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Results of the Third Market Functioning Survey concerning Climate Change

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

Financial Markets Department
Bank of Japan

Table of Contents

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 the functioning of Japanese financial markets in relation to climate change and gain insights into challenges that need to be addressed for further improvement. In addition to the questions from the first survey, the third survey included new questions regarding the issuance conditions for the ESG bonds and respondents' stance on climate finance in general and transition finance in particular, in order to gain a more thorough understanding of the current situation and challenges.

Similar to the findings of the second survey, respondents in the third survey viewed that climate-related risks and opportunities were priced into both the stock and corporate bond markets in Japan to a certain degree. At the same time, there was still perceived potential for further incorporation of these factors into the markets. To enhance the incorporation of climate-related risks and opportunities into market prices, many respondents raised issues regarding the availability of information and assessment methodologies for evaluating these factors, as well as the need for "increasing issuers and/or investors that place a high value on climate-related risks and opportunities," similar to the results of the second survey.

Regarding the current status of the ESG bond market, a broadening base of both issuers and investors was observed, although the increase in issuers remained modest compared to that of investors. Concerning this point, many respondents cited a limited need to obtain external funds and a scarcity of projects suitable for issuing the ESG bonds. Moreover, while the majority of respondents believed that issuance conditions for the ESG bonds were better than those for non-ESG bonds, the difference in conditions does not appear to be acting as a strong incentive for issuing the ESG bonds. That being said, the ESG bond market has continuously expanded due to strategic need for businesses and investor relations. Concerning future prospects, the survey results also suggest that both issuers and investors intend to actively use the ESG bonds over a somewhat long term. Specifically, a majority of business corporates expected a significant increase in the demand for funds for climate change-related efforts, and

a reasonable number of them, including those who had not yet issued the ESG bonds, were considering their use. Additionally, the majority of investors who were considering investing in corporate bonds indicated that they also planned to increase their investments in the ESG bonds.

The third survey also inquired about respondents' stance on transition finance, which has been promoted by both the private and public sectors in Japan. While many respondents were undecided about their stance, a reasonable number of issuers, primarily in high-emitting sectors, indicated that they would utilize transition finance. Those respondents expressed the expectation that transition finance would not only serve as a means of raising sufficient funds but also help build understanding of the transition among their stakeholders. Regarding future challenges, respondents most often highlighted the need to facilitate international understanding of transition finance. The need to review the target setting or methodology for calculating financed emissions was also pointed out, particularly by investors.

Meanwhile, many respondents also highlighted progress in information disclosure, including the formulation of domestic standards and initiatives to make disclosures mandatory. At the same time, respondents raised issues concerning their resources and organizational structure for disclosure. They also noted expectations for the flexible application of disclosure regulations, the development of third-party assurance frameworks, and further infrastructure development to enhance efficiency and comparability.

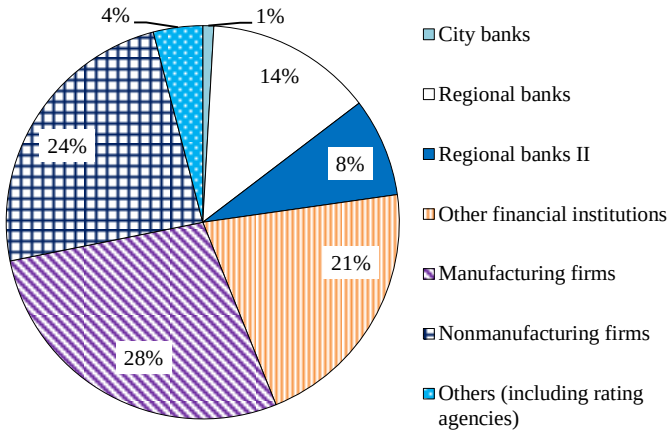
I. Introduction

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 third round of the survey was carried out between February 15 and March 29, 2024. The questionnaire for this round was distributed to 921 entities, including financial institutions, business corporates, and rating agencies, compared to 816 entities in the second survey. Out of the distributed questionnaires, 444 entities responded, while the second survey received responses from 380 entities. Consequently, the response rate increased from 47 percent in the second survey to 48 percent in the third survey.

The Bank is appreciative of the valuable contributions from all the survey respondents. Furthermore, the Bank extends its gratitude to the 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)



While the primary objective of the survey is to regularly monitor market developments using the same questions from the first survey, this year's survey was revised to gain a more thorough

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

understanding of market participants' views on the economic benefits, potential needs, and new challenges concerning climate finance. Specifically, new questions were added regarding the differences in the supply and demand conditions and the issuance conditions for climate change-related ESG bonds compared to non-ESG bonds, respondents' somewhat long-term stance on climate finance, including the ESG bonds, and their stance and awareness of issues on transition finance. In addition, some questions were revised to follow up on challenges related to disclosure frameworks.

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

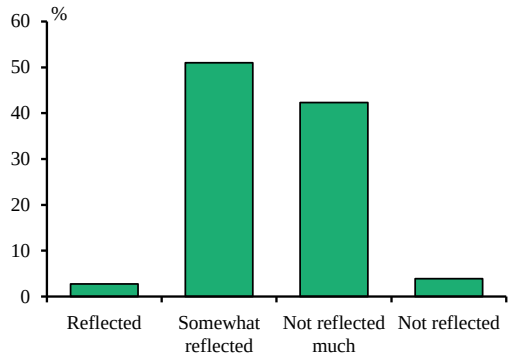
A. Pricing of Climate-related Risks and Opportunities in Financial Instruments

1. Pricing of Climate-related Risks and Opportunities

The survey started by asking respondents for their views on whether climate-related risks and opportunities were factored into the pricing of stocks and corporate bonds in financial markets in Japan.

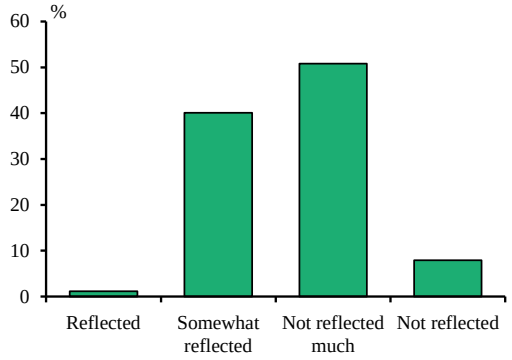
According to the survey results, slightly more than 50 percent of the respondents believed that climate-related risks and opportunities were "reflected" or "somewhat reflected" in stock prices. Similarly, slightly over 40 percent of the respondents expressed the view that these risks and opportunities were "reflected" or "somewhat reflected" in corporate bond prices. However, only slightly less than 3 percent of the respondents considered climate-related risks and opportunities to be "reflected" in stock prices, and a little over 1 percent held the same view for corporate bond prices (Charts 1 and 2).

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



Note: The total number of respondents was 437, excluding those who did not provide answers.

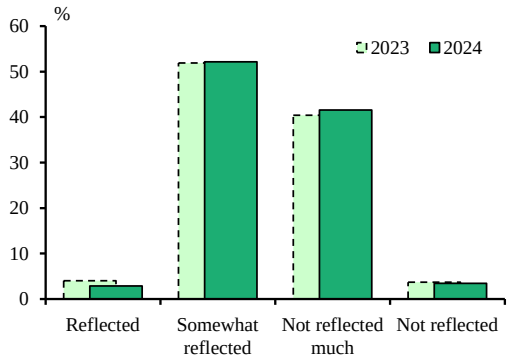
Chart 2: Climate-related Risks and Opportunities in Corporate Bond Prices in Japan



Note: The total number of respondents was 429, excluding those who did not provide answers.

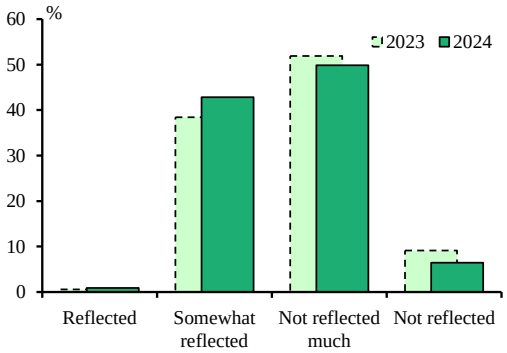
The responses of those who responded to both the second and third surveys (hereinafter "continuous respondents") indicated that their views on the pricing of climate-related risks and opportunities in stocks remained largely unchanged from the previous survey. However, regarding the pricing of corporate bonds, there was a slight shift in opinions. The proportion of continuous respondents who believed that these risks and opportunities were "not reflected" or "not reflected much" decreased somewhat, while the proportion of those who considered them "somewhat reflected" increased slightly (Charts 3 and 4).

Chart 3: Climate-related Risks and Opportunities in Stock Prices in Japan (Continuous Respondents)



Note: Of the 354 continuous respondents, the total number of respondents was 349, excluding those who did not provide answers in the 2023 and/or 2024 surveys.

Chart 4: Climate-related Risks and Opportunities in Corporate Bond Prices in Japan (Continuous Respondents)

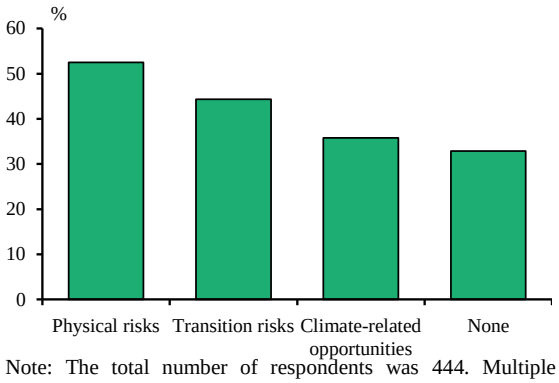


Note: Of the 354 continuous respondents, the total number of respondents was 341, excluding those who did not provide answers in the 2023 and/or 2024 surveys.

When asked about factors they believed were not reflected in stock and corporate bond prices, over 50 percent of respondents identified "physical risks" for both types of financial instruments. This was followed by "transition risks" and "climate-related opportunities."[2] Additionally, many respondents indicated that these factors were reflected to a lesser extent in corporate bond prices than in stock prices (Charts 5 and 6).

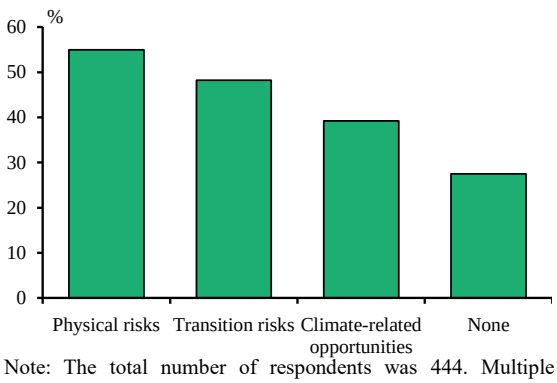
[2] "Climate-related risks (physical risks)" refers to risks that physical phenomena triggered by climate change, such as large-scale disasters or rising sea levels, will have an economic loss on issuers' businesses. "Climate-related risks (transition risks)" refers to the risks of an economic loss on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

Chart 5: Climate-related Risks and/or Opportunities That Are Not Reflected in Stock Prices in Japan



Note: The total number of respondents was 444. Multiple answers were allowed.

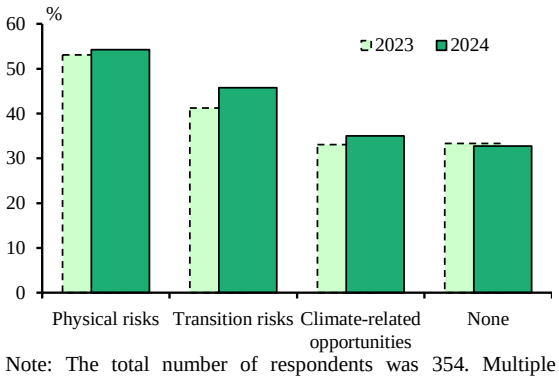
Chart 6: Climate-related Risks and/or Opportunities That Are Not Reflected in Corporate Bond Prices in Japan



Note: The total number of respondents was 444. Multiple answers were allowed.

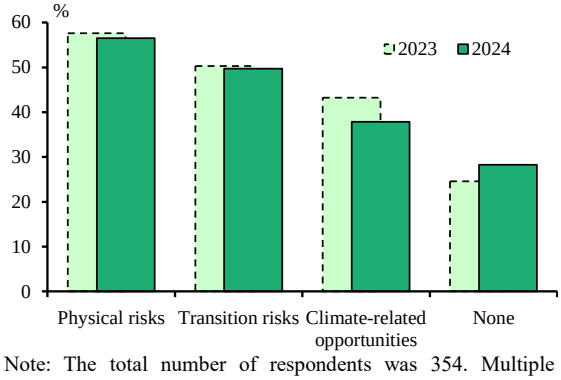
When comparing the responses of continuous respondents with those from the previous survey, there was a slight increase in the proportion of respondents who felt that "transition risks" or "climate-related opportunities" were not reflected in stock prices. Conversely, for corporate bond prices, there was a slight decrease in the proportion of respondents who considered that "climate-related opportunities" were not reflected (Charts 7 and 8).

Chart 7: Climate-related Risks and/or Opportunities That Are Not Reflected in Stock Prices in Japan (Continuous Respondents)



Note: The total number of respondents was 354. Multiple answers were allowed.

Chart 8: Climate-related Risks and/or Opportunities That Are Not Reflected in Corporate Bond Prices in Japan (Continuous Respondents)



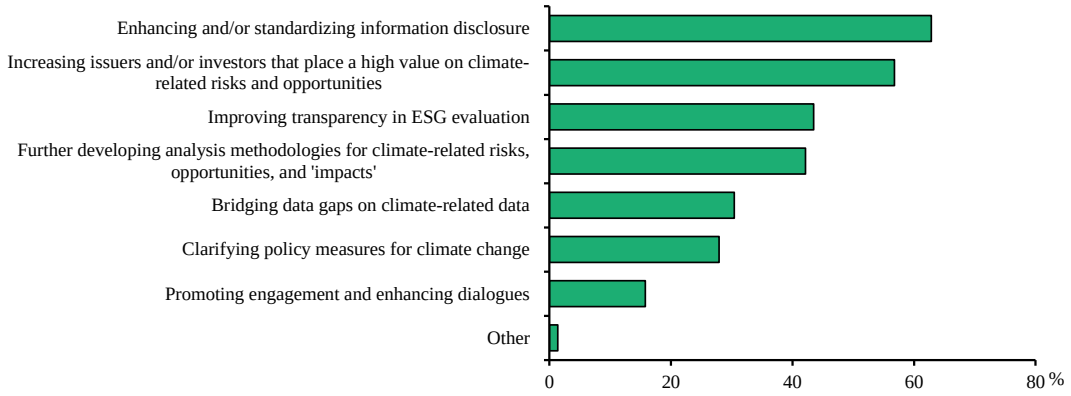
Note: The total number of respondents was 354. Multiple answers were allowed.

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

When asked to select up to three factors that respondents believed were necessary for reflecting climate-related risks and opportunities more in stock and corporate bond prices, approximately 60 percent of respondents chose "enhancing and/or standardizing information disclosure" and "increasing issuers and/or investors that place a high value on climate-related risks and opportunities." Just over 40 percent selected "improving transparency in ESG evaluation."

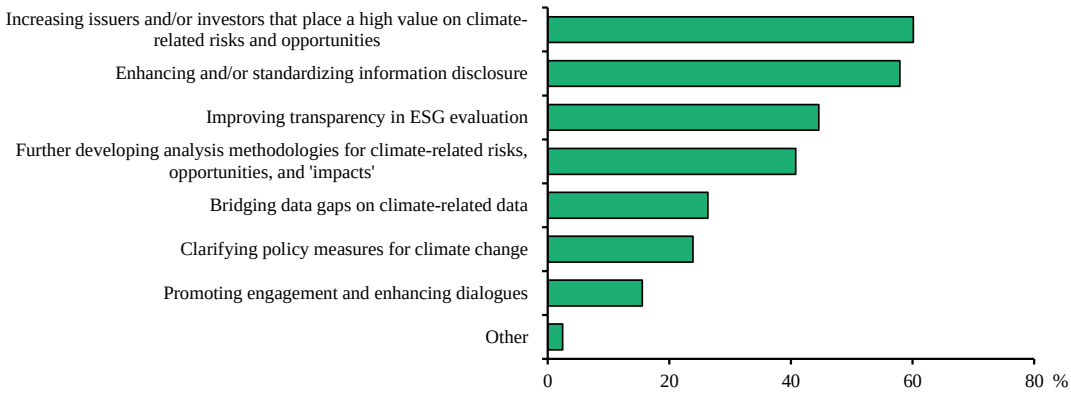
Furthermore, roughly 40 percent of the respondents identified "further developing analysis methodologies for climate-related risks, climate-related opportunities, and 'impacts'" as a necessary factor for reflecting climate-related risks and opportunities more in both stock and corporate bond prices. Additionally, around 30 percent of the respondents emphasized the importance of "bridging data gaps on climate-related data." These results highlight the diversity of responses from the survey participants (Charts 9 and 10).

Chart 9: Factors Necessary to Reflect Climate-related Risks and Opportunities More in Stock Prices in Japan



Note: The total number of respondents was 444. Up to three answers were allowed.

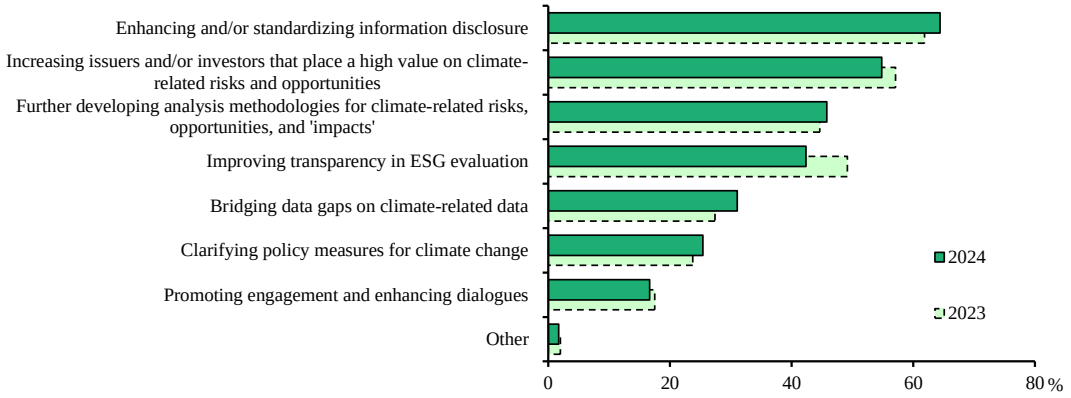
Chart 10: Factors Necessary to Reflect Climate-related Risks and Opportunities More in Corporate Bond Prices in Japan



Note: The total number of respondents was 444. Up to three answers were allowed.

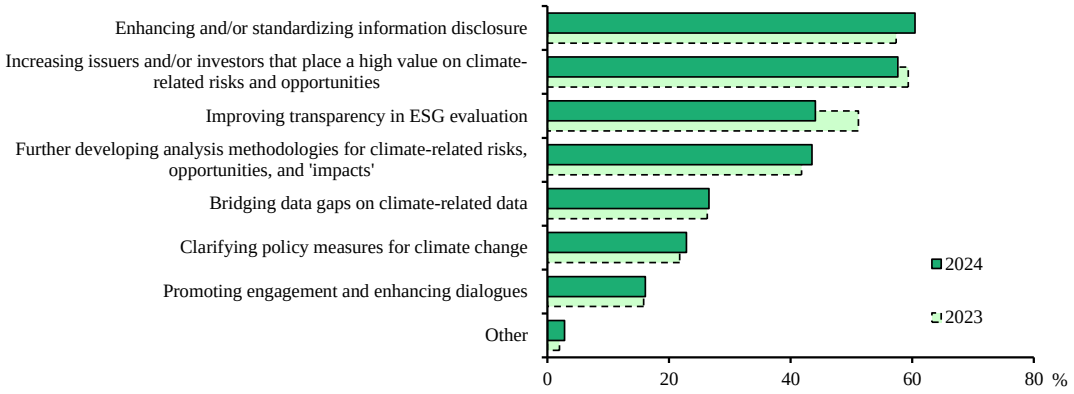
When comparing the responses of continuous respondents with those from the previous survey, there was a slight decrease in the proportion of respondents who chose "improving transparency in ESG evaluation" as a necessary factor for reflecting climate-related risks and opportunities more in the prices of both stocks and corporate bonds (Charts 11 and 12).

Chart 11: Factors Necessary to Reflect Climate-related Risks and Opportunities More in Stock Prices in Japan (Continuous Respondents)



Note: The total number of respondents was 354. Up to three answers were allowed.

Chart 12: Factors Necessary to Reflect Climate-related Risks and Opportunities More in Corporate Bond Prices in Japan (Continuous Respondents)



Note: The total number of respondents was 354. Up to three answers were allowed.

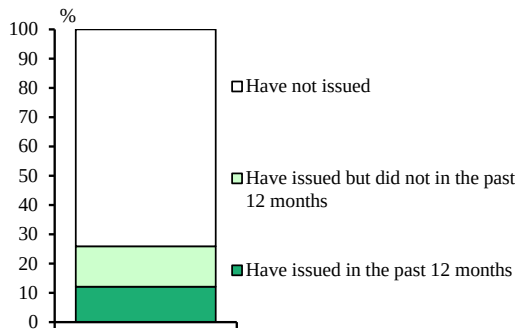
B. Climate Change-related ESG Bond Market

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

According to the survey results, a relatively small proportion of issuers,[3] slightly less than 30 percent, confirmed that they had issued climate change-related ESG bonds (hereinafter "the ESG bonds"), as shown as "have issued in the past 12 months" and "have issued but did not in the past 12 months" in the chart.[4] Within that group, only slightly over 10 percent reported issuing those bonds within the past 12 months (Chart 13).

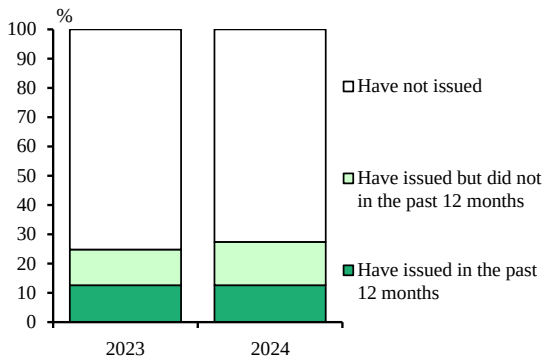
Compared to the previous survey, there was a slight increase in the proportion of continuous respondents who had issued the ESG bonds. However, more than 70 percent of issuers still indicated that they had not issued those bonds (Chart 14).

Chart 13: Respondents that Have Issued Climate Change-related ESG Bonds in the Past



Note: Of the 444 respondents, the total number of respondents was 363, excluding those who did not provide answers and those who chose "not applicable (not an issuer)."

Chart 14: Respondents that Have Issued Climate Change-related ESG Bonds in the Past (Continuous Respondents)



Note: Of the 354 continuous respondents, the total number of respondents was 278, excluding those who did not provide answers and those who chose "not applicable (not an issuer)."

Issuers who did not issue the ESG bonds in the past 12 months were also asked the reasons for not issuing those bonds. The most common reason, cited by nearly 50 percent of them, was "no need to obtain external funds." This was followed by "fund raising through other means of

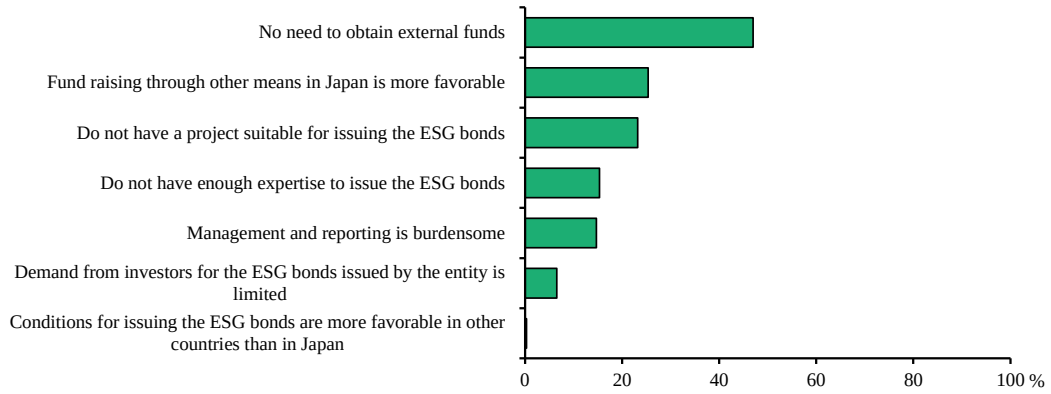
[3] In this survey, the term "issuers" refers specifically to business corporates and financial institutions that indicated they had issued the ESG bonds or identified themselves as issuers but had not yet issued the ESG bonds.

[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 (SLBs), transition bonds, and transition-linked bonds (TLBs), that comply with corresponding international standards and/or guidelines set by the Japanese government.

financing in Japan is more favorable" and "the entity does not have a project suitable for issuing the ESG bonds" (Chart 15).

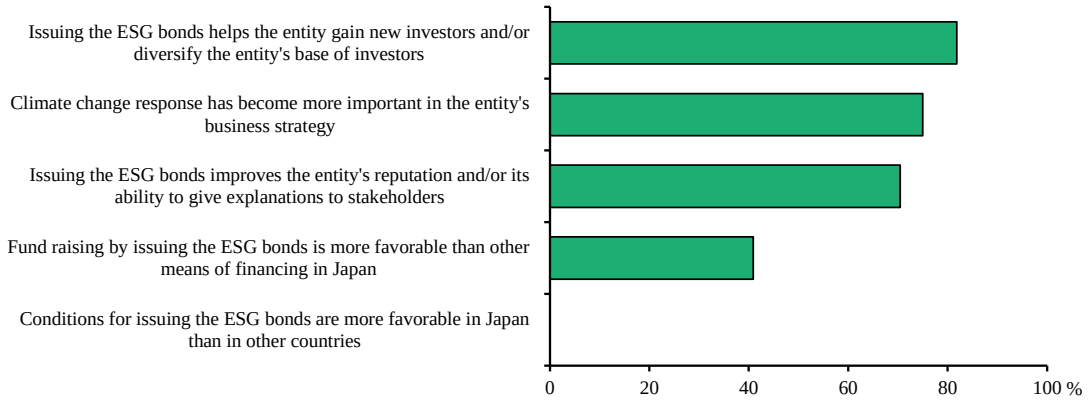
In contrast, among those who issued the ESG bonds in the past 12 months, many chose options related to the strategic interests for their businesses and investor relations, highlighting the advantages for the entity as a whole. The most common choices included "issuing the ESG bonds helps the entity gain new investors and/or diversify the entity's base of investors" and "climate change response has become more important in the entity's business strategy." And a relatively small proportion of respondents selected economic reasons such as "fund raising by issuing the ESG bonds is more favorable than other means of financing in Japan" (Chart 16).

Chart 15: Reasons for Not Issuing Climate Change-related ESG Bonds in the Past 12 Months



Note: The total number of respondents was 319. Those were the issuers who answered that they had not issued the ESG bonds in the past 12 months. Multiple answers were allowed.

Chart 16: Reasons for Issuing Climate Change-related ESG Bonds in the Past 12 Months

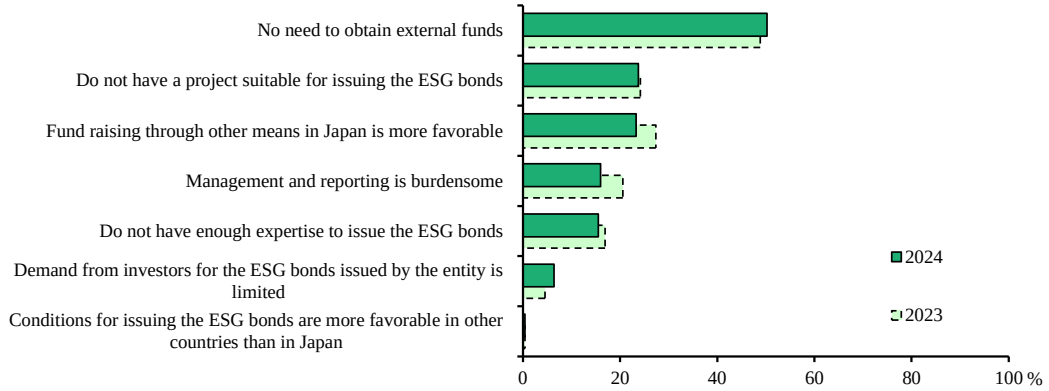


Note: The total number of respondents was 44. Those were the issuers who answered that they had issued the ESG bonds in the past 12 months. Multiple answers were allowed.

Compared to the previous survey, there was a slight decrease in the proportion of continuous respondents who selected "fund raising through other means of financing in Japan is more

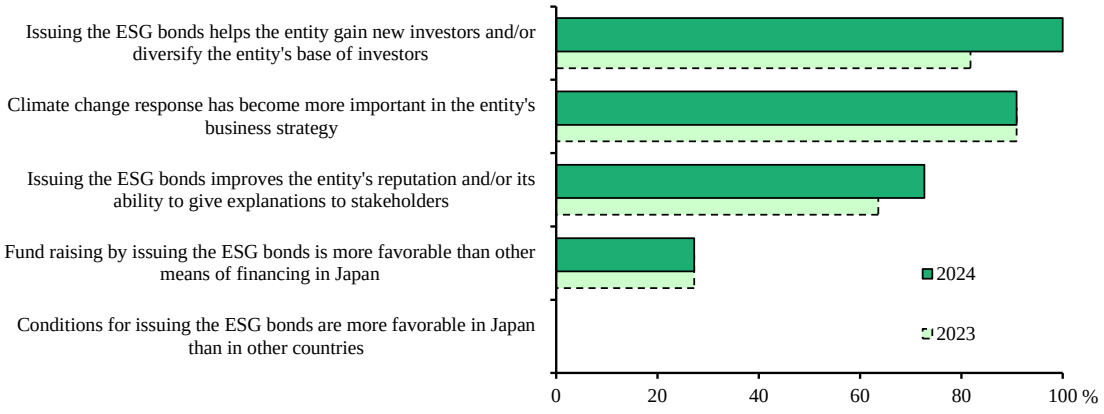
favorable" and "management and reporting is burdensome" as their reason for not issuing the ESG bonds in the past 12 months (Chart 17). Conversely, there was a slight increase in the proportion of continuous respondents who selected "issuing the ESG bonds helps the entity gain new investors and/or diversify the entity's base of investors" and "issuing the ESG bonds improves the entity's reputation and/or its ability to give explanations to stakeholders" as their reason for issuing the ESG bonds in the past 12 months, although it should be noted that the sample size is limited (Chart 18).

Chart 17: Reasons for Not Issuing Climate Change-related ESG Bonds in the Past 12 Months (Continuous Respondents)



Note: The total number of respondents was 219. Those were the issuers who answered that they had not issued the ESG bonds in the past 12 months in both the 2023 and 2024 surveys. Multiple answers were allowed.

Chart 18: Reasons for Issuing Climate Change-related ESG Bonds in the Past 12 Months (Continuous Respondents)



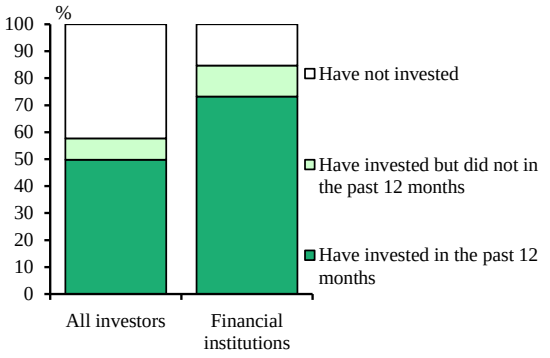
Note: The total number of respondents was 11. Those were the issuers who answered that they had issued the ESG bonds in the past 12 months in both the 2023 and 2024 surveys. Multiple answers were allowed.

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

When asked about their investments in the ESG bonds, nearly 60 percent of investors reported previous investments in the ESG bonds (shown as "have invested in the past 12 months" and "have invested but did not in the past 12 months" in the chart), with most having made these investments within the past 12 months. Within this group, the proportion of respondents who had invested in the ESG bonds was clearly high among financial institutions, with a little more than 80 percent reporting previous investments (Chart 19).[5]

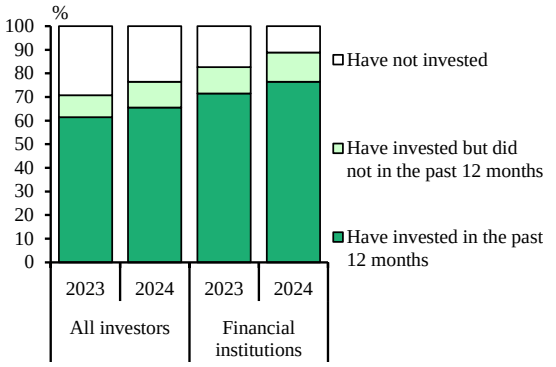
Compared to the previous survey, there was a slight increase in the proportion of continuous respondents who chose "have invested in the past 12 months." Nearly 80 percent of investors reported previous investments, with the proportion reaching almost 90 percent for financial institutions (Chart 20).

Chart 19: Respondents that Have Invested in Climate Change-related ESG Bonds in the Past



Note: Of the 444 respondents, the total number of respondents was 239, excluding those who did not provide answers and those who chose "not applicable (not an investor)."

Chart 20: Respondents that Have Invested in Climate Change-related ESG Bonds in the Past (Continuous Respondents)



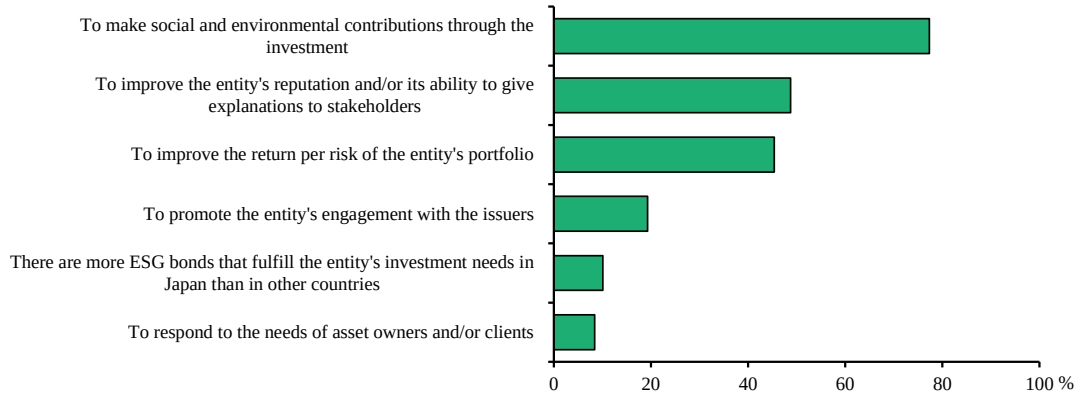
Note: Of the 354 continuous respondents, the total number of respondents was 174, excluding those who did not provide answers and those who chose "not applicable (not an investor)."

Among investors who had invested in the ESG bonds in the past 12 months, nearly 80 percent stated that their motivation was "to make social and environmental contributions through the investment." Additionally, almost 50 percent of investors mentioned that they had invested in the ESG bonds "to improve the entity's reputation and/or its ability to give explanations to stakeholders" and "to improve the return per risk of the entity's portfolio" (Chart 21).

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

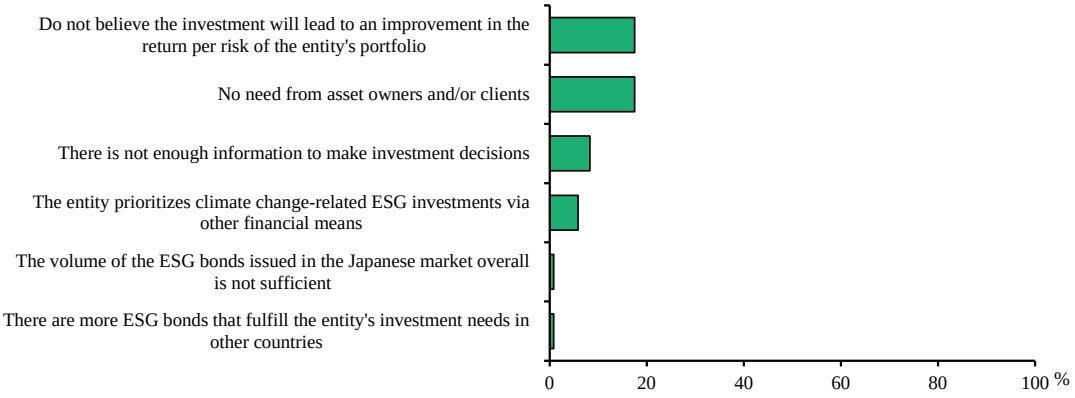
Among respondents who had not invested in the ESG bonds in the past 12 months, many cited reasons such as "the entity does not believe the investment will lead to an improvement in the return per risk of the entity's portfolio" and "no need from asset owners and/or clients" (Chart 22).

Chart 21: Reasons for Investing in Climate Change-related ESG Bonds in the Past 12 Months



Note: The total number of respondents was 119. Those were the investors who answered that they had invested in the ESG bonds in the past 12 months. Multiple answers were allowed.

Chart 22: Reasons for Not Investing in Climate Change-related ESG Bonds in the Past 12 Months



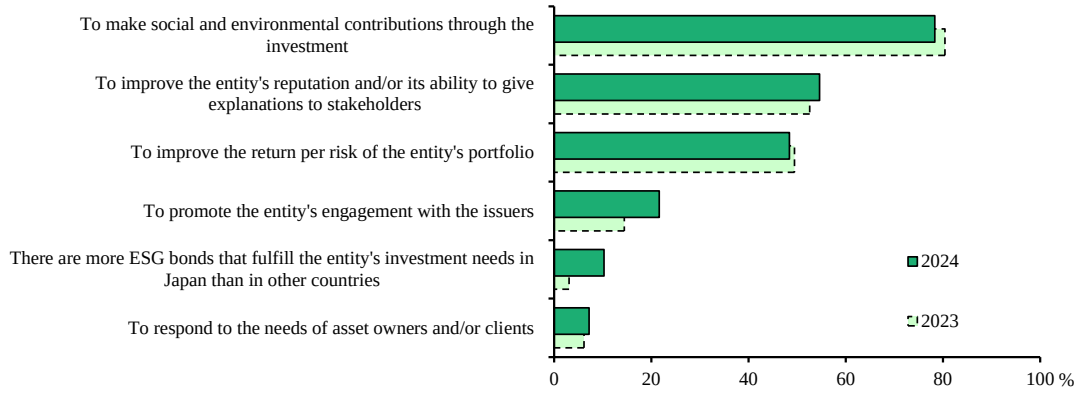
Note: The total number of respondents was 120. Those were the investors who answered that they had not invested in the ESG bonds in the past 12 months. Multiple answers were allowed.

Compared to the previous survey, there was a slight increase in the proportion of continuous respondents who selected "to promote the entity's engagement with the issuers" and "there are more climate change-related ESG bonds that fulfill the entity's investment needs in Japan than in other countries" as their reasons for investing in the ESG bonds in the past 12 months (Chart 23).

Regarding the reasons for not investing in the ESG bonds in the past 12 months, a slightly larger proportion of continuous respondents chose "the entity prioritizes climate change-related ESG investments via other financial means." Meanwhile, there was a slight decline in the proportion

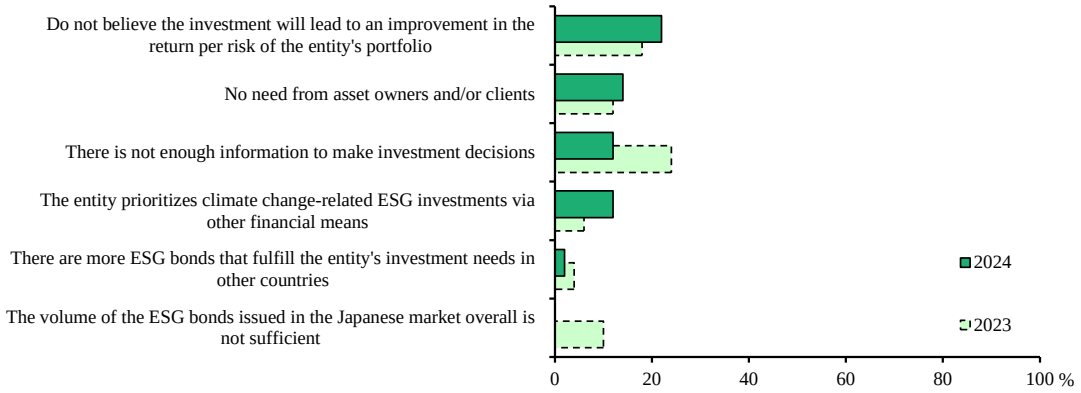
who selected "there is not enough information to make investment decisions" and "the volume of the ESG bonds issued in the Japanese market overall is not sufficient" (Chart 24).

Chart 23: Reasons for Investing in Climate Change-related ESG Bonds in the Past 12 Months (Continuous Respondents)



Note: The total number of respondents was 97. Those were the investors who answered that they had invested in the ESG bonds in the past 12 months in both the 2023 and 2024 surveys. Multiple answers were allowed.

Chart 24: Reasons for Not Investing in Climate Change-related ESG Bonds in the Past 12 Months (Continuous Respondents)

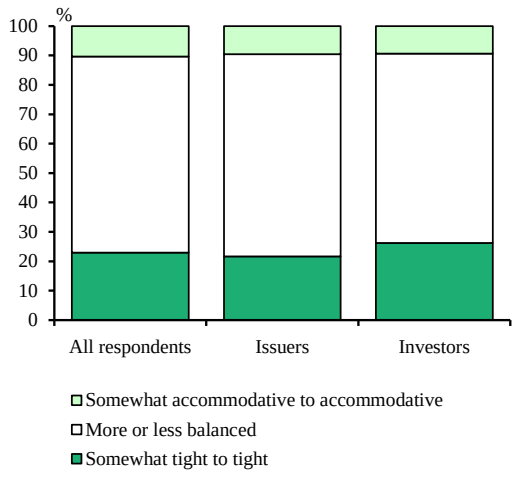


Note: The total number of respondents was 50. Those were the investors who answered that they had not invested in the ESG bonds in the past 12 months in both the 2023 and 2024 surveys. Multiple answers were allowed.

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

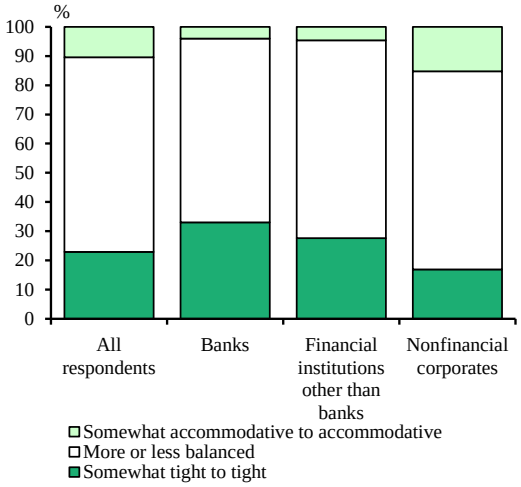
Regarding the supply and demand conditions of the ESG bonds in Japan, almost 70 percent of respondents indicated that the conditions were "more or less balanced." Slightly over 20 percent described the conditions as "somewhat tight to tight," while around 10 percent considered them "somewhat accommodative to accommodative." A somewhat higher proportion of investors compared to issuers selected "somewhat tight to tight." By sector, this proportion was higher for financial institutions compared to nonfinancial corporates (Charts 25 and 26).

Chart 25: View/Impression on the Supply and Demand Conditions of Climate Change-related ESG Bonds in Japan (by Issuer/Investor)



Note: The total number of respondents was 423, excluding those who did not provide answers.

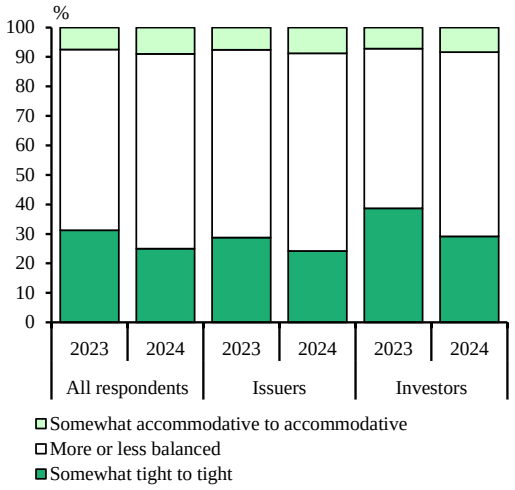
Chart 26: View/Impression on the Supply and Demand Conditions of Climate Change-related ESG Bonds in Japan (by Sector)



Note: The total number of respondents was 423, excluding those who did not provide answers.

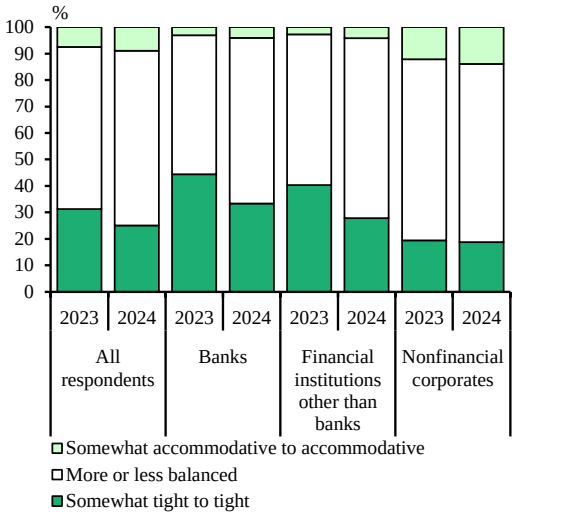
Compared to the previous survey, there was a slight decrease in the proportion of continuous respondents who described the supply and demand conditions of the ESG bonds as "somewhat tight to tight," regardless of whether they were issuers or investors, and irrespective of their sector (Charts 27 and 28).

Chart 27: View/Impression on the Supply and Demand Conditions of Climate Change-related ESG Bonds in Japan (by Issuer/Investor, Continuous Respondents)



Note: Of the 354 continuous respondents, the total number of respondents was 336, excluding those who did not provide answers in the 2023 and/or 2024 surveys.

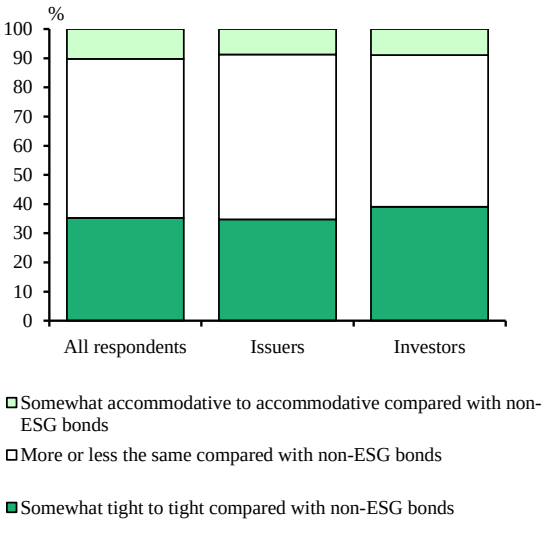
Chart 28: View/Impression on the Supply and Demand Conditions of Climate Change-related ESG Bonds in Japan (by Sector, Continuous Respondents)



Note: Of the 354 continuous respondents, the total number of respondents was 336, excluding those who did not provide answers in the 2023 and/or 2024 surveys.

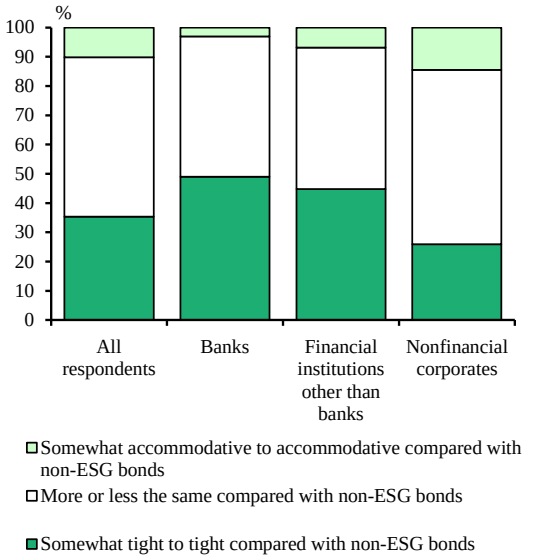
The third round of the survey included new questions comparing the supply and demand conditions and the issuance conditions for the ESG bonds with non-ESG bonds. Regarding the supply and demand conditions for the ESG bonds, a little more than 50 percent of respondents confirmed that the conditions were "more or less the same compared with non-ESG bonds," and nearly 40 percent selected "somewhat tight to tight compared with non-ESG bonds." A slightly higher proportion of investors compared to issuers chose "somewhat tight to tight compared with non-ESG bonds." By sector, this proportion was higher for financial institutions than for nonfinancial corporates (Charts 29 and 30).

Chart 29: View/Impression on the 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, excluding those who did not provide answers.

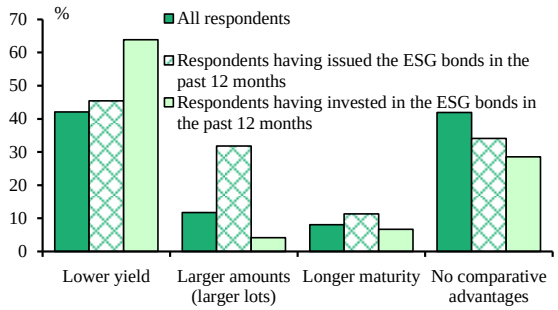
Chart 30: View/Impression on the Supply and Demand Conditions of Climate Change-related ESG Bonds Compared with Non-ESG Bonds in Japan (by Sector)



Note: The total number of respondents was 422, excluding those who did not provide answers.

Regarding the issuance conditions of the ESG bonds, slightly more than 40 percent of respondents mentioned that "the ESG bonds are issued at lower yield." Only approximately 10 percent of respondents selected "the ESG bonds are issued in larger amounts (larger lots)" and "the ESG bonds are issued with longer maturity." Meanwhile, slightly more than 40 percent of respondents chose "the ESG bonds do not have advantages in terms of issuance conditions." This proportion was smaller, at roughly 30 percent, among respondents who had either issued or invested in the ESG bonds in the past 12 months. Additionally, slightly more than 30 percent of respondents who had issued the ESG bonds in the past 12 months stated that "the ESG bonds are issued in larger amounts (larger lots)," while just over 60 percent of those who had invested in the ESG bonds in the past 12 months chose "the ESG bonds are issued at lower yield." These proportions were higher than those of the overall respondent group (Chart 31).

Chart 31: View/Impression on the Issuance Conditions of Climate Change-related ESG Bonds Compared with Non-ESG Bonds



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

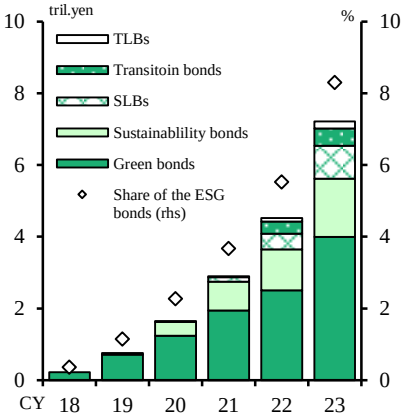
Box 1: Japanese ESG Bond Market

This box provides an overview of (a) the issuance trend and prevalence of the ESG bonds by issuers' attributes such as sector, and (b) the features of the Japanese ESG bond market by bond type.

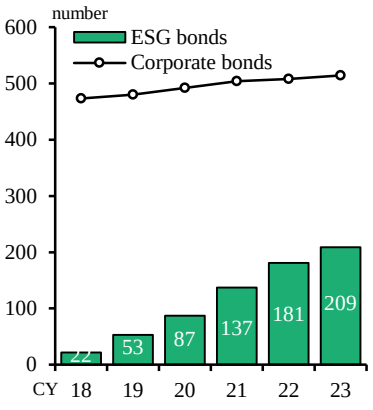
A. Issuance Trend and Prevalence of the ESG Bonds in Comparison with Overall Corporate Bonds

In the Japanese corporate bond market, the issuance of the ESG bonds has continued to increase. At the end of 2023, the outstanding amount of the ESG bonds surpassed 7 trillion yen, accounting for over 8 percent of the entire Japanese corporate bond market, and the number of issuers exceeded 200, both of which were record highs. Additionally, the amount of issuance in 2023 approached 3 trillion yen, representing almost 20 percent of the total Japanese corporate bond issuances, also a record high. By bond type, there was an increase in the issuance of green bonds and sustainability-linked bonds (SLBs), while the issuance of transition bonds decreased compared to the previous year.

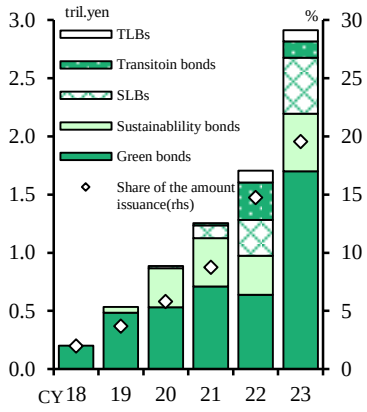
Box Chart 1-1: Outstanding Amount



Box Chart 1-2: Number of Issuers



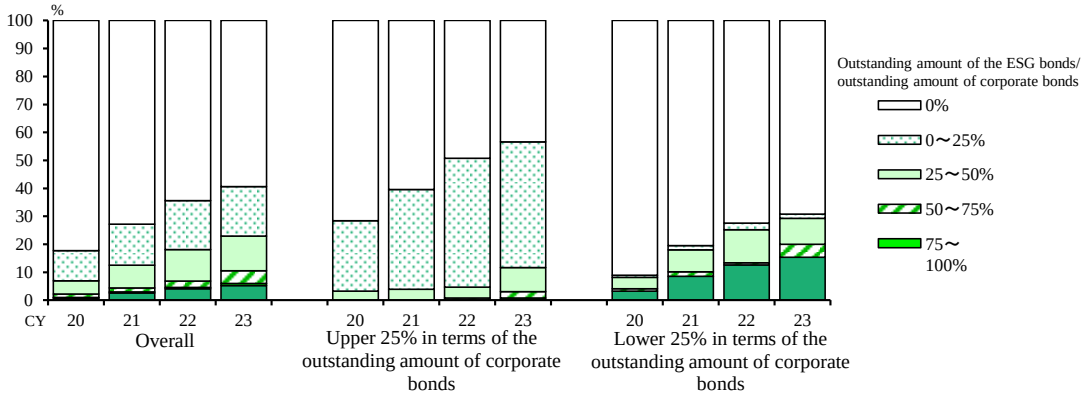
Box Chart 1-3: Issuance Amount



Note: The data cover bonds that were publicly offered in Japan (excluding perpetual subordinated bonds and those issued by SPCs). The ESG bonds represent green bonds, sustainability bonds, SLBs, transition bonds, and TLBs. The number of issuers represents entities with outstanding amounts of the ESG bonds and corporate bonds at specific points in time.
Sources: JPX Market Innovation & Research; I-N Information Systems.

When examining the breakdown of issuers by the outstanding amount of corporate bonds, more than half of the issuers with a relatively large outstanding amount of corporate bonds have issued the ESG bonds. However, the share of the ESG bonds in their overall outstanding corporate bonds has remained small, partly because it takes time to redeem previously issued corporate bonds. On the other hand, most issuers with a relatively small outstanding amount of corporate bonds have not issued the ESG bonds. Nonetheless, for nearly half of the issuers who have a relatively small outstanding amount of corporate bonds but have issued the ESG bonds, the ESG bonds account for 100 percent of their total outstanding corporate bonds.

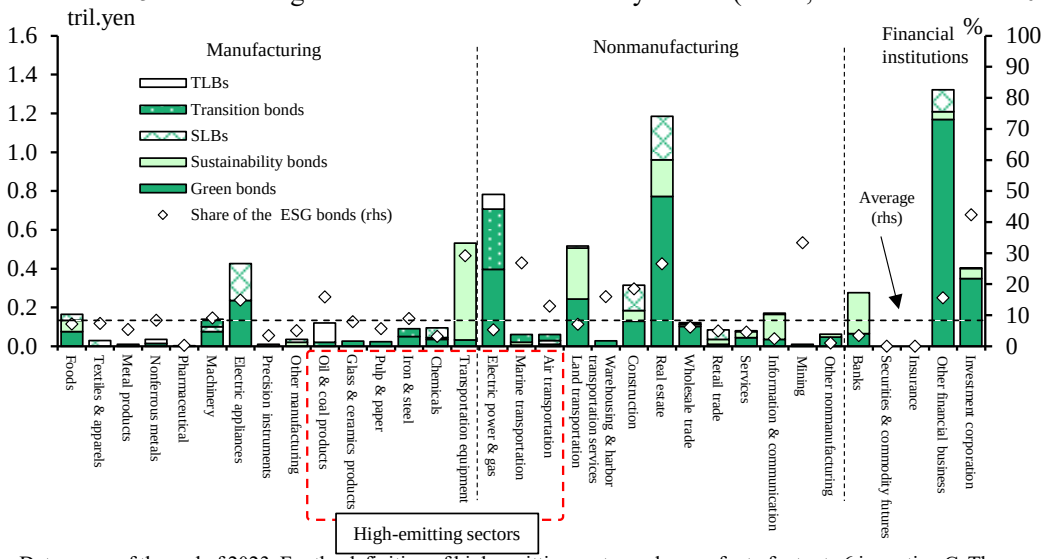
Box Chart 1-4: Issuance Status of the ESG Bonds by the Outstanding Amount of Corporate Bonds



Note: The issuers are those who had the outstanding amount of corporate bonds at specific points in time.
Sources: JPX Market Innovation & Research; I-N Information Systems.

By sector, the other financial business, real estate, and electric power & gas sectors have a large outstanding amount of the ESG bonds. The ESG bonds account for a large share of the total outstanding corporate bonds in the real estate sector and investment corporations such as REITs, partly due to the spread of green building certifications. Among high-emitting sectors, some industries have a high percentage of the ESG bonds, while there are also industries which have a percentage below the all-industry average. By bond type, green bonds hold a large share in many sectors. However, in certain sectors such as electric power & gas, transition bonds are also utilized.

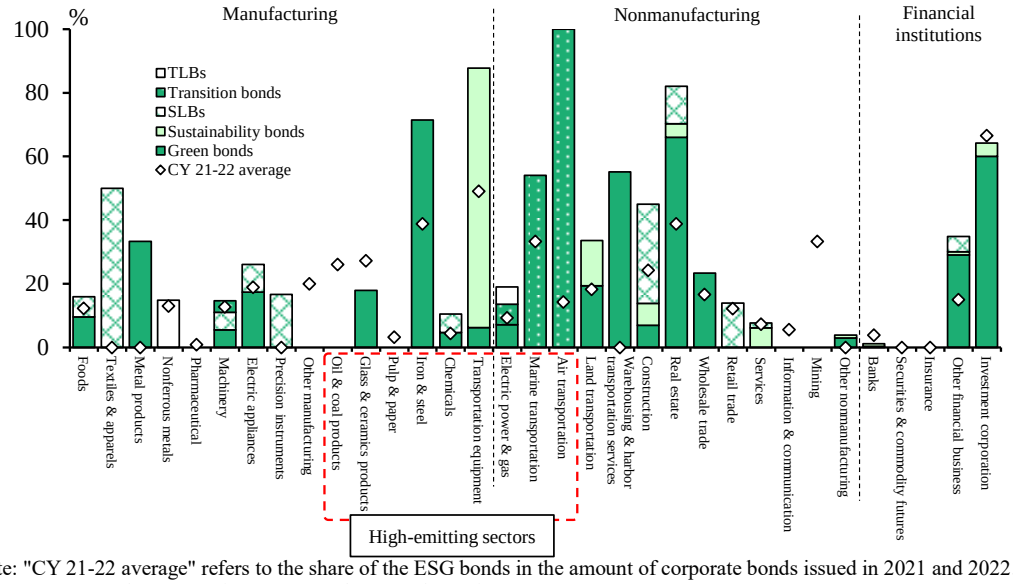
Box Chart 1-5: Outstanding Amount of the ESG Bonds by Sector (Stock, As of the End of 2023)



Note: Data are as of the end of 2023. For the definition of high-emitting sectors, please refer to footnote 6 in section C. The average (indicated by the black dotted line) represents the share of outstanding climate change-related ESG bonds in the total outstanding corporate bonds. It should be noted that this share is influenced not only by issuers' stance towards the ESG bonds, but also by the redemption pace of issued bonds.
Sources: JPX Market Innovation & Research; I-N Information Systems.

In terms of issuance amounts, in addition to the real estate sector and investment corporations, some high-emitting sectors, such as air transportation, transportation equipment, and iron & steel, have actively issued the ESG bonds, increasing their share in corporate bond issuance. However, there is a large divergence in the stance on issuing the ESG bonds across sectors, and even on a flow basis, the ESG bonds account for a small share of overall corporate bond issuance in some sectors. On this point, not necessarily favorable issuing costs including the burden of administrative procedures and the scarcity of suitable projects for ESG bonds are viewed as the reasons for the difficulty of issuing the ESG bonds compared to non-ESG bonds.

Box Chart 1-6: Share of the ESG Bonds in the Amount of Corporate Bonds Issued in 2023

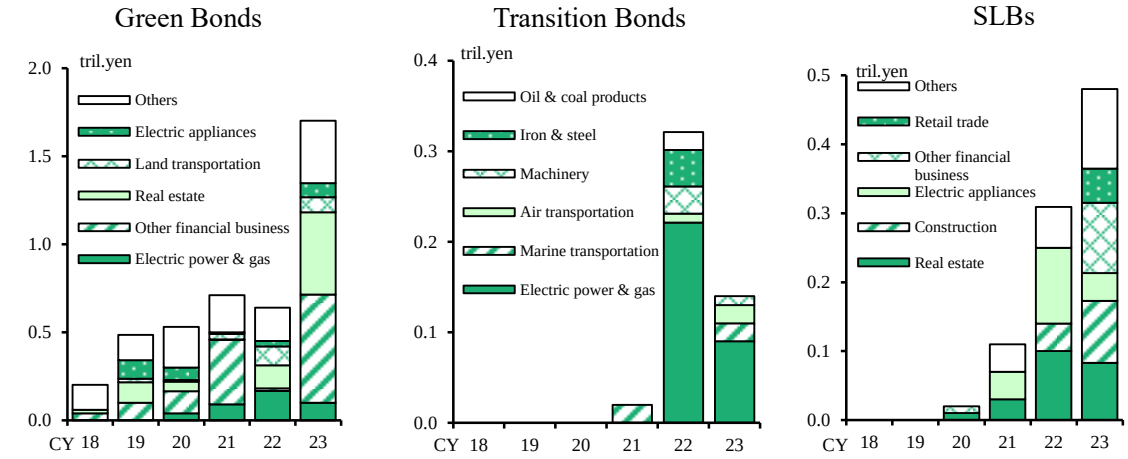


Note: "CY 21-22 average" refers to the share of the ESG bonds in the amount of corporate bonds issued in 2021 and 2022.
Sources: JPX Market Innovation & Research; I-N Information Systems.

B. Features of the ESG Bonds by Bond Type

The issuance amount of green bonds hit a record high in 2023 in Japan, driven by large-scale issuances by the other financial business and real estate sectors. In contrast, despite the existence of some first-time issuers, the issuance amount of transition bonds decreased in 2023 from the previous year, which had seen a number of first-time issuers. By sector, the electric power & gas sector was the main issuers of transition bonds. As for SLBs, the issuance amount has increased since their first issuance in 2020. The issuance is mainly led by the real estate, construction, and electric appliances sectors, although issuance is also spreading to other sectors.

Box Chart 1-7: Amount of Issuance by Bond Type



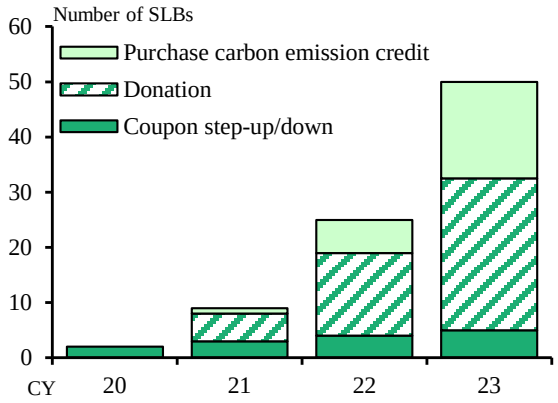
Source: JPX Market Innovation & Research.

Regarding the features of SLBs, they are unique in that (a) they do not restrict the use of proceeds, and (b) their financial characteristics change based on whether the issuer achieves its predetermined sustainability performance targets (SPTs). For example, SLBs of which coupon payment steps up if the issuer fails to achieve SPTs are widely seen overseas. In Japan, however, the majority of SLBs require a donation or the purchase of carbon emission credits if the SPTs are not achieved, and the issuance of SLBs with coupon variation is limited. Some respondents pointed out that Japanese investors tend to avoid investing in SLBs with coupon variation because floating-rate bonds are not included in major benchmarks in Japan and require additional management costs, including system investment, thus limiting the demand for these bonds.

Box Chart 1-8: Major Types of SLBs

Type	Actions based on the Achievement of SPTs
Coupon variation	- SLBs with interest payments that change depending on the achievement of SPTs.
Step-up	- SLBs with interest payments that increase if the issuer does not meet its SPTs.
Step-down	- SLBs with interest payments that decrease if the issuer meets its SPTs.
Donation	- SLBs that require the issuer to make a certain amount of donation to an organization of the issuer's choice, if the issuer does not meet its SPTs.
Purchase carbon emission credit	- SLBs that require the issuer to purchase a certain amount of carbon emission credit if the issuer does not meet its SPTs.

Box Chart 1-9: Number of SLBs



Note: SLBs not redeemed at specific points in time are aggregated. For SLBs which define multiple actions, they are divided by the number of actions and counted in each type.
Sources: JPX Market Innovation & Research; the websites of issuer institutions.

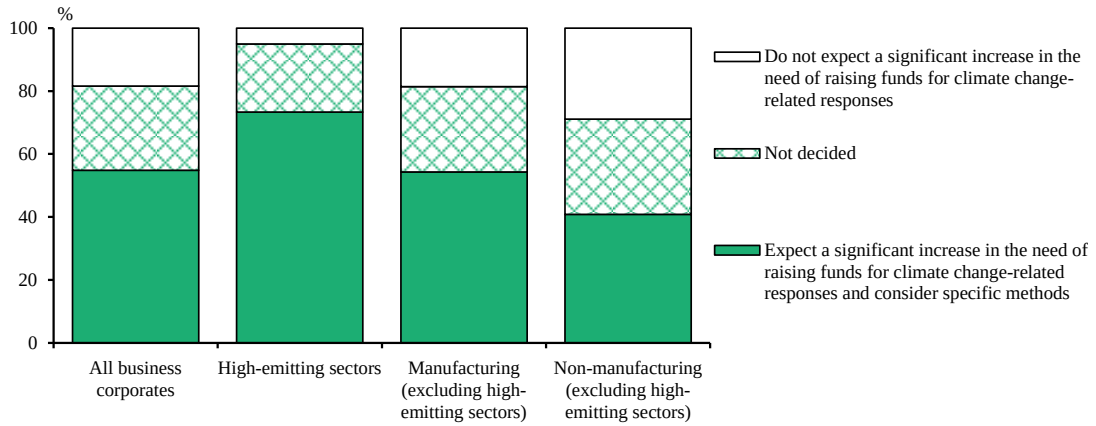
C. Prospects and Challenges of the Climate Change-related ESG Bond Market

1. Plans for Climate Finance Toward Fiscal 2030

As Japan aims to reduce its greenhouse gas (GHG) emissions by 46 percent from its fiscal 2013 level by fiscal 2030, the third survey asked issuers and investors about their stance on climate finance, including the ESG bonds, 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, slightly over 50 percent of business corporates indicated that they were expecting a significant increase in demand and were considering specific fund-raising methods. By sector, about 70 percent of respondents in high-emitting sectors[6] answered this way, while the proportion was approximately 40 percent for non-manufacturers excluding those in high-emitting sectors. Overall, nearly 20 percent of business corporates selected "the entity does not expect a significant increase in the demand for funds for climate change-related responses." This proportion was slightly larger for non-manufacturers excluding those in high-emitting sectors, at almost 30 percent. Meanwhile, just below 30 percent of business corporates overall chose "not decided (the consideration is not advanced enough to predict the direction)" (Chart 32).

Chart 32: Expectation for the Demand for Funds for Climate Change-related Responses toward Fiscal 2030 (Business Corporates)

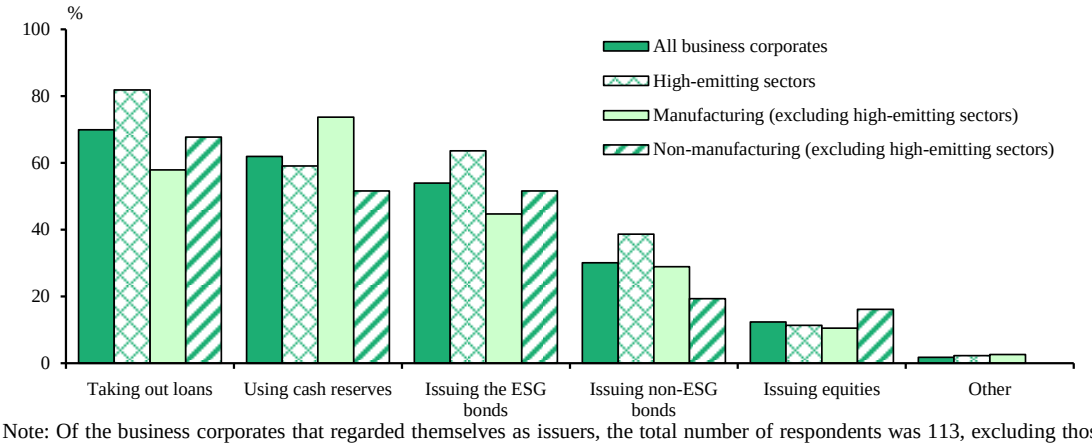


Note: The respondents consisted of 206 business corporates (both manufacturing and non-manufacturing) among issuers, excluding those who did not provide answers.

[6] In this survey, the term "high-emitting sectors" specifically refers to the following eight sectors for which "Roadmap for Promoting Transition Finance" has been developed by the Ministry of Economy, Trade and Industry and the Ministry of Land, Infrastructure, Transport and Tourism: pulp and paper; chemicals; oil and coal; glass and ceramics; iron and steel; automobiles; 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 high-emitting.

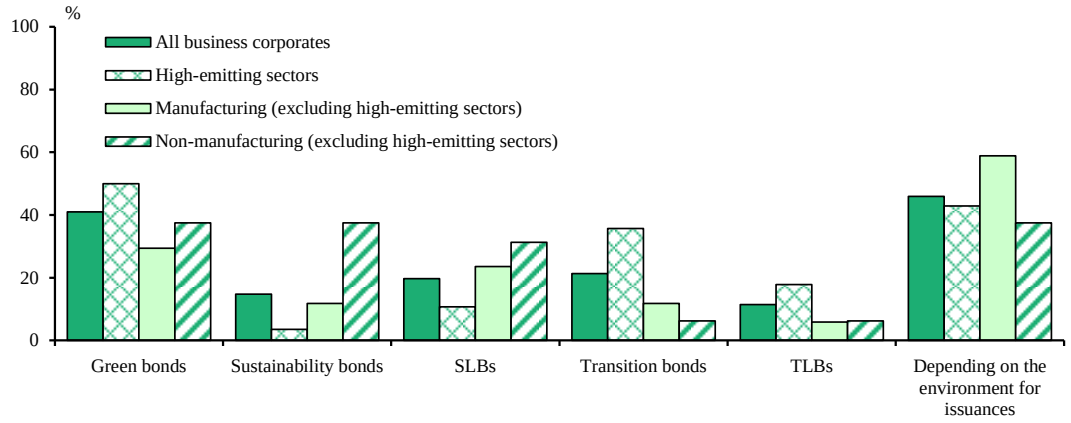
Issuers who expected a significant increase in the demand for funds and were considering specific fund-raising methods were also asked about their main fund-raising methods. About 70 percent of the respondents selected "taking out loans," and slightly more than 60 percent chose "using cash reserves." This was followed by "issuing the ESG bonds," selected by slightly over 50 percent, and "issuing non-ESG bonds," chosen by roughly 30 percent. Of the respondents who selected "issuing the ESG bonds," nearly half had not previously issued the ESG bonds. The survey also asked those who chose "issuing the ESG bonds" which type of the ESG bonds they were considering as their main fund-raising methods. In this question, slightly over 40 percent of respondents selected "green bonds," while a little more than 20 percent answered "transition bonds." A relatively large proportion of respondents in high-emitting sectors selected "transition bonds" and "TLBs." In contrast, "sustainability bonds" and "SLBs" were mainly chosen by non-manufacturers excluding those in high-emitting sectors. Furthermore, nearly 50 percent of the respondents selected "depending on the environment for their issuance" (Charts 33 and 34).

Chart 33: Main Fund-raising Methods for Climate Change-related Responses toward Fiscal 2030 (Business Corporates)



Note: Of the business corporates that regarded themselves as issuers, the total number of respondents was 113, excluding those who chose "the entity does not expect a significant increase in the demand for funds for climate change-related responses," "not decided," and those who did not provide answers. Multiple answers were allowed.

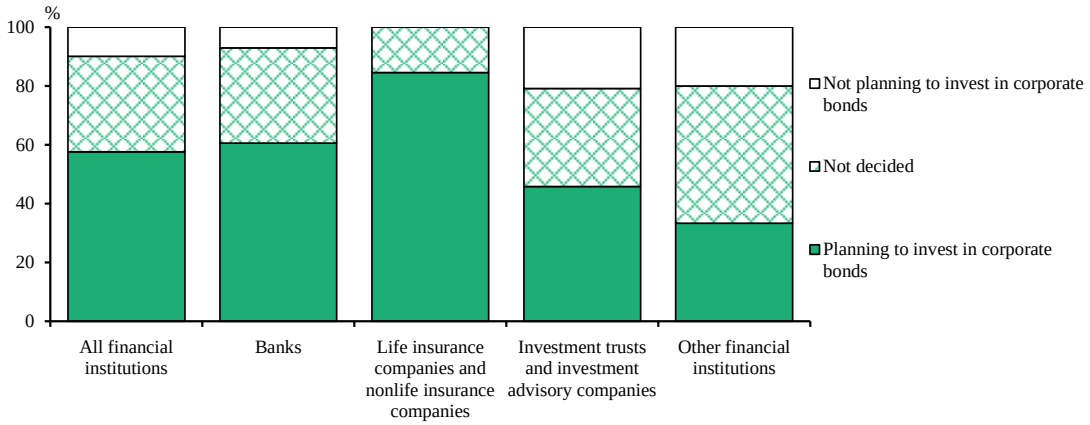
Chart 34: Specific Types of Climate Change-related ESG Bonds for Fund Raising (Business Corporates)



Note: Of the business corporates that regarded themselves as issuers, the total number of respondents was 61. Those respondents indicated "issuing the ESG bonds" as the main expected fund-raising method. Multiple answers were allowed.

Before asking investors about their plans for investments in corporate bonds related to efforts on climate change toward fiscal 2030, the survey first inquired about their plans for investments in corporate bonds in general. In this initial question, slightly less than 60 percent of the financial institutions confirmed that they were planning to invest in corporate bonds, while roughly 10 percent indicated that they were "not planning to invest in corporate bonds" (Chart 35).

Chart 35: Plans for Investing in Corporate Bonds toward Fiscal 2030 (Financial Institutions)

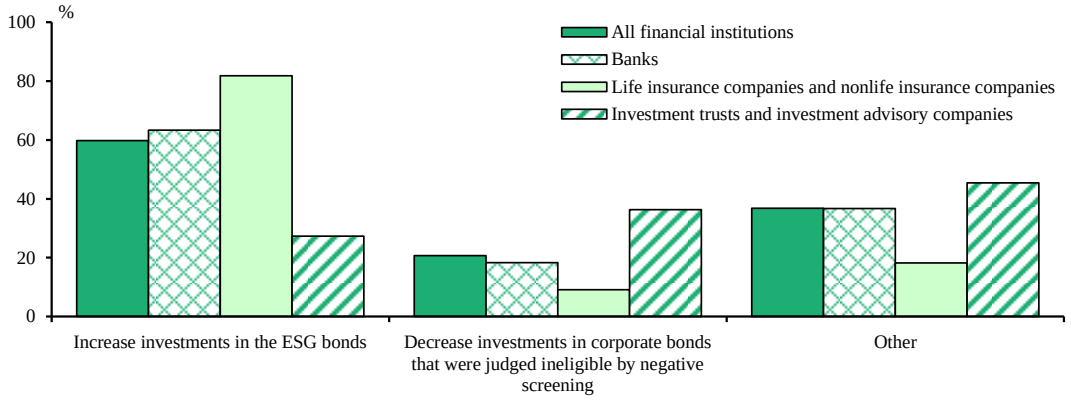


Note: The respondents consisted of 151 financial institutions among investors, excluding those who chose "difficult to answer" and those who did not provide answers.

When asked about specific investment plans, about 60 percent of the financial institutions planning to invest in corporate bonds answered that they were "planning to increase investments in the ESG bonds." By sector, the proportion was over 80 percent for insurance companies, while it remained low for investment trusts and investment advisory companies. In addition, approximately 20 percent of the financial institutions noted that they were "planning to decrease investments in corporate bonds that were judged ineligible by negative screening." By sector, the

proportion was relatively high, at nearly 40 percent, for investment trusts and investment advisory companies, while it was only about 10 percent for insurance companies (Chart 36).

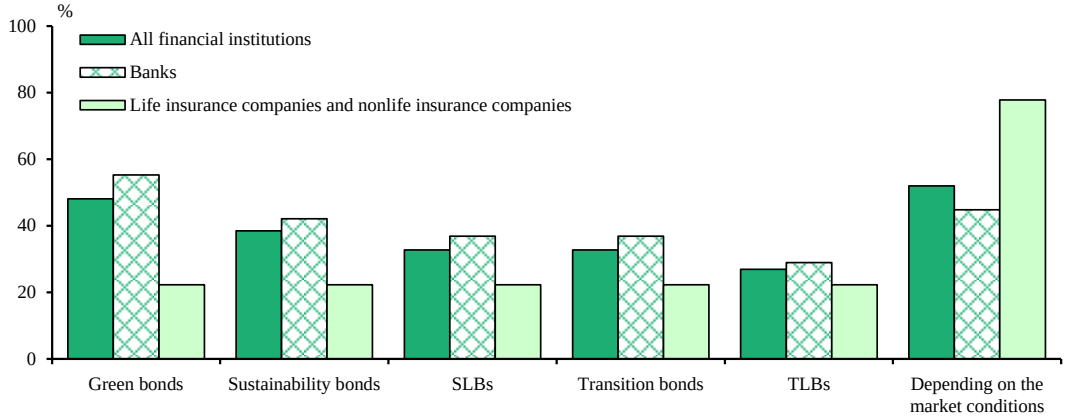
Chart 36: Specific Plans for Investing in Corporate Bonds (Financial Institutions)



Note: Of the financial institutions that regarded themselves as investors, the total number of respondents was 87, excluding those who chose "not planning to invest in corporate bonds," "not decided," and those who did not provide answers. Sectoral responses by other financial institutions are not displayed in the chart due to the small sample size, although they are included in "all financial institutions." Multiple answers were allowed.

When asked which type of the ESG bonds they were planning to invest in, slightly less than 50 percent of respondents who were "planning to increase investments in the ESG bonds" chose "green bonds," while the other types of the ESG bonds were also selected by around 30 to 40 percent of those respondents, respectively. Meanwhile, a little over 50 percent noted they would decide the type of the ESG bond to invest in "depending on the market conditions" (Chart 37).

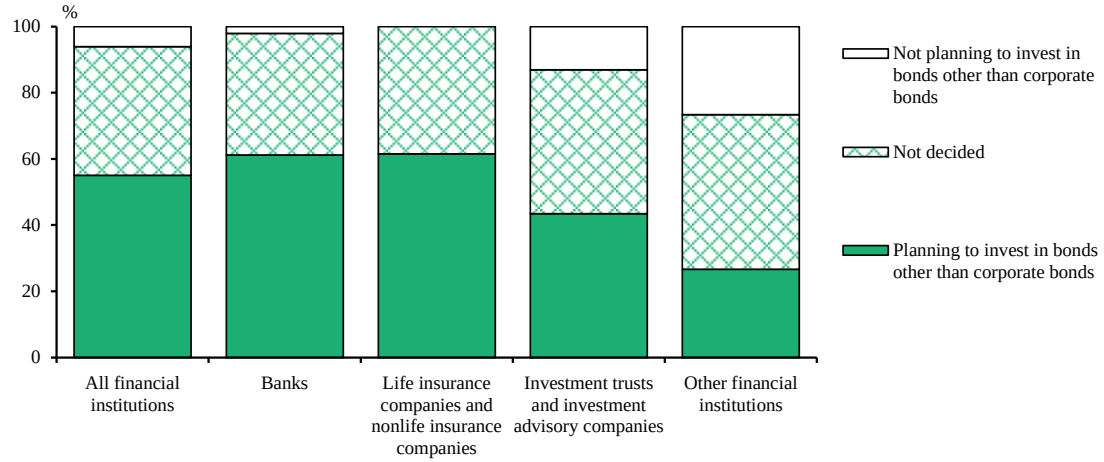
Chart 37: Specific Types of Climate Change-related ESG Bonds Considered for Increased Investment (Financial Institutions)



Note: Of the financial institutions that regarded themselves as investors, the total number of respondents was 52. Those were the respondents who chose "planning to increase investments in the ESG bonds." Sectoral responses by investment trusts, investment advisory companies, and other financial institutions are not displayed in the chart due to the small sample size, although they are included in "all financial institutions." Multiple answers were allowed.

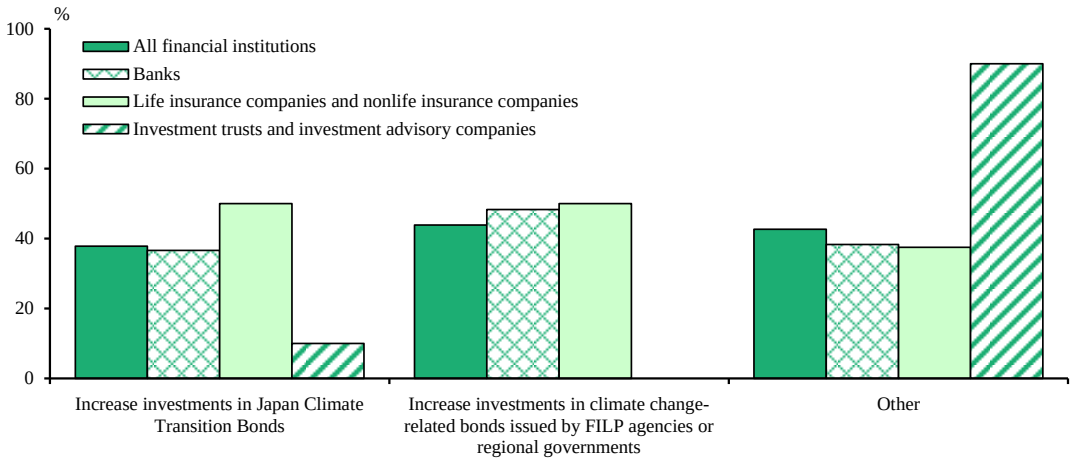
Regarding plans for investments in bonds other than corporate bonds, nearly 60 percent of the financial institutions answered that they were planning to invest in these bonds, while slightly less than 10 percent answered they were "not planning to invest in bonds other than corporate bonds." Among those planning to invest in bonds other than corporate bonds, approximately 40 percent noted they were "planning to increase investments in climate change-related bonds issued by fiscal investment and loan program (FILP) agencies or regional governments" and "planning to increase investments in Japan Climate Transition Bonds" (Charts 38 and 39).

Chart 38: Plans for Investing in Bonds Other than Corporate Bonds toward Fiscal 2030 (Financial Institutions)



Note: The respondents consisted of 149 financial institutions among investors, excluding those who chose "difficult to answer" and those who did not provide answers.

Chart 39: Specific Plans for Investing in Bonds Other than Corporate Bonds (Financial Institutions)



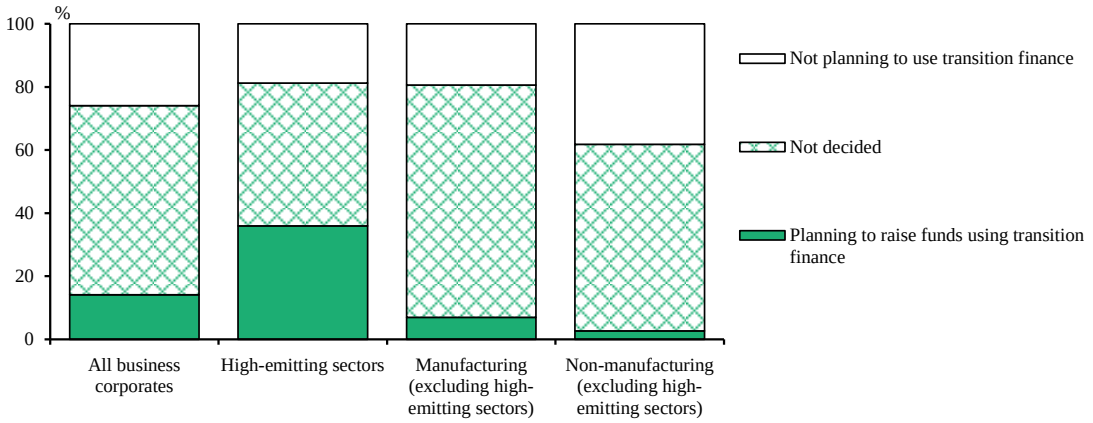
Note: Of the financial institutions that regarded themselves as investors, the total number of respondents was 82, excluding those who chose "not planning to invest in bonds other than corporate bonds," "not decided," and those who did not provide answers. Sectoral responses by other financial institutions are not displayed in the chart due to the small sample size, although they are included in "all financial institutions." Multiple answers were allowed.

2. Stance on Transition Finance and Challenges

While the development of climate finance has mainly been led by green finance, progress has recently been made in transition finance, which is a framework for providing funds to sectors that face difficulties in achieving decarbonization in the short term (see Box 2 for its overview). The third survey asked both issuers and investors about their stance on transition finance and the challenges for facilitating it smoothly.

In response to questions that asked issuers about their plans for transition finance, the most common response, chosen by roughly 60 percent of business corporates, was "not decided." Almost 30 percent of business corporates chose "not planning to use transition finance," while a little more than 10 percent noted they were "planning to raise funds using transition finance." The proportion of respondents who chose "planning to raise funds using transition finance" was notably higher in high-emitting sectors than in other sectors, at nearly 40 percent (Chart 40).

Chart 40: Plans for Using Transition Finance (Business Corporates)

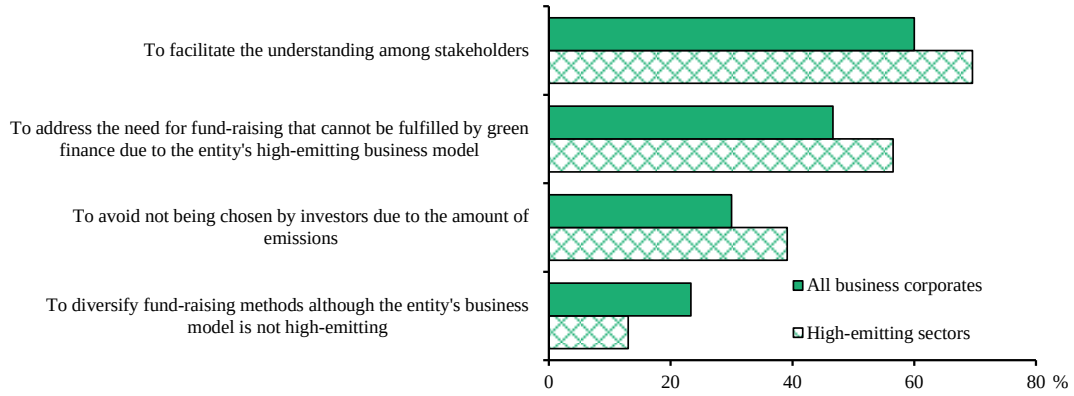


Note: The respondents consisted of 212 business corporates (both manufacturing and non-manufacturing) among issuers, excluding those who did not provide answers.

Of the respondents who answered that they were "planning to raise funds using transition finance," about 60 percent noted that they intended to utilize transition finance "to facilitate the understanding among stakeholders of the need to use a combination of available technologies to reduce emissions." This was followed by "to address the need for fund-raising that cannot be fulfilled by green finance due to the entity's high-emitting business model," selected by nearly 50 percent (Chart 41).

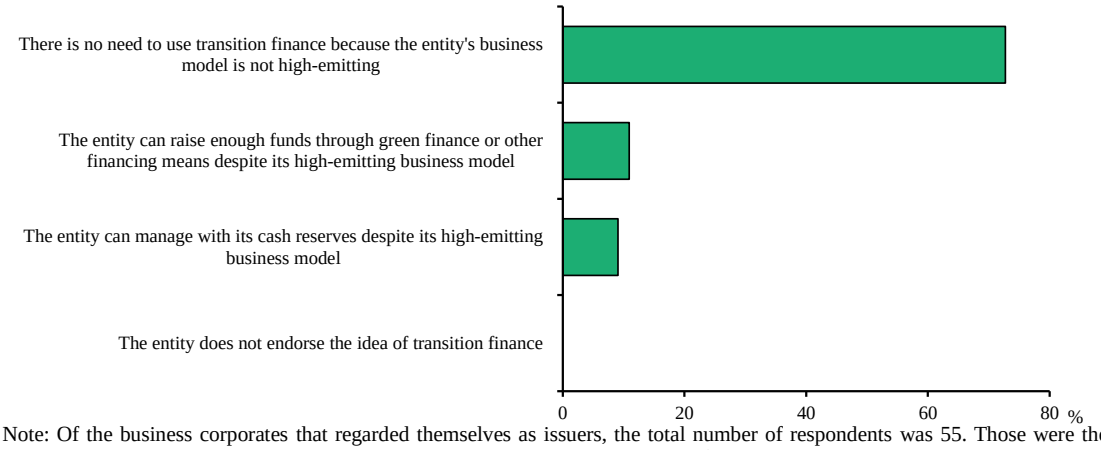
In contrast, among those who confirmed that they did not plan to use transition finance, a little more than 70 percent of the respondents indicated that "there is no need to use transition finance because the entity's business model is not high-emitting" (Chart 42).

Chart 41: Reasons for Planning to Use Transition Finance (Business Corporates)



Note: Of the business corporates who regarded themselves as issuers, the total number of respondents was 30. Those were the respondents who answered that they were "planning to raise funds using transition finance" (excluding those who did not provide answers). Multiple answers were allowed.

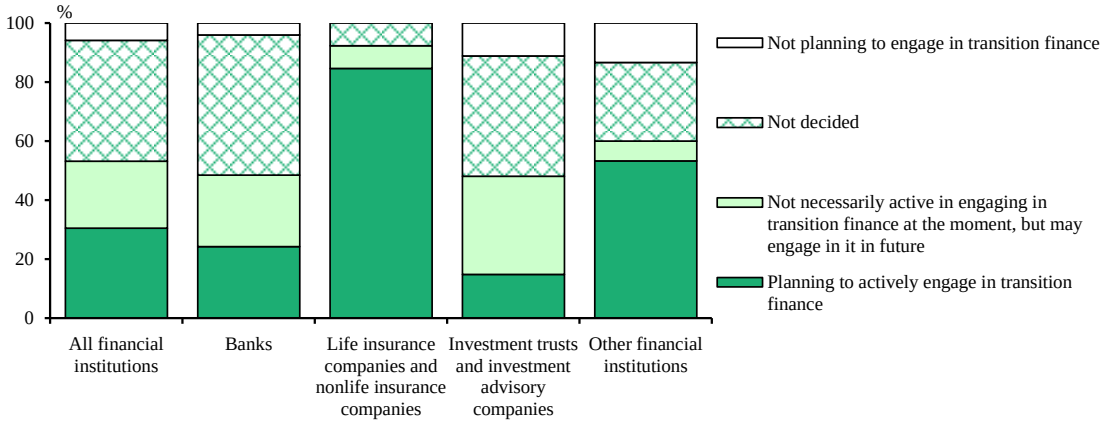
Chart 42: Reasons for Not Planning to Use Transition Finance (Business Corporates)



Note: Of the business corporates that regarded themselves as issuers, the total number of respondents was 55. Those were the respondents who 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," although roughly 40 percent of financial institutions selected "not decided." In addition, a little more than 20 percent noted that they were "not necessarily active in engaging in transition finance at the moment, but may engage in it in the future," while slightly less than 10 percent indicated that they were "not planning to engage in transition finance." By sector, slightly more than 80 percent of insurance companies indicated they were "planning to actively engage in transition finance," and none of them selected "not planning to engage in transition finance" (Chart 43).

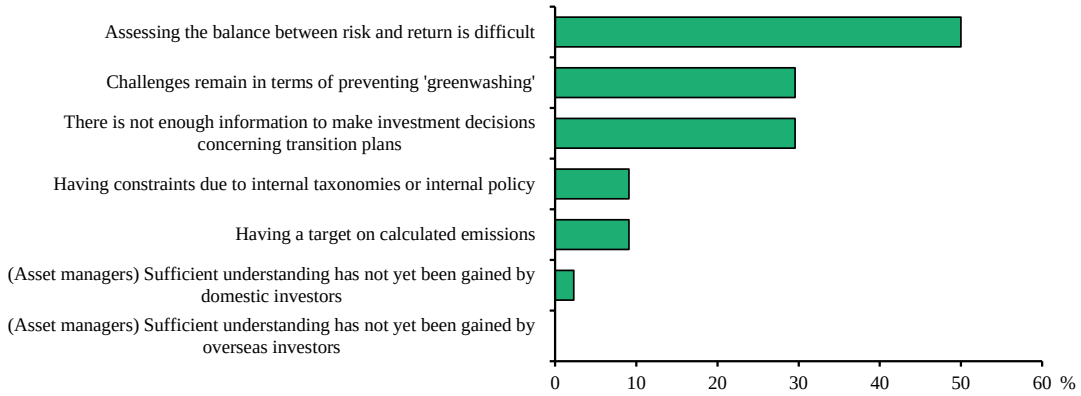
Chart 43: Plans for Engaging in Transition Finance (Financial Institutions)



Note: The respondents consisted of 154 financial institutions (excluding those who did not provide answers) among investors.

Among the respondents who 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," approximately 50 percent chose "assessing the balance between risk and return is difficult" as the reason for not engaging in transition finance. Additionally, around 30 percent of those respondents selected "challenges remain in terms of preventing 'greenwashing'" and "there is not enough information concerning transition plans to make investment decisions" (Chart 44).

Chart 44: Reasons for Not Planning to Actively Engage in Transition Finance (Financial Institutions)

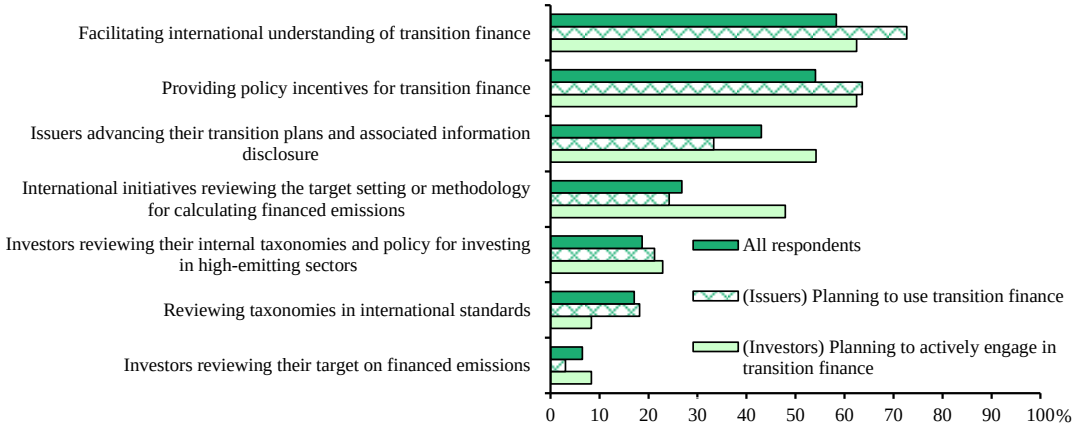


Note: Of the financial institutions that regarded themselves as investors, the total number of respondents was 44. Those were the respondents who selected "not necessarily active in engaging in transition finance at the moment, but may engage in it in the future" or "not planning to engage in transition finance" (excluding those who did not provide answers). Multiple answers were allowed.

Lastly, the survey asked both issuers and investors about challenges for facilitating transition finance smoothly in the future. The most common response, indicated by nearly 60 percent of respondents, was "facilitating international understanding of transition finance." This was followed by "providing policy incentives for transition finance," chosen by a little more than 50 percent. Among issuers and investors who stated plans to use/engage in transition finance in

previous questions, the proportion who selected "facilitating international understanding of transition finance" was higher than that of all respondents. Additionally, among these investors, a higher proportion identified "international initiatives reviewing the target setting or methodology for calculating financed emissions" as a challenge compared to all respondents (Chart 45).

Chart 45: Challenges in Facilitating Transition Finance Smoothly

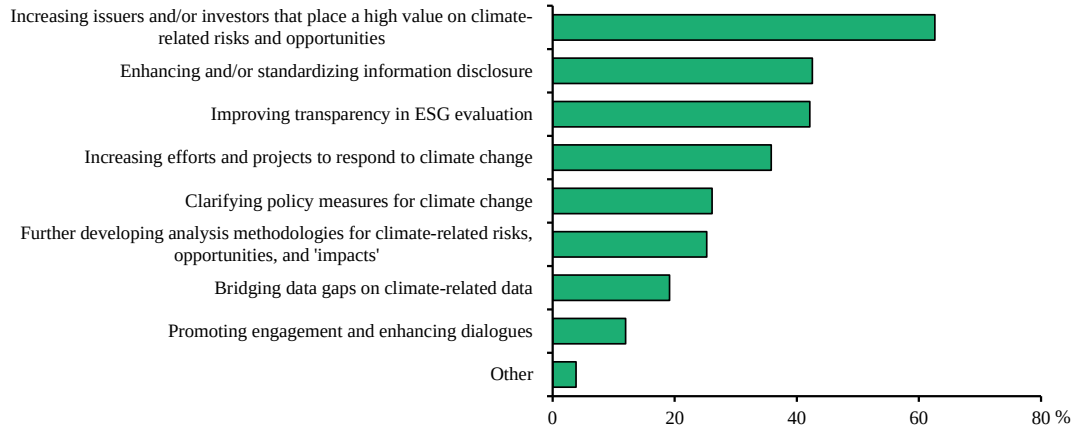


Note: The total number of respondents was 444. The number of issuers planning to use transition finance was 33. The number of investors planning to actively engage in transition finance was 48. Up to three answers were allowed.

3. Challenges for Increasing the Size of the Climate Change-related ESG Bond Market

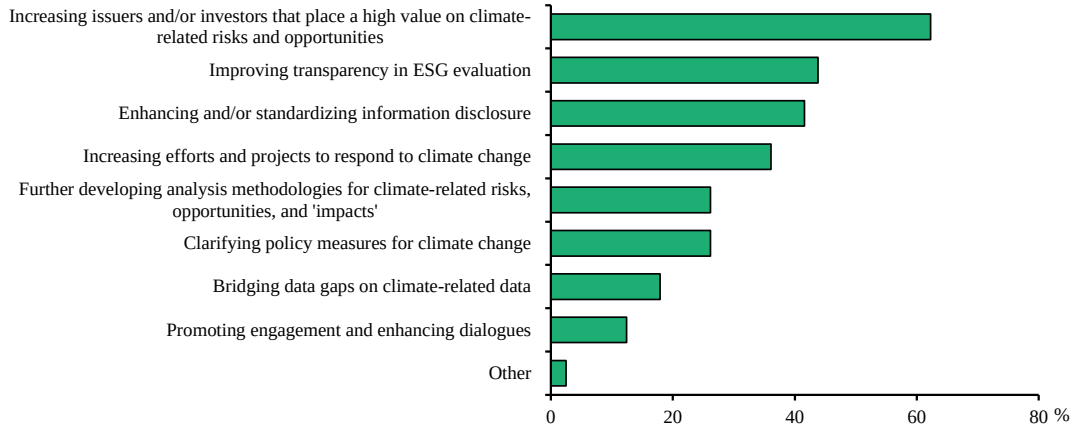
The survey included a question asking respondents to select factors they believed were necessary to increase the size of the ESG bond market in Japan. The most common factor, chosen by just over 60 percent of respondents, was "increasing issuers and/or investors that place a high value on climate-related risks and opportunities." This was followed by "enhancing and/or standardizing information disclosure," "improving transparency in ESG evaluation," and "increasing efforts and projects to respond to climate change," each selected by approximately 40 percent of respondents. Additionally, around 20 to 30 percent of respondents chose "clarifying policy measures for climate change," "further developing analysis methodologies for climate-related risks, climate-related opportunities, and 'impacts'," and "bridging data gaps on climate-related data." Notably, no significant differences were observed between issuers and investors in their responses (Charts 46 to 48).

Chart 46: Challenges for Increasing the Size of the Climate Change-related ESG Bond Market in Japan (All Respondents)



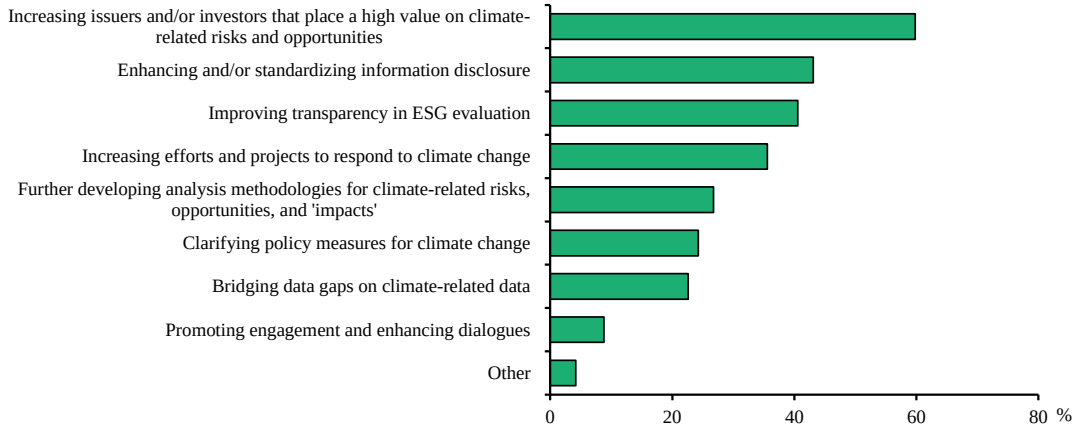
Note: The total number of respondents was 444. Those respondents were allowed to choose up to three answers.

Chart 47: Challenges for Increasing the Size of the Climate Change-related ESG Bond Market in Japan (Issuers)



Note: The total number of respondents was 363. Those respondents were allowed to choose up to three answers.

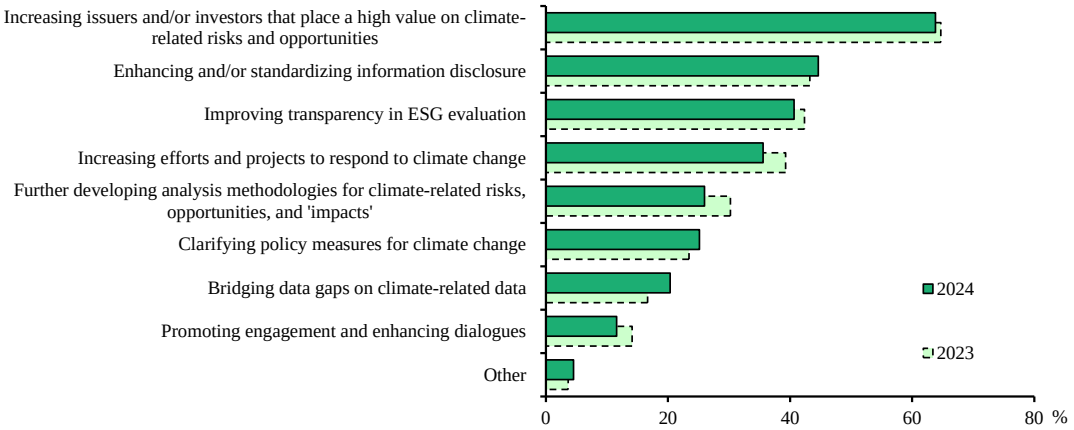
Chart 48: Challenges for Increasing the Size of the Climate Change-related ESG Bond Market in Japan (Investors)



Note: The total number of respondents was 239. Those respondents were allowed to choose up to three answers.

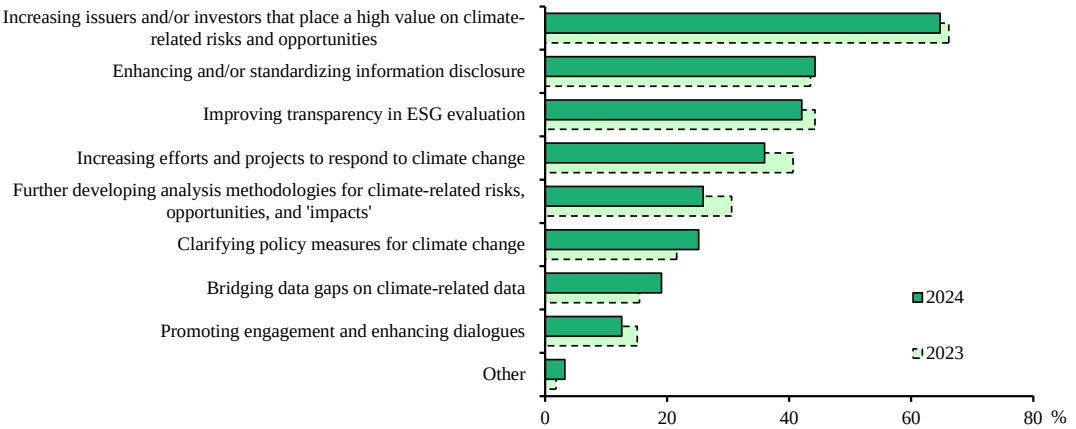
Among continuous respondents, there was a marginal decline from the previous survey in the proportion of issuers and investors selecting "increasing efforts and projects to respond to climate change." A slight decrease was also observed in the proportion of issuers selecting "further developing analysis methodologies for climate-related risks, opportunities, and 'impacts'." Conversely, a slight increase was observed in the proportion of both issuers and investors selecting "bridging data gaps on climate-related data," with the expected introduction of mandatory disclosure for Scope 3 (Charts 49 to 51).

Chart 49: Challenges for Increasing the Size of the Climate Change-related ESG Bond Market in Japan (All Respondents, Continuous Respondents)



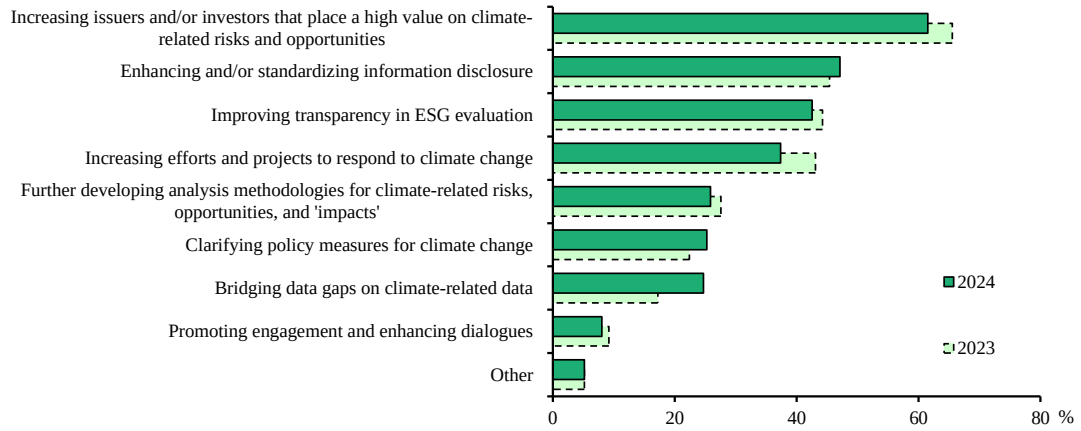
Note: The total number of respondents was 354. Those respondents were allowed to choose up to three answers.

Chart 50: Challenges for Increasing the Size of the Climate Change-related ESG Bond Market in Japan (Issuers, Continuous Respondents)



Note: Out of the 354 continuous respondents, the total number of respondents was 278. Those were the respondents who identified themselves as issuers in both the 2023 and 2024 surveys. Up to three answers were allowed.

Chart 51: Challenges for Increasing the Size of the Climate Change-related ESG Bond Market in Japan
(Investors, Continuous Respondents)



Note: Out of the 354 continuous respondents, the total number of respondents was 174. Those were the respondents who identified themselves as investors in both the 2023 and 2024 surveys. Up to three answers were allowed.

4. Challenges for the Further Development of Japanese Financial Markets to Contribute to Addressing Climate Change

Like the second survey, the third survey included an open-ended question regarding the further development of Japanese financial markets to contribute to addressing climate change, asking for changes observed or new challenges faced compared to a year ago. While respondents highlighted various aspects, many of them pointed out that notable developments were seen over the past year in areas such as the enhancement and standardization of information disclosure, the expansion of the base of issuers and investors that place a high value on climate-related risks and opportunities, and the spread of transition finance. At the same time, they also noted new challenges that arose alongside these developments.

Regarding information disclosure, respondents expressed positive views on the progress in the standardization of information disclosure, such as the publication of an exposure draft of domestic standards by the Sustainability Standards Board of Japan (SSBJ), based on the international standards finalized by the International Sustainability Standards Board (ISSB) in June 2023. They also noted improvements in the quality and quantity of disclosed information from companies. On the other hand, many respondents, particularly issuers, highlighted the challenges in securing resources and establishing an organizational structure for disclosure, considering that the SSBJ standards may be integrated into mandatory disclosure. Specifically, many respondents expressed their expectations for further developments in infrastructure to increase efficiency and comparability, including the specification and standardization of calculation methodologies, the formulation of guidelines, and the establishment of platforms for climate-related data (see Box 3 for further details). At the same time, some respondents emphasized the need for a certain degree of flexibility in applying disclosure standards, given the differences in capacity across companies and sectors.

From the perspective of increasing the number of issuers and investors that place a high value on climate-related risks and opportunities, some respondents favorably assessed the increase in the number of ESG bond issuers and issuance amounts. Regarding engagement, respondents highlighted improvements in content quality and its growing importance for investors in providing funds to address climate change smoothly. Additionally, as in the previous survey, respondents noted that both issuers and investors needed to deepen their awareness of preventing greenwashing to act properly toward achieving the ultimate goal of solving climate change issues. There were also expectations for the expansion of impact investments and further improvements in the environment for such investments.

With regard to transition finance, the concept of transition was deemed crucial for ensuring Japan's competitiveness and advancing climate change responses. Many respondents noted that understanding of the concept of transition has been fostered through various public and private initiatives, such as the issuance of the world's first sovereign transition bonds. However, many respondents highlighted the challenge of creating a framework to secure incentives for investors actively engaging in transition finance, including evaluation methods for financed emissions and the use of avoided emissions. They also suggested the need for facilitating deeper international understanding, including engagement in the formulation of international rules for transition finance. Respondents also pointed out that companies should provide more precise explanations of their transition plans, including which scenarios their plans align with.

Furthermore, respondents, particularly those subject to the extraterritorial application of foreign disclosure regulations, noted that the cost of complying with multiple disclosure requirements was an issue. In addition, some respondents mentioned that they were closely monitoring the situation in the United States and other economies, where there has been growing criticism against loans and investments that place emphasis on ESG, leading some financial institutions to withdraw from ESG investments and environmental agreements.

In summary, the results indicate that many respondents favorably assessed the steady progress in initiatives in areas such as information disclosure and transition finance, aimed at addressing challenges in improving the functioning of climate-related financial markets. However, they also emphasized the need for continued efforts and expressed expectations for further progress in these areas.

Box 2: Current Status of Transition Finance and Its Challenges

This box summarizes current status and challenges concerning transition finance. It also covers issues related to financed emissions.

(Current status of transition finance and its challenges)

The development of climate finance has been mainly driven by green finance, such as green bonds and green loans. Green finance is a framework for supplying funds based on whether a project is "green", with judgments in accordance with various principles and guidelines. In some jurisdictions, the standards have been established in the form of taxonomies (classification systems). Among them, the EU's taxonomy regulations is particularly well-known.

However, to achieve the goals of the Paris Agreement,[7] it is necessary to provide funding for efforts on climate change, including sectors that are currently GHG-intensive but are transitioning to decarbonization. Overly limiting the scope of "green" to projects capable of achieving zero emissions in the short term could restrict funding for net-zero efforts in high-emitting sectors. To address these challenges, transition finance has been advocated as a framework to provide funding for emission reductions in hard-to-abate sectors. As a direction for further developing this financing scheme, the 2022 G20 Sustainable Finance Report outlined two main approaches: (i) a taxonomy-based approach, which includes transition areas within taxonomies; and (ii) a principle-based approach, which provides high-level guidance to support transition finance without necessarily relying on taxonomies.

With this awareness, transition finance initiatives are underway in Japan, following a principle-based approach as specified in the 2022 G20 Sustainable Finance Report. Specifically, the Government of Japan set out basic guidelines ("Basic Guidelines on Climate Transition Finance") in 2021. It also formulated sector-specific technology roadmaps to facilitate the transition to decarbonization in high-emitting sectors and "Transition Finance Follow-up Guidance" to ensure the steady execution of transition strategies after the provision of funding. Since 2021, private sector issuers have been issuing transition bonds under these initiatives,

[7] The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping the global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase even further to 1.5 degrees Celsius.

and in February this year, the Japanese government issued the world's first sovereign transition bonds. In this context, a report published by the International Capital Markets Association (ICMA) in 2024[8] highlighted the roadmaps and follow-up guidance as initiatives that could expand transition finance, positioning Japan at the forefront of transition bond issuance by both the public and private sectors. As a result, international attention on these initiatives in Japan has increased.

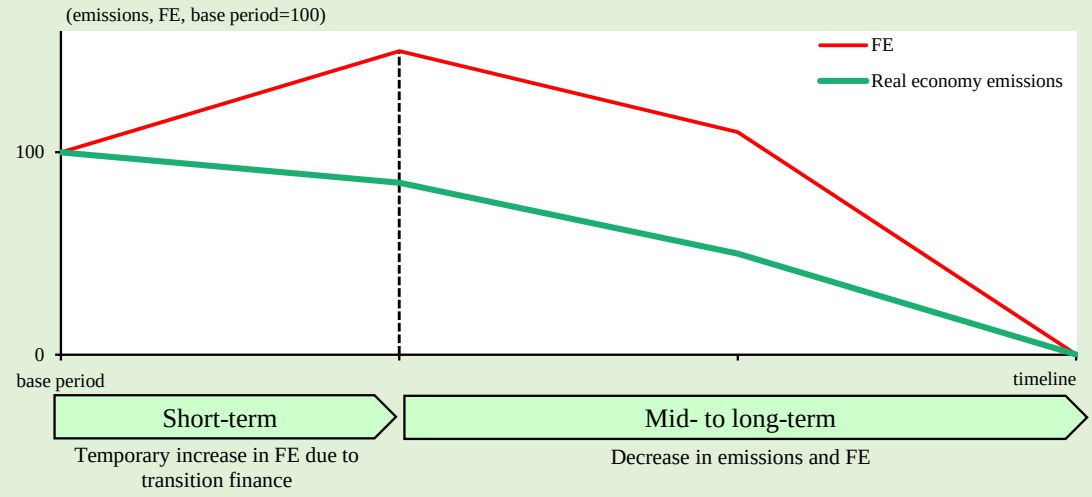
However, there are also challenges in promoting transition finance. In the survey, a wide range of entities pointed out the need for facilitating international understanding, offering policy incentives, and encouraging issuers to consider transition plans and enhance information disclosure. In addition, respondents actually making investment and loan decisions in climate finance, such as those investing in the ESG bonds and those planning to engage in transition finance, particularly noted the importance of reviewing the target setting and calculation methodology for financed emissions. The following summarizes the challenges surrounding this issue.

(Challenges related to financed emissions and efforts to address them)

Among the challenges related to transition finance, financed emissions ("FE") have increasingly become a subject of discussion. FE refers to the GHG emissions attributed to the lending and investment activities of financial institutions. It is typically calculated as the sum of the emissions of the borrower or investee, multiplied by the share of the financial institution's loans and investments in the total outstanding amount of the borrower's or investee's external funds (i.e., attribution factor). Therefore, providing transition finance for emission reductions in high-emitting sectors can lead to a short-term increase in the FE of the financial institution, as shown in Box Chart 2-1, even if the project contributes to reducing emissions in the overall economy in the medium to long run.

[8] Nicholas Pfaff, Özgür Altun and Stanislav Egorov (2024) "Transition Finance in the Debt Capital Market," ICMA.

Box Chart 2-1: Real Economy Emissions and FE



Note: Prepared by the Bank of Japan based on "Creating an Enabling Environment to Scale-up Transition Financing to Accelerate Decarbonization of Hard-to-Abate Sectors," published by the Ministry of Economy, Trade and Industry, the Financial Services Agency, and the Ministry of the Environment.

International standards (ISSB standards) require the disclosure of FE as part of Scope 3, which covers emissions from the corporate value chain. Also, financial institutions that are members of private sector financial initiatives, such as the Glasgow Financial Alliance for Net Zero (GFANZ), are requested to set medium- to long-term reduction targets for both FE and Scope 3 emissions aimed at achieving net zero by 2030 or 2050, for example, when they join such initiatives. Consequently, financial institutions may hesitate to finance net-zero initiatives in high-emission sectors due to concerns about an increase in FE attributed to transition finance. Under these circumstances, the need to foster an environment that prevents these situations has been recognized.

To address these challenges of FE, "Addressing the Challenges of Financed Emissions" was published in Japan last October. This paper summarizes the discussions led by private sector initiatives and presents two proposed solutions: one is to refine the calculation and disclosure of FE (e.g., by breaking down total FE to show transition finance-related emissions), and the other is to use multiple indicators other than FE to measure progress in the transition (i.e., combining forward-looking indicators with FE).

The use of forward-looking indicators has been a major topic of discussion among private finance initiatives. For instance, the Partnership for Carbon Accounting Financials (PCAF), a partnership focused on carbon accounting, including FE calculation methodologies, has

proposed the use of avoided emissions[9] for renewable energy projects.[10] The GFANZ has introduced the concept of expected emissions reductions, which assesses the difference between expected emissions with and without transition finance separately from FE.

This box presented trends in transition finance and FE. While much attention has focused on the replacement of fossil fuels with renewable energy in decarbonization efforts, there is growing international recognition that, in practice, various approaches and different financing methods are required depending on industrial structure and technological factors. As indicated in the results of this survey, it is crucial to continue developing an appropriate financial framework that contributes to the ultimate goal of addressing climate change issues while promoting international understanding.

[9] This is an indicator that demonstrates how much the use of the company's products and services has contributed to reducing emissions in society as a whole. For financial institutions, a key issue is how to calculate the financed entity's contribution to emission reductions as part of the financial institution's own contribution.

[10] Avoided emissions are required to be calculated separately from Scope 1, 2, and 3 emissions by financial institutions.

Box 3: Opinions from Market Participants on Climate-related Information Disclosure

In Japan, climate-related risk and opportunity disclosures were primarily voluntary and based on the TCFD recommendations. However, starting with the fiscal year ending March 31, 2023, corporate sustainability disclosure became mandatory with the introduction of a new section on sustainability information in annual securities reports. Although these mandatory disclosure frameworks were initially implemented without specific standardization in Japan, the SSBJ is currently developing domestic standards. These standards aim to enhance the international comparability of disclosed information taking into account the ISSB standards finalized in June 2023. Published in March this year, the exposure draft of the domestic standards, set to be finalized by the end of fiscal 2024, follows the basic framework of the TCFD recommendations, just like the ISSB standards. The draft details requirements for disclosed information and proposes mandatory disclosure of quantitative data, including Scope 3 emissions (i.e., emissions from a company's value chain). In addition, the Working Group on Disclosure and Assurance of Sustainability-related Financial Information under the Financial System Council is discussing the target firms, timing for integrating the domestic standards into mandatory disclosure, and the assurance to ensure the reliability of disclosed content.

In light of these domestic and international developments and discussions, this round of the survey continued to include an open-ended question to gain insights on the challenges of disclosing climate-related risks and opportunities. Responses were collected from numerous entities, and the following is a summary of their opinions.

(Opinions regarding the mandatory application of domestic standards)

Respondents generally understood that the scope of mandatory application of domestic standards depends on company size. However, some noted that limiting the scope to large companies would discourage small and medium-sized enterprises from disclosing information, leading to less accurate calculations of Scope 3 emissions, including financed emissions. Many issuers identified securing resources for disclosure as a challenge. Regarding the timing of the application, some respondents noted that establishing an appropriate organizational structure for disclosure takes time. Some suggested establishing a "safe harbor rule" to limit issuers' responsibility for the accuracy of Scope 3 and other quantitative information under certain conditions, taking into account the challenges in calculating such data. For simultaneous disclosure of financial and climate-related information, some emphasized the need for a flexible approach, considering the issuer's practical feasibility.

Box Chart 3-1: Market Participants' Views on Mandatory Application of Domestic Standards

- ✓ Relatively simplified disclosures may be acceptable for smaller companies and low-emitting sectors. (investors)
- ✓ Limiting the application of domestic standards to prime-listed companies may discourage disclosure by small and medium-sized enterprises and result in less accurate calculations of Scope 3 emissions, including financed emissions. (issuers/investors)
- ✓ Challenges remain in modifying organizational structures and securing resources to comply with various disclosure-related regulations. (issuers)
- ✓ A preparation period is essential to develop appropriate organizational structures for efficient disclosure in compliance with relevant regulations. (issuers)
- ✓ Assumptions for quantitative indicators and calculation methodologies vary among companies, due to the lack of unified detailed standards. (issuers)
- ✓ A safe harbor rule for Scope 3 is necessary. (securities companies)
- ✓ Simultaneous disclosure of financial and climate-related information is challenging due to the time needed for collecting emissions data and obtaining third-party assurance. (issuers)

(Opinions regarding third-party assurance)

The need for third-party assurance to ensure the reliability of disclosed contents was highlighted. However, some respondents mentioned feasibility issues, including the level, scope, and guarantors of assurance. Regarding the level of assurance, some respondents noted that obtaining reasonable assurance is challenging and suggested that limited assurance is desirable during the initial stage of third-party assurance frameworks. With regard to the scope of the assurance, some respondents pointed out that emissions disclosure should be included. Additionally, some respondents expressed concern that including financial impact in the assurance could lead to issues due to discrepancies between estimates and actual results. Regarding guarantors, some respondents suggested that guarantee agencies should expand their organizational structure to address non-financial information.

Box Chart 3-2: Market Participants' Views on Third-party Assurance

- ✓ Third-party assurance and external certification are essential for improving the quality of climate-related data. (investors)
- ✓ Currently, limited assurance is the norm for third-party assurance, as obtaining reasonable assurance is not feasible. (issuers)
- ✓ In the initial stage of introducing assurance frameworks, limited assurance is preferable. (issuers)
- ✓ Mandatory third-party assurance (reasonable assurance) places a significant burden on issuers. (issuers/investors)
- ✓ Third-party assurance should be mandatory for Scope 1 and 2 disclosures. (securities companies)
- ✓ Including financial impact in the scope of assurance could lead to issues due to discrepancies between estimates and actual results. (issuers)
- ✓ Guarantee agencies, such as auditing corporations, should develop appropriate organizational structures. (issuers)

(Practical challenges in addressing disclosure: disclosure of quantitative information)

Regarding the quantification of climate-related risks and opportunities as well as scenario analysis, many issuers and investors reiterated the need for standardizing calculation and analysis methods and developing guidelines, similar to the previous survey. In addition, some respondents emphasized the need to develop a platform for more efficient collection of emissions data and to improve data accuracy, particularly for calculating and disclosing Scope 3 emissions. Some issuers also noted the challenges of complying with standards applied extraterritorially to Japanese companies, such as EU disclosure standards.

Box Chart 3-3: Market Participants' Views on Practical Challenges in Addressing Disclosure

- ✓ Standardized methodologies and enhanced guidelines for the quantitative assessment of climate-related risks and opportunities are necessary. (issuers)
- ✓ Scenario analysis and methodologies for identifying the financial impact of such scenarios are insufficient. (issuers)
- ✓ Inconsistencies in analyses and the granularity of disclosures among issuers are observed due to the lack of established analytical methodologies. (investors)
- ✓ Platforms that facilitate timely information acquisition should be developed, particularly for Scope 3 emissions. (issuers)
- ✓ More tools are needed to support the capturing of Scope 3 emissions. (securities company)
- ✓ Utilizing first-hand data to improve the quality of Scope 3 emissions data is a challenge. (issuers)
- ✓ Complying with extraterritorial EU disclosure standards is a challenge. (issuers)

III. Conclusion (Key Findings and Future Efforts)

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

As for the pricing of climate-related risks and opportunities in financial instruments, the respondents viewed that these risks and opportunities were priced into the stock and corporate bond markets in Japan to a certain degree, although they also noted that there was potential for further incorporation. While the respondents had views similar to those in the previous survey in this regard, the survey also revealed that climate-related risks and opportunities were better reflected in the prices of corporate bonds compared to the second survey. No significant changes were observed in the elements that respondents believed were not adequately priced into financial instruments. To further price in climate-related risks and opportunities, many respondents continued to reiterate the need for improved information availability and assessment methodologies related to these risks and opportunities. They also highlighted 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, there was a modest broadening base of both issuers and investors compared to the previous survey. While the proportion of respondents who indicated they had invested in the ESG bonds was high, particularly among financial institutions, the proportion of respondents who indicated they had issued the ESG bonds remained low, highlighting the difference in the extent of the broadening of the bases. Concerning this point, many respondents cited a limited need to obtain external funds, the scarcity of projects suitable for issuing the ESG bonds, and perceived unfavorable issuance conditions for the ESG bonds compared to other financing options available in Japan as reasons for not issuing the ESG bonds. Indeed, the sectoral breakdown of the ESG bond issuance suggests that the ESG bonds are widely used in sectors such as real estate, where environmental certifications of buildings are well-established and facilitate project structuring (see Box 1). In addition, concerning the issuance conditions for the ESG bonds, which was newly surveyed this round, the majority of respondents viewed that the issuance conditions for the ESG bonds were better than those for non-ESG bonds, particularly in terms of interest rates. However, when it comes to the reasons for issuing the ESG bonds, many respondents continued to cite strategic interests for their businesses and investor relations, including reputational benefits, strategic importance, and the opportunity to diversify their investor base, while few cited favorable issuance conditions. Considering these points together, although the advantage in the issuance conditions of the ESG bonds is recognized to some extent, it does not appear to be acting as a

strong incentive for issuing the ESG bonds. That being said, the ESG market has continuously expanded both in terms of the outstanding amount and the amount of issuance due to issuers' strategic needs for their businesses and investor relations, as well as investors' needs for making social and environmental contributions.

Regarding the prospects of the climate change-related ESG bond market, this round of the survey asked respondents' stance on climate change finance from a slightly longer-term perspective (specifically toward fiscal 2030). A majority of business corporates, mainly in high-emitting sectors, indicated that they expected a significant increase in the demand for funds for climate change-related responses and were considering specific fund-raising methods, with over 50 percent of them indicating that they were also considering the use of the ESG bonds. Since nearly half of these respondents have not yet issued the ESG bonds, the issuer base for the ESG bonds is likely to broaden further should their funding plans become more concrete. On the investor side, a relatively high proportion of respondents answered that they would increase their investments in the ESG bonds. However, some of them stated that they would make investment decisions on corporate bonds through negative screening, which in turn could affect the issuance conditions for corporate bonds, including non-ESG bonds, particularly in high-emitting sectors. In terms of bond investments in a broader sense, a reasonable number of respondents indicated they would increase their investments in Japan Climate Transition Bonds and climate change-related FILP agency and municipal bonds.

The survey also explored respondents' stance on transition finance (see Box 2). Most business corporates were undecided about their stance, with just over 10 percent indicating they would use transition finance. However, in high-emitting sectors, nearly 40 percent reported they would use transition finance, showing more progress in consideration. Among those planning to use transition finance, many respondents felt that green finance alone was insufficient to meet their funding needs. They also emphasized the importance of building stakeholder understanding of the need to use available technologies for climate transition, which essentially means building stakeholder understanding of the transition. On the investor side (i.e., financial institutions), about 30 percent of respondents, mainly insurance companies, expressed a willingness to actively engage in transition finance. However, around 40 percent were undecided, and some were cautious about the financing framework. The most frequently cited future challenge for utilizing transition finance was the need to facilitate international understanding. A relatively large number of investors intending to actively engage in transition finance highlighted the necessity for international initiatives to review target setting and calculation methodologies related to financed emissions.

Concerning the challenges for increasing the size of the climate change-related ESG bond market in Japan, many respondents identified similar challenges to those in the previous survey. These included the need to increase the number of issuers and investors that place a high value on climate-related risks and opportunities and to enhance and standardize information disclosure. However, as mentioned earlier, both issuers and investors expressed a willingness to become more active in the ESG bond market over the somewhat longer term. Many respondents also highlighted progress in information disclosure, including the formulation of domestic standards and initiatives to mandate these disclosures. Amid these progresses, however, respondents raised issues concerning their resources and organizational structures for managing disclosures. They also expressed expectations for the flexible application of disclosure regulations, the development of frameworks for third-party assurance, and further infrastructure improvements to enhance efficiency and comparability (see Box 3).

The Bank will provide updates on the progress and challenges in the market functioning related to climate change through conducting this survey continuously, while improving its content. Furthermore, the Bank aims to contribute to the advancement of financial markets by monitoring developments outside of Japan, conducting further research and analyses on the functioning of financial markets in relation to climate change, and communicating and coordinating with relevant stakeholders to foster the development of market infrastructure.

Appendices

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

1. Market Functioning

(1) 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.

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.

(2) 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.

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 accommodative to accommodative

(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 accommodative to accommodative 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.

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 2023 through March 2024.

(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., 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., loans) is more favorable than issuing the ESG bonds
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.

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)

(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 f.)

a. Green bonds
b. Sustainability bonds
c. Sustainability-linked bonds
d. Transition bonds
e. Transition-linked bonds
f. The type of the ESG bonds will vary depending on the environment for their issuances

(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. Also, 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. Planning to raise funds using transition finance
2. Not planning to use transition finance
3. Not decided

(For those who chose "1. Planning to raise funds using transition finance")

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

(For those who chose "2. Not planning to use 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 despite its high-emitting business model, because the technology to reduce emissions has been established
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 2023 through March 2024.

(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 does your entity envisage investing in corporate bonds and other bonds related to efforts on climate change toward fiscal 2030[6]?

(Choose all that apply, unless you choose 11.)

(Investment in corporate bonds)

1. Planning to increase investments in climate change-related ESG bonds
2. Planning to decrease investments in corporate bonds that were judged ineligible by negative screening
3. Not applicable to either of the above while planning to invest in corporate bonds
4. Not planning to invest in corporate bonds
5. Not decided

(Investment in other bonds)

6. Planning to increase investments in Japan Climate Transition Bonds
7. Planning to increase investments in climate change-related bonds issued by fiscal investment and loan program (FILP) agencies or regional governments[8]
8. Not applicable to either of the above while planning to invest in bonds other than corporate bonds
9. Not planning to invest in bonds other than corporate bonds
10. Not decided

(Difficult to answer)

11. Difficult to answer (e.g., depends on the policy of asset owners)

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

Question 14-A

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

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

a. Green bonds
b. Sustainability bonds
c. Sustainability-linked bonds
d. Transition bonds
e. Transition-linked bonds
f. 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.

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.

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

As part of sustainability disclosure, a new section for disclosure of climate-related risks and opportunities was added to the annual securities reports of Japanese firms from the fiscal year ending March 31, 2023. Against this background, the development of domestic disclosure standards based on international standards (i.e., ISSB standards) has been underway. Besides, the need for further discussion on the nature of assurance to ensure the reliability of disclosed information reflecting international trends has been pointed out.

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

(For issuers)

A. In light of the above, please describe, to the extent possible, the challenges your entity faces to further enhance information disclosure on climate-related risks and opportunities as an issuer.

(For investors)

B. In light of the above, please describe, to the extent possible, the areas you expect more information disclosure and the challenges your entity faces as an investor for using information on climate-related risks and opportunities disclosed by issuers and utilizing third-party assurance to make investment decisions or to structure financial products. Please describe if you have different expectations about the content of information disclosure and the provision of third-party assurance depending on the attributes of issuers (e.g., size, sector, amount of emissions).

(For issuers/investors)

C. In light of the above, please describe, to the extent possible, (a) the challenges your entity faces in further enhancing information disclosure on climate-related risks and opportunities as an issuer. Also, please describe (b) the areas where you expect more information disclosure and the challenges your entity faces as an investor for using information on climate-related risks and opportunities disclosed by issuers and utilizing third-party assurance to make investment decisions or to structure financial products. Concerning (b), please describe if you have different expectations about the content of information disclosure and the provision of third-party assurance depending on the attributes of issuers (e.g., size, sector, amount of emissions).

(For rating agencies)

D. In light of the above, please describe, to the extent possible, the areas where you expect more information disclosure and the challenges your entity faces for using information on climate-related risks and opportunities disclosed by issuers to determine ESG evaluations and/or credit ratings. Please describe if you have different expectations about the content of information disclosure depending on the attributes of issuers (e.g., size, sector, amount of emissions).

(For respondents that are not issuers, investors, nor rating agencies)

E. In light of the above, please describe, to the extent possible, your opinion on further enhancing information disclosure on climate-related risks and opportunities in Japan.

(Other)

Question 18

If you have any opinion regarding the necessary developments for Japanese financial markets to further address climate change, considering the progress observed in overseas markets, please provide your insights below. Specifically, discuss any changes or new challenges you have observed compared to a year ago.

4. Publication of the Name of Your Entity

Question 19

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 on 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 towards 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

8. "Climate change-related bonds issued by fiscal investment and loan program (FILP) agencies or regional governments" refers to bonds issued by FILP agencies or regional governments with labels, such as green bonds, sustainability bonds (with 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.

B. Third 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.
- AISIN CORPORATION
- Amagasaki Shinkin Bank
- Amundi Japan Ltd.
- Aomori Bank, Ltd.
- Aozora Bank, Ltd.
- Asahi Broadcasting Group Holdings Corporation
- Asahi Group Holdings, Ltd.
- Asahi Life Asset Management Co., Ltd.
- Asahi Mutual Life Insurance Company
- Asset Management One Co., Ltd.
- Awa Bank, Ltd.
- Bank of Fukuoka, Ltd.
- BANK OF KOCHI, LTD.
- Bank of Kyoto, Ltd.
- Bank of The Ryukyus, Limited
- Bank of Toyama, Ltd.
- Bank of Yokohama, Ltd.
- BIPROGY Inc.
- Bloomberg L.P.
- BNP PARIBAS ASSET MANAGEMENT Japan Limited
- BNP Paribas Securities (Japan) Limited
- BNP PARIBAS, Tokyo Branch
- BROTHER INDUSTRIES, LTD.
- Canon Marketing Japan Inc.
- CENTRAL TANSHI CO., LTD.
- Chugoku Bank, Limited
- Chugoku Electric Power Company, Incorporated
- CKD Corporation
- COMANY INC.
- Consonant Investment Management Co., Ltd.
- COSMO ENERGY HOLDINGS COMPANY, LIMITED.
- CREEK & RIVER Co., Ltd.
- CUBE SYSTEM INC.
- DAI-ICHI CUTTER KOGYO K.K.
- Dai-ichi Life Insurance Co., Ltd.
- Daishi Hokuetsu Bank, Ltd.
- DAITO BANK, LTD.
- Daito Trust Construction Co., Ltd.
- Daiwa House Asset Management Co., Ltd.
- DAIWA HOUSE INDUSTRY CO., LTD.
- Daiwa Real Estate Asset Management Co. Ltd.
- Daiwa Securities Group Inc.
- DENSO CORPORATION
- Dexerials Corporation
- DKS Co. Ltd.
- EBARA CORPORATION
- Ehime Bank, Ltd.
- EPCO Co., Ltd.
- Fast Accounting Co., Ltd.
- Fibergate Inc.
- FIL Investments (Japan) Limited
- FIRST BANK OF TOYAMA, LTD.
- Fujikura Ltd.
- Fukoku Capital Management, Inc.
- Fukoku Mutual Life Insurance Company
- FUKUICOMPUTER HOLDINGS, Inc
- FUKUOKA CHUO BANK, LTD.
- FUKUSHIMA BANK, LTD.
- FURUKAWA CO.,LTD.
- Furukawa Electric Co., Ltd.
- Fuyo General Lease Co., Ltd.
- Global Alliance Realty Co., Ltd.
- Gunma Bank, Ltd.
- Hachijuni Bank, Ltd.
- HC Asset Management Co., Ltd.
- Higashi-Nippon Bank, Limited
- Higo Bank, Ltd.
- HIOKI E.E.Corporation
- Hirogin Holdings, Inc.
- Hitachi Zosen Corporation
- Hitachi, Ltd.
- Hokkoku Bank, Ltd.
- Hokuriku Bank, Ltd.
- Hokuto Bank, Ltd.
- Hoshino Resort Asset Management Co., Ltd
- HOWA BANK, LTD.

- ICHIYOSHI ASSET MANAGEMENT CO.,LTD.
- Ichiyoshi Securities Co., Ltd.
- ICOM INCORPORATED
- IDEA Consultants, Inc.
- Idemitsu Kosan Co.,Ltd.
- IHI Corporation
- I－NET Corp.
- ITOCHU Corporation
- 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.
- JOA Holding Co., Ltd.
- J-OIL MILLS, INC.
- JPMorgan Asset Management (Japan) Ltd.
- Juhachi-Shinwa Bank, Ltd.
- Kagoshima Bank, Ltd.
- KAJIMA CORPORATION
- KANAGAWA BANK, LTD.
- KANEMATSU CORPORATION
- Kansai Mirai Bank, Limited
- Kenedix Real Estate Fund Management, Inc.
- Kirayaka Bank, Ltd.
- Kirin Holdings Company, Limited
- Kiyo Bank, Ltd.
- KOKUSAI ELECTRIC CORPORATION
- KONICA MINOLTA, INC.
- KOSÉ Corporation
- KROSAKI HARIMA CORPORATION
- Kumamoto Bank, Ltd.
- LOTTE CO., LTD.
- Mabuchi Motor Co., Ltd.
- Manulife Investment Management (Japan) Limited
- Marubeni REIT Advisors Co., Ltd.
- MEGMILK SNOW BRAND Co., Ltd.
- MEIDENSHA CORPORATION
- Meiji Holdings Co., Ltd.
- Meiji Yasuda Asset Management Company Ltd.
- Meiji Yasuda Life Insurance Company
- MEIKO NETWORK JAPAN CO., LTD.
- Minato Bank, Ltd.
- 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.
- Musashino Bank, Ltd.
- NAGANOBANK, LTD.
- Nankai Electric Railway Co.,Ltd.
- Nanto Bank, Ltd.
- National Mutual Insurance Federation of Agricultural Cooperatives
- NEC Capital Solutions Limited
- NEC Corporation
- Neural Inc.
- NEXYZ.Group Corporation
- NICHIREI CORPORATION
- Nikko Asset Management Co., Ltd.
- Nippon Life Insurance Company
- NIPPON PILLAR PACKING CO., LTD.
- NIPPON ROAD Co., Ltd.
- NIPPON SIGNAL CO., LTD.
- NIPPON STEEL CORPORATION
- NIPPON THOMPSON CO.,LTD.
- Nippon Yusen Kabushiki Kaisha
- Nishi-Nippon City Bank, Ltd.
- Nissay Asset Management Corporation
- Nomura Asset Management Co., Ltd.
- Nomura Real Estate Asset Management Co., Ltd.
- Norinchukin Bank
- North Pacific Bank, Ltd.
- OBAYASHI CORPORATION
- Ogaki Kyoritsu Bank, Ltd.
- OKASAN SECURITIES GROUP INC.
- Oki Electric Industry Co., Ltd.
- OKINAWA KAIHO BANK, LTD.
- Okura Industrial Co., Ltd.

- PGIM Japan Co., Ltd.
- Pigeon Corporation
- Rating and Investment Information, Inc.
- Resona Holdings, Inc.
- Resonac Holdings Corporation
- RIKEN VITAMIN CO., LTD.
- SAIKYO BANK, LTD.
- SAKURA internet Inc.
- San ju San Bank,Ltd.
- San-in Godo Bank, Ltd.
- Sasakawa Peace Foundation
- SBI Okasan Asset Management Co., Ltd.
- Schroder Investment Management (Japan) Limited
- Sekisui Chemical Co., Ltd.
- Sekisui House Asset Management, Ltd.
- SENDAI BANK LTD.
- Senshu Ikeda Bank, Ltd.
- SHIGA BANK, LTD.
- Shikoku Bank, Ltd.
- Shikoku Electric Power Company, Incorporated
- Shimadzu Corporation
- SHIMANE BANK, LTD.
- Shimizu Bank, Ltd.
- SHINAGAWA REFRACTORIES CO.,LTD.
- Shinkin Central Bank
- Shinkin Securities Co., Ltd.
- SHIZUOKA BANK, LTD.
- SHIZUOKA CHUO BANK, LTD.
- Shoko Chukin Bank, Ltd.
- SHONAI BANK, Ltd.
- SKYLARK HOLDINGS CO., LTD.
- SMBC Nikko Securities Inc.
- Societe Generale Securities Japan Limited
- Societe Generale, Tokyo Branch
- SOHGO SECURITY SERVICES CO.,LTD.
- Sompo Asset Management Co., Ltd.
- Sompo Holdings, Inc.
- SPARX Group Co., Ltd.
- SUMITOMO CHEMICAL COMPANY, LIMITED
- 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.
- TAIHEIYO CEMENT CORPORATION
- TAIJU LIFE INSURANCE COMPANY LIMITED
- TAIKO BANK, LTD.
- TAISEI CORPORATION
- TAKAOKA TOKO CO., LTD.
- TEIJIN LIMITED
- TEKKEN CORPORATION
- Terumo Corporation
- TOA CORPORATION
- Toagosei Co., Ltd.
- TOCHIGI BANK, LTD.
- Toho Bank, Ltd.
- TOHOKU BANK, LTD.
- Tohoku Electric Power Company, Incorporated
- Tokai Tokyo Securities Co., Ltd.
- Tokio Marine Asset Management Co., Ltd.
- Tokio Marine Holdings, Inc.
- TOKUSHIMA TAISHO BANK, LTD.
- 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.
- Tosei Asset Advisors, Inc.
- Tsukuba Bank, Ltd.
- TSURUHA HOLDINGS INC.
- UACJ Corporation
- Ueda Yagi Tanshi Co., Ltd.
- WAKACHIKU CONSTRUCTION CO.,LTD.
- West Japan Railway Company
- WILL GROUP, INC.
- WIN-Partners Co., Ltd.
- XELS JAPAN
- Yamagata Bank, Ltd.

- Yamaguchi Financial Group, Inc.
- Yamashita PMC Inc.
- YASKAWA Electric Corporation
- Yokohama Rubber Company, Limited
- 77 Bank, Ltd.