS ASSET MANAGEMENT Japan Limited
- BNP Paribas Securities (Japan) Limited
- BNP Paribas, Tokyo Branch
- Booost, Inc.
- BROTHER INDUSTRIES, LTD.
- CENTRAL TANSHI CO., LTD.
- The Chugoku Bank, Limited
- The Chugoku Electric Power Company, Incorporated
- COMANY INC.
- COMSYS Holdings Corporation
- COSMO ENERGY HOLDINGS COMPANY, LIMITED.
- CREEK & RIVER Co., Ltd.
- CUBE SYSTEM INC.
- The Dai-ichi Life Insurance Company, Limited
- Daishi Hokuetsu Bank, Ltd.
- THE DAITO BANK, LTD.
- Daito Trust Construction Co., Ltd.
- Daiwa House Asset Management Co., Ltd.
- DAIWA HOUSE INDUSTRY CO., LTD.
- Daiwa House Real Estate Investment Management CO.,LTD.
- Daiwa Real Estate Asset Management Co. Ltd.
- Daiwa Securities Group Inc.
- DENSO CORPORATION
- Dexerials Corporation
- DKS Co. Ltd.
- Earth Corporation
- EBARA CORPORATION
- EBARA JITSUGYO CO., LTD.
- The Ehime Bank, Ltd.
- FIL Investments (Japan) Limited
- THE FIRST BANK OF TOYAMA, LTD.
- Foundation of River & basin Integrated Communications
- FUJIKURA COMPOSITES Inc.
- Fujikura Ltd.
- Fukoku Capital Management, Inc.
- Fukoku Mutual Life Insurance Company
- FUKUICOMPUTER HOLDINGS, Inc
- THE FUKUOKA CHUO BANK, LTD.
- THE FUKUSHIMA BANK, LTD.
- FURUKAWA CO.,LTD.
- Furukawa Electric Co., Ltd.
- Fuso Pharmaceutical Industries, Ltd.
- Fuyo General Lease Co., Ltd.
- Global Alliance Realty Co., Ltd.
- The Gunma Bank, Ltd.
- The Hachijuni Bank, Ltd.
- HAZAMA ANDO CORPORATION
- HC Asset Management Co., Ltd.
- The Higashi-Nippon Bank, Limited
- The Higo Bank, Ltd.
- HIOKI E.E.Corporation
- Hirogin Holdings, Inc.
- Hitachi, Ltd.
- The Hokkoku Bank, Ltd.
- The Hokuriku Bank, Ltd.
- The Hokuto Bank, Ltd.
- HORIBA, Ltd.
- THE HOWA BANK, LTD.
- THE HYAKUGO BANK, LTD.

- The Hyakujushi Bank, Ltd.
- ICHIYOSHI ASSET MANAGEMENT CO.,LTD.
- Ichiyoshi Securities Co., Ltd.
- IDEA Consultants, Inc.
- Idemitsu Kosan Co.,Ltd.
- IHI Corporation
- I－NET Corp.
- The Iyo Bank, Ltd.
- Japan Airlines Co., Ltd.
- Japan Exchange Group, Inc.
- Japan Hotel REIT Advisors Co., Ltd.
- Japan Investment Advisers Association
- JAPAN POST HOLDINGS Co., Ltd.
- JAPAN POST INSURANCE Co., Ltd.
- Japan Pulp & Paper Co., Ltd.
- JBCC Holdings Inc.
- JFE Holdings, Inc.
- J-OIL MILLS, INC.
- The JOYO BANK,Ltd.
- JPMorgan Asset Management (Japan) Ltd.
- The Juhachi-Shinwa Bank, Ltd.
- The Kagoshima Bank, Ltd.
- KAJIMA CORPORATION
- Kanadevia Corporation
- THE KANAGAWA BANK, LTD.
- KANEMATSU CORPORATION
- Kansai Mirai Bank, Limited
- Kenedix Real Estate Fund Management, Inc.
- Kirayaka Bank, Ltd.
- The Kiyo Bank, Ltd.
- KOKUSAI ELECTRIC CORPORATION
- KONICA MINOLTA, INC.
- KOSÉ Corporation
- KROSAKI HARIMA CORPORATION
- The Kumamoto Bank, Ltd.
- Kyosan Electric Manufacturing Co.,Ltd.
- Mabuchi Motor Co., Ltd.
- Manulife Investment Management (Japan) Limited
- Marubeni REIT Advisors Co., Ltd.
- MARUBUN CORPORATION
- MARUI GROUP CO., LTD.
- MEIDENSHA CORPORATION
- Meiji Yasuda Asset Management Company Ltd.
- Meiji Yasuda Life Insurance Company
- MEIKO NETWORK JAPAN CO., LTD.
- The Minato Bank, Ltd.
- Mitsubishi Chemical Group Corporation
- Mitsubishi Heavy Industries, Ltd.
- Mitsubishi Research Institute, Inc.
- Mitsubishi UFJ Asset Management Co., Ltd.
- Mitsubishi UFJ Financial Group, Inc.
- Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.
- Mitsubishi UFJ Trust and Banking Corporation
- Mitsuboshi Belting Ltd.
- Mitsui Fudosan Co., Ltd.
- Mizuho Financial Group, Inc. / Mizuho Bank, Ltd.
- Mizuho Securities Co., Ltd.
- MS&AD Insurance Group Holdings, Inc.
- The Musashino Bank, Ltd.
- THE NAGANOBANK, LTD.
- Nankai Electric Railway Co.,Ltd.
- The Nanto Bank, Ltd.
- National Mutual Insurance Federation of Agricultural Cooperatives
- NEC Capital Solutions Limited
- Neural Inc.
- Nikko Asset Management Co., Ltd.
- Nippon Life Insurance Company
- THE NIPPON ROAD Co., Ltd.
- Nippon Sanso Holdings Corporation
- NIPPON SIGNAL CO., LTD.
- NIPPON STEEL CORPORATION
- NIPPON THOMPSON CO.,LTD.
- Nippon Yusen Kabushiki Kaisha
- The Nishi-Nippon City Bank, Ltd.
- Nissay Asset Management Corporation
- NITTOC CONSTRUCTION CO.,LTD.
- Nomura Asset Management Co., Ltd.
- Nomura Real Estate Asset Management Co., Ltd.
- The Norinchukin Bank
- North Pacific Bank, Ltd.
- OBAYASHI CORPORATION
- THE OITA BANK, LTD.
- OKASAN SECURITIES GROUP INC.
- Oki Electric Industry Co., Ltd.
- THE OKINAWA KAIHO BANK, LTD.
- Okura Industrial Co., Ltd.

- Oriental Shiraishi Corporation
- PGIM Japan Co., Ltd.
- Pigeon Corporation
- PILLAR Corporation
- Rating and Investment Information, Inc.
- Resona Holdings, Inc.
- THE SAIKYO BANK, LTD.
- SAKURA internet Inc.
- San ju San Bank,Ltd.
- The San-in Godo Bank, Ltd.
- SBI Okasan Asset Management Co., Ltd.
- SBI REIT Advisors Co., Ltd.
- Schroder Investment Management (Japan) Limited
- SEKISUI CHEMICAL CO., LTD.
- Sekisui House Asset Management, Ltd.
- The Senshu Ikeda Bank, Ltd.
- SG Holdings Co., Ltd.
- The Shikoku Bank, Ltd.
- Shikoku Electric Power Company, Incorporated
- THE SHIMANE BANK, LTD.
- The Shimizu Bank, Ltd.
- SHIMIZU REAL ESTATE ASSET MANAGEMENT CORPORATION
- SHINAGAWA REFRACTORIES CO.,LTD.
- Shinkin Central Bank
- Shinkin Securities Co., Ltd.
- THE SHIZUOKA BANK, LTD.
- THE SHIZUOKA CHUO BANK, LTD.
- SHIZUOKA GAS Co., Ltd.
- The Shoko Chukin Bank, Ltd.
- THE SHONAI BANK, Ltd.
- SMBC Nikko Securities Inc.
- Societe Generale Securities Japan Limited
- Societe Generale, Tokyo Branch
- Sompo Asset Management Co., Ltd.
- Sompo Holdings, Inc.
- SPARX Group Co., Ltd.
- SUMITOMO CORPORATION
- SUMITOMO HEAVY INDUSTRIES, LTD.
- Sumitomo Life Insurance Co.
- Sumitomo Mitsui Banking Corporation
- Sumitomo Mitsui Construction Co., Ltd.
- Sumitomo Mitsui DS Asset Management Company, Limited
- Sumitomo Mitsui Trust Asset Management Co., Ltd.
- Sumitomo Mitsui Trust Bank, Limited
- Sumitomo Realty & Development Co., Ltd.
- SUZUKI MOTOR CORPORATION
- T&D Holdings, Inc.
- TAIJU LIFE INSURANCE COMPANY LIMITED
- THE TAIKO BANK, LTD.
- TAISEI CORPORATION
- The Tajima Bank, Ltd.
- TAKAOKA TOKO CO., LTD.
- TEIJIN LIMITED
- TEKKEN CORPORATION
- Terumo Corporation
- TOA CORPORATION
- Toagosei Co., Ltd.
- THE TOCHIGI BANK, LTD.
- The Toho Bank, Ltd.
- THE TOHOKU BANK, LTD.
- Tohoku Electric Power Company, Incorporated
- Tokai Tokyo Securities Co., Ltd.
- Tokio Marine Asset Management Co., Ltd.
- Tokio Marine Holdings, Inc.
- THE TOKUSHIMA TAISHO BANK, LTD.
- Tokuyama Corporation
- Tokyo Electric Power Company Holdings, Incorporated
- Tokyo Gas Co., Ltd.
- Tokyo Kiraboshi Financial Group, Inc.
- Tokyo Tatemono Co., Ltd.
- Tokyu Fudosan Holdings Corporation
- TOLI Corporation
- TOMATO BANK, LTD.
- TOYO Corporation
- TSURUHA HOLDINGS INC.
- UACJ Corporation
- Ueda Yagi Tanshi Co., Ltd.
- West Japan Railway Company
- WIN-Partners Co., Ltd.
- The Yamagata Bank, Ltd.
- Yamaguchi Financial Group, Inc.
- Yamashita PMC Inc.
- YASKAWA Electric Corporation
- The Yokohama Rubber Company, Limited
- YONDOSHI HOLDINGS INC.
- ZENERAL HEATPUMP INDUSTRY CO., Ltd.
- The 77 Bank, Ltd.