Analysis on Green Bond Disclosures in Japan 2023

May 2024



Introduction

Kamakura Sustainability Institute (hereinafter "KSI") released a study report titled "Analysis and Recommendation on Green Bond Disclosure in Japan" in April 2022, covering green bonds issued in Japan during the period from October 2014 to June 2021. KSI has since released two continuation reports, one in January 2023⁽²⁾ covering bonds issued during the period from July 2021 to June 2022, and another in February 2023⁽³⁾ focusing on the situation of environmental impact disclosures. As the global green bond market keeps expanding and the number as well as the amounts of domestic green bond issues are also on the rise⁽⁴⁾, this report discusses the green bond information disclosure in Japan, focusing on where Japan stands in the eyes of the domestic and international green bond guidelines and the global climate change mitigation initiatives and targets. This study, a third in the series and continuation from the previous two, covers green bonds issued during the period from July 2022 to December 2023.

The global green bond market has recovered well from the temporary drop triggered by energy crisis concerns arising from the Russian invasion of Ukraine, and marked the highest ever total issue amount in 2023 (refer to *Green bond market size* shown on page 5).

As the market grows, there is a concurrent increase in the risk of greenwashing. In October 2023, the EU Council adopted EU regulation mandating the adoption of EU Green Bond Standard (EuGB). The regulation is expected to take effect within the year 2024. In December 2023, the European Supervisory Authorities (ESA) published a report on amending the Regulatory Technical Standards (RTS), information disclosure rules for financial products under the Sustainable Finance Disclosure Regulation (SFDR). The European Commission is now discussing the proposed changes. In March 2023, the Japanese Financial Services Agency revised its "Comprehensive Guidelines for Supervision of Financial Instruments Business Operators, etc.", defining a set of supervisory evaluation points on the scope of ESG investment trust services, ESG fund information disclosure, and control environment of investment trust management companies.

In these circumstances, KSI conducts the third study with objectives to continue to watch the green bond information disclosures in Japan, to accumulate valid quantitative data, and to drive a shared understanding of challenges among various stakeholders.

May 2024

Kamakura Sustainability Institute

https://www.kamakurasustainability.com/reports/2022-greenbond-impact-analysis-en

⁽¹⁾ Analysis and Recommendation on Green Bond Disclodure in Japan, https://kamakurasustainability.com/blog/2022/ksi-analysis

⁽²⁾ Analysis on Green Bond Disclosures in Japan 2022,

⁽³⁾ Analysis on Green Bond Disclosures in Japan 2022 [Impact Report],

https://www.kamakurasustainability.com/reports/2022-greenbond-impact-analysis-en

⁽⁴⁾ First green bond was issued in Japan in 2014. The total amount of issue exceeded 1 trillion yen in 2020. Issue amount recorded 3.429 trillion yen in 2023 (source: Green Finance Portal, Ministry of the Environment).

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Glossary

CBI Climate Bonds Initiative

ESG Environment Social Governance

ICMA International Capital Market Association

Objective

The number and total amount of green bonds issued in Japan have been increasing since the first issuance in 2014. As concerns about greenwashing grow, there has been active discussion on the eligibility and credibility of green bonds, and frameworks have been developed. However, the quantity and quality of information disclosed by issuers vary, and evaluating true environmental benefits remains a challenge.

In this study, we analyze the status of green bond disclosures in Japan in light of domestic and international green bond guidelines and international climate change mitigation goals.

Evaluation Criteria

Since this study is a continuation of our first and second issues, the same evaluation criteria are adopted. However, one of the criteria, "Regular and Consistent Disclosure of Green Performance Indicators", was excluded from the scope as the covered bonds are issued recently (July 2022 to December 2023) and their impact reportings are yet to be published.

Criteria				
1.Proceed Usage Toward Green Goals	Whether the projects/assets considered for use of the proceeds meet the CBI Taxonomy criteria, which are compatible with the scientific rationale for achieving the 1.5°C goal of the Paris Agreement. Whether the issuer explains in its green bond framework that the project/asset objectives are consistent with the issuer's overarching sustainability strategy/target			
Incremental Environmental Impact of Refinancing	Regarding the projects/assets which proceeds are to be allocated for refinancing, whether the issuer discloses the refinance ratio (amount) and look-back period necessary to assess the additionality of environmental impact (environmental significance additionally generated) based on the environmental benefits of the projects/assets and their remaining lifetime.			
3. Proper Disclosure of Risk Assessment Data	Whether the issuer discloses the information with the results of the risk assessment and the management procedures of any negative environmental or social impacts associated with the relevant projects/assets.			
4. Clearly Defined Data Disclosure Commitments	Whether the issuer itself discloses the framework and other information mentioned above (1 through 3) essential in assessing the greenness of the green bond.			
5. Publishing of Recurring External Reviews	Whether any external review is given, which plays an important role in enhancing the reliability of the information disclosed by the issuer.			
6. Publishing of Recurring External Reviews	whether any third-party conducts an external review, which plays an important role in enhancing the reliability of the information disclosed by the issuer.			

Research Universe

Coverage

- 211 bonds issued between July 2022 and December 2023, listed on the Green Finance Portal, the Ministry of the Environment as of the end of February 2023
- Data from the previous studies were used for comparison
 - First study: 262 bonds (issued between 2014 and June 2021)
 - Second study: 115 bonds (issued between July 2021 and June 2022)

Data calculation

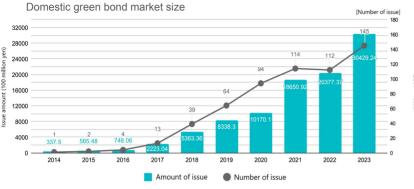
For the bonds in foreign currencies, exchange rates on the Green Finance Portal were used for calculation;
 USDJPY=110, EURJPY=135, AUDJPY=90.

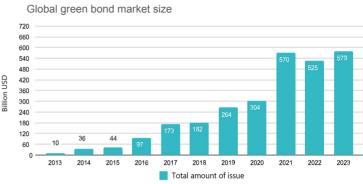
Information Source

- Issuers' websites and external review reports (second party opinions on green bond framework, pre-issuance green bond review, etc.)
- Data and information media such as financial information terminals were not used for the purpose of verifying whether the information is easily publicly accessible.

Green bond market size

• In response to heightened interests in ESG investments, the global green bond market continues to expand. The total amount of green bond issuance in Japan is also increasing year on year, marking 1 trillion yen in 2020 and 3 trillion yen in 2023. Globally, the amount of issuance has reached the record-high of 579.5 billion dollars in 2023.





^{*} Created by KSI based on the issuance list of domestic issuers from the Ministry of the Environment.

Data Attributes

Sector breakdown

Figure 1 Sector breakdown by number of issues (n=211)

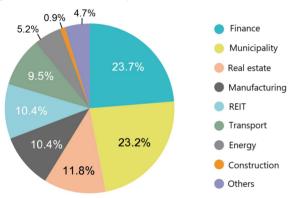
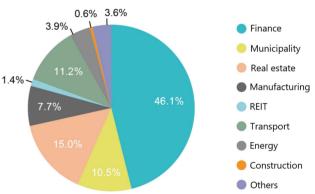


Figure 2 Sector breakdown by amount of issue (n=211)



- 23.7% of 211 bonds were issued by Financial sector, 23.2% by Municipalities and 11.8% by Real estate. (See Figure 1.) These three top sectors collectively account for nearly 60% of the total. Compared to the two previous studies, where the top three were Finance, REITs and Energy, Municipalities and Real estate have each marked a significant growth in this study. On the other hand, Energy sector has dropped to 5.2% of the total.
- The largest number of bonds was issued by Financial sector, which accounts for 46.1% of the total amount issued. Municipality, which ranks second in terms of the number of bonds issued, accounts for 10.5% and ranks 4th in the amount issued (Figure 2).

Figure 3 Trends in sector breakdown by number of issues (n=588)

[Number of issue]

150

Others

Retail

Construction

Transport

Real estate

Municipality

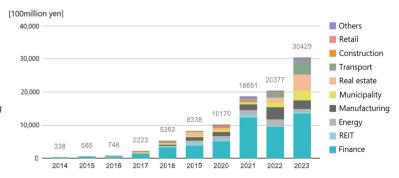
Manufacturing

Energy

REIT

Finance

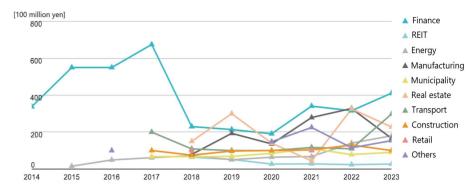
Figure 3 Trends in sector breakdown by amount of issue (n=588)



- Over the years, Finance, REIT and Energy sectors have issued progressively large numbers of bonds up to 2021, but REIT and Energy sector have started to decrease since 2022. (See Figure 3.) On the other hand, Municipal shows strong growth in recent years.
- In terms of the amount issued (see Figure 4), Finance had played a dominant role up to 2021 but issuance by other sectors has increased since 2022. Real estate, Transport and Municipalities each mark a remarkable increase in terms of the amount issued.

- In terms of the average amount per issue, Financial sector used to stand far above other sectors; 55.0 billion yen in 2015 and 2016 and 67.5 billion yen in 2017 but has recently declined to the same level as the others: 23.7 billion yen in 2022 and 32.2 billion yen in 2023.
- Transport sector, which has seen a significant growth rate, increased from 11 billion yen in 2022 to 29.8 billion yen in 2023, marking an approximately 171% increase. This was largely due to the issuance of three bonds above 600 million euros by East Japan Railway Company in 2023.

Figure 5 Trends in average amount of issue by project category (n=588)



Distribution of amount par issue

- Looking at the distribution of issuance amounts, both in this survey and in previous surveys, bonds in the range of 5 billion to 30 billion yen are the most common, accounting for about 60% of the total (Figure 6).
- There have been 14 bonds with an issuance amount exceeding 100 billion yen to date. The industry breakdown includes 10 from the Financial sector, 2 from Manufacturing, 1 from Transportation and logistics, and 1 from Real estate. All of these are relatively new bonds issued after 2021. Additionally, 7 out of the 14 bonds were issued in foreign currencies.

Figure 6 Distribution of amount per issue (This study n=211, total of the three studies n=588))

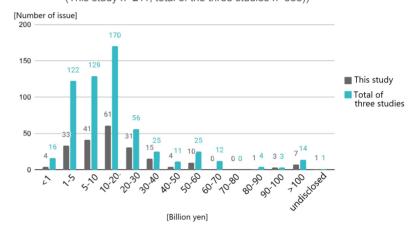


Table 1 Bonds with an issuance amount over 100 billion yen

	Issuer	Sector	Year	Amount	
1	NTT Finance	Finance	2023	JPY	190 bln
2	Mizuho Financial Group	Finance	2023	USD	1.4 bln
3	NTT Finance	Finance	2021	EUR	0.85 bln
4	NTT Finance	Finance	2023	JPY	110 bln
5	Honda Motor	Manufacturing	2022	USD	1 bln
6	Honda Motor	Manufacturing	2022	USD	1 bln
7	Mizuho Financial Group	Finance	2022	EUR	0.8 bln
8	Mizuho Financial Group	Finance	2023	EUR	0.75 bln
9	East Japan Railway Company	Transportation	2023	EUR	0.75 bln
10	Mitsui Fudosan	Real estate	2023	JPY	100 bln
11	NTT Finance	Finance	2021	JPY	100 bln
12	NTT Finance	Finance	2021	JPY	100 bln
13	NTT Finance	Finance	2021	JPY	100 bln
14	Japan Housing Finance Agency	Finance	2021	JPY	100 bln

Currency

Figure 7 Currency breakdown by number of issues (n=211)

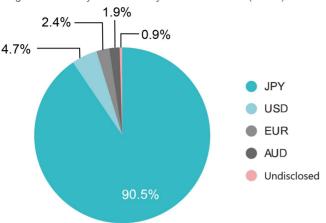
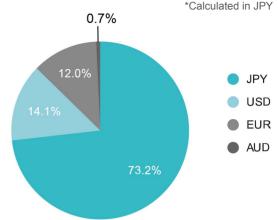
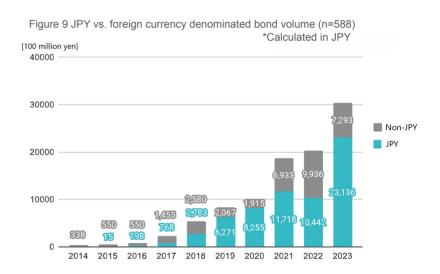


Figure 8 Currency breakdown by amount of issue (n=211)
*Calculated in IPV



- The composition of denomination currencies in terms of the number of issues (Figure 7) reveals that Japanese yen accounts for 90.5% of the total, followed by US dollar (4.7%), Euro (2.4%), and Australian dollar (1.9%). While the number of foreign currency-denominated bonds is small, they have greater presence in terms of the amount issued (see Figure 8). US dollar accounts for 14.1% of the total amount issued, followed by Euro (12.0%) and Australian dollar (0.7%), collectively making nearly 27% of the total amount.
- Figure 9 shows 10-year trend in currency denomination since 2014. The ratio of foreign currency-denominated bonds has increased since 2021. Bonds with relatively large issuance volumes tend to be in foreign currencies. Of the 14 bonds above 100 billion yen, half of them are in foreign currency.



Key Findings

1. Proceed Usage Toward Green Goals

[Use of proceeds]

- Eligible green project is categorized as per the ICMA Green Bond Principles.
- When the use of proceeds of a green bond spans multiple different categories, each category is counted as separately hence the number is accumulated (n=552).
- 'Renewable energy' (19.6%), 'Energy efficiency' (18.8%) and 'Green buildings' (17.9%) are the most popular proceed usages. Categories that increased significantly since the previous study are 'Energy efficiency', 'Climate change adaptation' and 'Living natural resources and land use'. Use of proceeds in these three categories grew from 11.9% to 18.8%, from 4.4% to 9.8% and from 1.7% to 8.2% respectively.
- A green bond, with the proceeds earmarked for investments in SAF production facilities—an area drawing attention as a key decarbonization measure for the aviation sector-was issued in September 2023. This is the first time that SAF production has appeared as a use of proceeds. SAF is one of the focus areas in the government-endorsed GX strategy, which likely led to this bond issuance.

 Renewable energy Energy efficiency Green building Clean transportation Climate change adaptation Living natural resources & Land use Sustainable water & Wastewater management Polution prevention and control 12.3% Circular economy adapted products

Figure 1.1 Breakdown of use of proceeds by number of projects (n=552)

Information not found

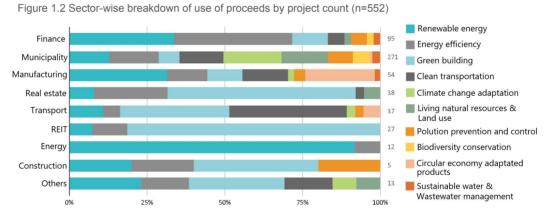
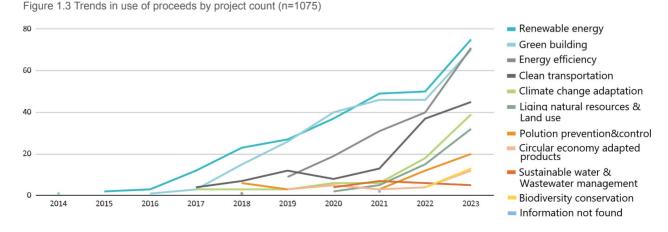


Figure 1.2 shows the composition of proceed usages by sectors. In Financial sector, which is the largest sector in terms of issue volume, 'Renewable energy' and 'Energy efficiency' are the biggest categories, accounting for 70% of the total. Municipalities typically allocate proceeds to variety of projects but the proportion of 'Climate change adaptation' and 'Living natural resources and land use' are bigger compared to the other sectors. In the Transportation sector, the second most common use of funds after 'Clean transportation' is 'Green buildings'. This reflects that station buildings and development around stations are often selected as green projects.



• Figure 1.3 (page 8) shows the 10-year trends in use of proceeds by project count. Over the years, 'Renewable energy' and 'Green buildings' remain the two most popular categories. Since 2020, when the total number of issues exceeded 100, usage of bond proceeds has diversified significantly. Fastest growing categories include 'Energy efficiency', 'Clean transportation', 'Climate change adaptation', 'Living natural resources and land use', 'Environmentally efficient products', and 'Pollution prevention and reduction'.

[Alignment with Issuer's overall Sustainability/ESG Strategy]

- ☐ International guidelines such as ICMA Green Bond Principles and Climate Bonds Standard encourage issuers to explain how the project/ asset is positioned in their overall sustainability policy and strategy.
- In this study, we verified whether issuers state their sustainability policy/ strategy in their green bond framework, and whether their eligibility criteria for the proceeds usage and green projects are aligned with it.

Figure 1.4 Alignment between use of proceeds and sustainability strategy explained in green bond framework (n=211)

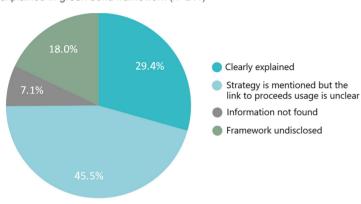
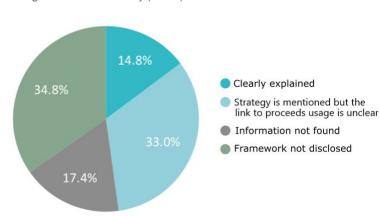


Figure 1.5 Previous study (n=115)



- 29.4% of the bonds explained their sustainability/ ESG policy/ strategy and the consistency of proceeds usage and eligibility criteria with it in their green bond framework.
- 45.5% briefly mentioned their sustainability/ ESG strategies, but it was unclear whether proceeds usage and eligibility criteria were consistent with the strategies. Approximately 25% of the bonds either did not explain sustainability strategies in the framework (7.1%) or did not publish framework itself (18.0%). Compared to the previous study, in which the sum of the former (17.1%) and the latter (34.8%) was 52.2%, the ratio of bonds referencing sustainability strategies has increased.

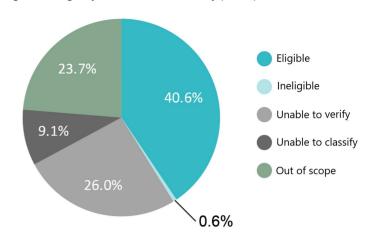
[Compatibility to the CBI Taxonomy]

- □ For proceed usage of each bond, based on the project information publicly available, we checked if they are aligned with the 1.5°C goal based on the CBI Taxonomy₍₆₎ (Climate Bonds Taxonomy September 2021).
- ☐ When proceeds usage of one bond spans multiple green project categories, they are looked into separately.
- ☐ In order to check against the Asset specifics of the CBI Taxonomy, projects/ assets are subdivided, hence the sample numbers are accumulated (n=843).
- □ CBI Sector criteria are also referred while verifying the compatibility.

⁽⁶⁾ Climate Bonds Taxonomy January 2021, used as reference in our first study, set 2°C goal as the taxonomy standard but it was changed to 1.5°C in the Climate Bonds Taxonomy September 2021, referred in the previous and this study.

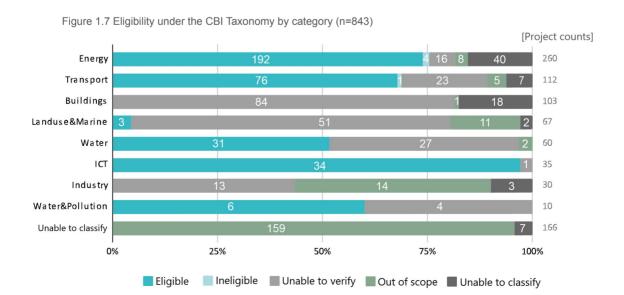
- 40.6% of the bonds were found compatible with 1.5°C goal based on the CBI Taxonomy (down from 52.9% in the second study).
- As in the first and the second studies, there were notable number of cases where lack of disclosure made the verification impossible. In this study, 26% were found "Unable to verify" (not enough information to verify the compatibility) and 9.1% were found "Unable to classify" (not enough information to categorize project/ assets based on the Taxonomy).
- When the use of proceeds does not fall under the current CBI Taxonomy, it is classified as "out of the scope of the CBI Taxonomy". In this study, 23.7% fell under this category. This includes projects such as LED light installation, high efficiency equipment installation in factories, natural disaster preparedness measures, and renewable energy procurement.

Figure 1.6 Eligibility under the CBI Taxonomy (n=843)



[CBI Taxonomy compatibility: Asset Type]

- Figure 1.7 shows the degrees of CBI Taxonomy compatibility by project categories (categorized as per CBI Taxonomy asset type). Eligibility ratio is higher in the ICT (97.1%), Energy (73.8%) and Transport (67.9%) sectors.
- ICT, with the highest compatibility ratio, is a category that appeared for the first time in the second study. In this category, all except one are green bonds issued by NTT Finance, which are for 5G and FTTH investments.
- Transport also has high compatibility of 67.9%. Looking in detail, about 35% of the projects deemed compatible are related to the introduction of electric vehicles (EVs), however, there were cases where hybrid vehicles (HVs) and plug-in hybrid vehicles (PHVs) were included alongside EVs. In Japan, terms such as "next-generation cars" and "zero-emission vehicles" sometimes include HVs and PHVs. However, it is important to note that the CBI Taxonomy clearly distinguishes EVs from HVs and PHVs, with specific thresholds for the latter to align with the 1.5°C targets. In this study, however, even in case where the use of proceeds was described as for "zero emission vehicles" or "electric vehicles" without specifying the vehicle type, or where HVs and PHVs were included alongside EVs, these were marked as compatible for convenience as in the case of the former we could not know if they included HVs/PHVs or not.
- In the Building, which is the third largest category, 81.6% of the projects and assets were found "unable to verify". The 1.5°C goal compatibility criterion for Buildings category defined in CBI Taxonomy is the relative carbon footprint in the local market, but the current information disclosure practice and legislation in Japan are not in line with this criterion. Another 17.5% of the projects in this category were found "unable to classify" due to lack of information.
- In Industry category, more than half of the projects were "out of scope" or "unable to classify". There were many cases where the details were not provided, making it difficult to assess the compatibility, such as renovation of facilities, equipment updates, capital investments for energy efficiency in factories as well as in high-efficiency products, and research and development expenses.



10

2. Incremental Environmental Impact of Refinancing

[Refinancing Ratio]

- Of the total 211 bonds surveyed, 157 bonds, excluding issues with all new investment, were surveyed to determine whether they disclosed at the time of issuance the project/ asset subject to refinancing, refinancing ratio/ amount, and the look-back period.
- Bonds that disclose both the project/ asset as well as the ratio/ amount were counted separately from the bonds that disclose only the ratio/ amount.

Figure 2.1 Disclosure of refinancing ratio and project (n=157) Figure 2.2 Previous study (n=85) *Excluding issues with new investment Ratio/amount and project are 18.5% 0.6% disclosed on issuer's website Ratio/amount and project -1.3% are disclosed on issuer's website 31.8% Ratio/amount is disclosed on issuer's website Ratio/amount is disclosed on issuer's Information found in external 55.3% Information found in external review review report Information not found Information not found

- Only 18.5% of the bonds disclosed both the refinance ratio (or amount) and the project/ asset to be refinanced on the issuer's websites. In principle, disclosure by the issuer itself is recommended, but even when including disclosures in external review reports (1.3%), the disclosure rate is less than 20%.
- The refinance information disclosure rate dropped from the previous study. 79.6%, compared to 53.5% in the previous study, were marked as "information not found".

[Look-back period]

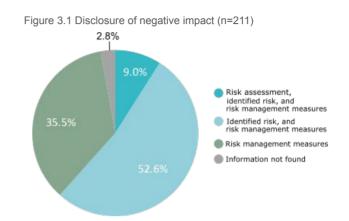
Figure 2.3 Disclosure of look-back period (n=157) Figure 2.4 Previous study (n=85) *Excluding issues with new investment 14.1% Stated that there'll be refinancing Stated that there'll be refinancing and look-back preiod is disclosed and look-back period is disclosed 31 2% 30.6% Not mentioned of refinancing but No mention of refinancing but look-back preiod is disclosed look-back period is given No disclosure of refinancing nor No disclosure of refinancing nor look-back preiod look-back period Stated that there'll be refinancing but Stated that there'll be refinancing but look-back period is not disclosed look-back preiod is not disclosed 10.6%

- When refinancing is planned, it is desirable to define and disclose the look-back period based on the remaining depreciable life
 of the projects/ assets. However, 14.6% of the reported refinancing did not state a look-back period. 21.7% did not disclose the
 fact of refinancing nor look-back period because refinancing was undetermined upon the bond issuance.
- Compared to the previous study, the percentage of bonds that clearly state they will undergo refinancing and disclose the look-back period significantly increased from 14.1% to 31.2%, while the percentage of bonds that do not specify the look-back period decreased from 30.6% to 14.6%.
- Regardless of whether refinancing or not, the total percentage of bonds stating the look-back period has increased from 58.8% to 63.7%.

3. Proper Disclosure of Risk Assessment Data

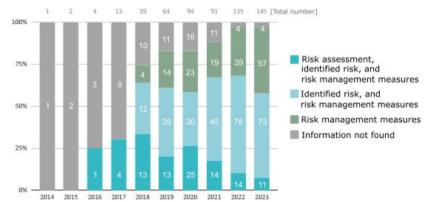
[Disclosure of negative impact]

- ☐ With regards to the negative impacts associated with green projects/ assets, we checked whether the following three information were disclosed: risk assessment conducted, identified risks, and the risk management (mitigation) measures.
- Half the bonds disclosed the identified risks and risk management measures. However, only 9.0% explained what form of risk assessment (environmental due diligence etc.) has been conducted to identify the risks.
- More than one-third disclosed only the risk management measures, without specifying risk assessment conducted nor risks identified.
- 6 bonds (2.8%) disclosed no information regarding the negative impact.



- Over the years, the disclosure of risk assessment methods related to negative impacts has not progressed. Also, there are few cases that mention risks associated with specified projects/ assets (based on factors such as location, surrounding environment, and scale), with most disclosures remaining general in nature.
- When the proceeds are allocated to multiple project categories, it is desirable to clarify the presence or absence of negative impacts for each projects. However, there were a few cases where risks were mentioned only for certain project.

Figure 3.2 Trends in disclosure of negative impact (n=588)



[Medium of negative impact disclosure]

Figure 3.3 Medium of negative impact disclosure (n=211)

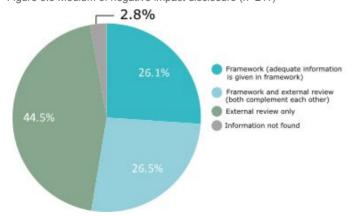
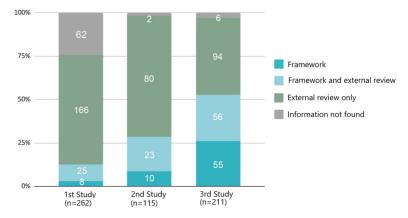


Figure 3.4 Comparison of three studies (n=588)



The percentage of bonds that disclose negative impact information in the framework has significantly increased since the first study; 3.1% in the first study, 8.8% in the second study, and 26.1% in this study. However, almost half the bonds still provide the information in external review reports only, although the ratio has decreased (63.4% in the first study, 69.6% in the second study, and 44.5% in this study).

4. Clearly Defined Data Disclosure Commitments

[Green bond framework disclosure on the issuer's website]

- 82.0% of the bonds represented their green bond framework on their websites.
- There are still 18% that do not publish the framework on website. However, as the data shows in Figure 4.2, more and more bonds disclose the framework on issuer's website.
 - *Even if a framework is disclosed on the website, those that do not meet the four components of the ICMA Green Bond Principles are considered as "not disclosed".

Figure 4.1 Disclosure of framework on issuer's website (n=211)

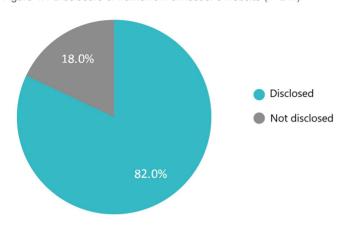
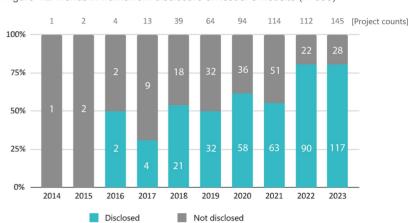


Figure 4.2 Trends in framework disclosure on issuer's website (n=588)



5. Publishing of Recurring External Reviews

[Pre-issuance external review]

82.9% of the bonds had external green bond framework or/and bond review report disclosed on their corporate website. The ratio
has increased over the years.

Figure 5.1 Disclosure of pre-issuance external review (n=211)

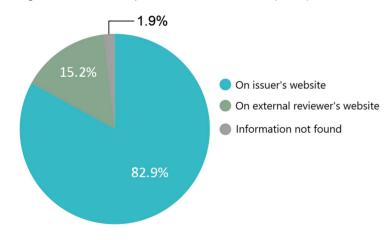
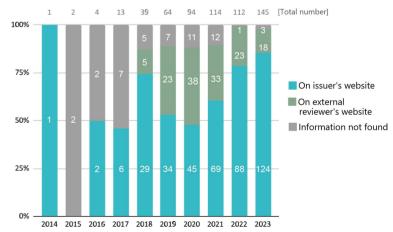


Figure 5.2 Trends in disclosure of pre-issuance external review (n=588)



Conclusion

This study marks the third analysis of information disclosure on green bonds issued by domestic issuers, covering bonds issued up to December 2023. Combined with our first and second studies covering the periods of October 2014 to June 2021 and July 2021 to June 2022 respectively, this provides an overview of changes in disclosure practices over the 10 years.

The market has expanded rapidly and the bond issuers are further diversified

Rapid market expansion and diversification of issuers

Since the beginning of the study, the number and total amount of green bond issuances have both increased. The number of issuances rose from 94 in 2020 to 114 in 2021, 112 in 2022, and 145 in 2023. The amount issued also increased from 1.017 trillion yen in 2020 to 1.865 trillion yen in 2021, 2.037 trillion yen in 2022 and 3.042 trillion yen in 2023. Over the four years from 2020, the number of issuances grew by 1.6 times, and the issuance amount nearly tripled. By industry, finance remains the sector with the highest number and value of issuances, but participation from other sectors has also increased. Over the past two years, particularly, issuances by local governments have significantly grown in both number and amount. In 2023, we saw the first green bond jointly issued by multiple municipalities in the form of publicly offered municipal bond⁽⁷⁾. This has enabled municipalities, which previously found it difficult to issue bonds alone, to issue green bonds, thereby advancing green projects that contribute to achieving a decarbonized society and promoting climate change mitigation measures.

Ensuring the green nature of use of proceeds remains a challenge

As the green bond market expands and both the number and amount of issuances continue to increase, concerns about potential greenwashing have intensified. For investors and beneficiaries, it is becoming increasingly important to determine whether the issuer has a valid set of green bond eligibility criteria based on long-term sustainability policy and whether the proposed projects satisfy the criteria. When we look at changes in disclosure related to the "alignment with the issuer's overall sustainability/ESG strategy" (p.9) from the previous study, the percentage of bonds that clearly explained the alignment between the issuer's sustainability/ESG strategy and the proceed usage (including eligibility criteria) increased from 14.8% to 29.4%. When including the 45.5% of bonds where the alignment is partially mentioned (although the explanation is not sufficient), the figure exceeds 70%.

However, the explanation of how the bond aligns with the issuer's sustainability strategy cannot be considered adequate. There are cases where the use of proceeds are allocated to multiple business categories, some issuers only refer to specific projects/ assets, without explaining the relationship between the other projects/ assets and the sustainability/ESG strategies. Additionally, in many cases, the explanation of alignment is insufficient, with only general descriptions that do not include elements specific to the issuer's businesses.

About information disclosure of potential negative impacts associated with the projects/ assets financed by the green bonds, the cases of "information not found" significantly decreased since the first study. However, about 30% of bonds still publish the risk management measures only and do not provide information on the risk assessment conducted nor identified risks (p.12). It is important to disclose not only the methods for managing risks when they arise but also the means of identifying risks and information about potential risks.

The "Compatibility with CBI Taxonomy" (p.10) has been continually examined since the first and second studies, and it remains evident that a large number of cases cannot be assessed due to a lack of disclosed information. The gaps between the current disclosure practices in Japan and the CBI Taxonomy, such as differences in perception regarding EVs and HVs/ PHEVs, which were highlighted in the analysis, raises concerns about greenwashing. This gap is also seen as a divergence from global standards. The EU Green Bond Standards, set to be applied in 2024, has developed in alignment with the broader European sustainability goals, and it includes the potential introduction of a registration system for external review bodies and a supervision framework.

In Japan, where voluntary disclosure by issuers is the norm, ensuring green bond eligibility in line with the growing market size is becoming an even more significant challenge than before.

About Kamakura Sustainability Institute (KSI.)

KSI. is a no-profit organization established in Kamakura, Japan in 2017 with the aim of developing sustainability specialists who care about the earth, people, and the future and contribute to the development of responsible businesses. KSI's work includes training courses, seminars, research, and career support in the field of sustainability. KSI is supported by various professionals in the financial industry and beyond.

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