

# Analysis on Green Bond Disclosures in Japan 2022 —Impact Report—

February 2023

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### Glossary

CBI	Climate Bonds Initiative
ESG	Environmental, Social, and Governance
ICMA	International Capital Market Association

## Introduction

Kamakura Sustainability Institute (“KSI.”) published ‘Analysis and Recommendations on Green Bond Disclosures in Japan’ in April 2022<sup>(1)</sup>. The objective was to make an independent and impartial assessment of Green Bond disclosures in Japan and to highlight the issues to be addressed to further improve transparency and integrity. In January 2023, KSI. published the second report<sup>(2)</sup> in order to continue monitoring the Japanese green bond market, accumulate the relevant quantitative data, and make stakeholders aware of the outstanding issues.

We recognize the importance of regular impact reporting to avoid greenwashing. In compiling this report, we primarily examined individual impact reporting by issuers to conduct further analysis on environmental benefits and validity of metrics which were initially studied in our previous report.

## Objective

Impact reports are indispensable in determining whether the projects/assets financed by green bonds are implemented on schedule and/or the expected environmental impact was attained. Furthermore, regular and timely reporting is essential in order to avoid greenwashing. This report highlights the outstanding issues of Japanese impact reporting identified by our study on environmental impact disclosures and the validity of performance metrics.

## Evaluation framework and Universe

	The 1 <sup>st</sup> Study (2021) Comprehensive study	The 2 <sup>nd</sup> Study (2022) New Issues	This Study (2022) Impact Reporting
Issue Date of Green Bond	2014 – June 2021	July 2021 – June 2022	2014 – June 2021
Number of Issues	262	115	254
※ Source: The Domestic Issuance List on the Green Finance Portal of the Ministry of the Environment <sup>(3)</sup>			※262 surveyed in 2021 minus those redeemed/delisted as of September 2022
Evaluation Criteria			
1. Proceed Usage Toward Green Goals	✓	✓	-
2. Incremental Environmental Impact of Refinancing	✓	✓	✓(※1)
3. Proper Disclosure of Risk Assessment Data	✓	✓	-
4. Regular and Consistent Disclosure of Green Performance Indicators	✓ excl. bonds 15-month-old or less	-	✓ Focal Point
5. Clearly Defined Data Disclosure Commitments	✓	✓	✓(※1)
6. Publishing of Recurring External Reviews	✓	✓	✓(※1)

(※1) Areas related to environmental impact only

(1) [Analysis and Recommendation on Green Bond Disclosures in Japan \(English summary\)](#)

(2) [Analysis on Green Bond Disclosures in Japan 2022](#)

(3) [Domestic Issuance List, Green Finance Portal, the Ministry of the Environment](#)

## Evaluation Procedure

Evaluation Procedure		Corresponding evaluation criteria
1	<b>Disclosure of Incremental Environmental Impact</b> Disclosure of environmental impact in issuer's impact report (i. by sector, ii. by proceeds usage)	5. Clearly Defined Data Disclosure Commitments
2	<b>Regular Updating of Impact Disclosure</b> Regular release of impact reports	
3	<b>Disclosure of Annual External Review</b> External review on the latest impact report	6. Publishing of Recurring External Reviews
4	<b>Application of Environmental Performance Indicators</b> Qualitative/ quantitative indicators adopted for performance measurement	4. Regular and Consistent Disclosure of Green Performance Indicators
5	<b>Disclosure of Environmental Impact by Project</b> Project by project impact disclosure	
6	<b>Disclosure of Datapoints</b> Actual performance data (CO2 emissions related indicators)	
7	<b>Disclosure of Refinancing</b> Post-issuance disclosure of the actual allocation for refinancing, which is necessary to measure the incremental environmental impact	2. Incremental Environmental Impact of Refinancing

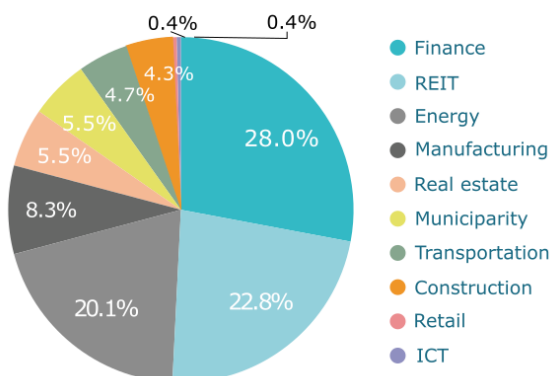
## Information Source

- Our primary source of information is impact reports published by green bond issuers available on the issuers' websites, including integrated report and CSR report.
- No external review report is referred to in our evaluation as we believe that impact disclosures should be done by the issuers themselves in ensuring transparency.

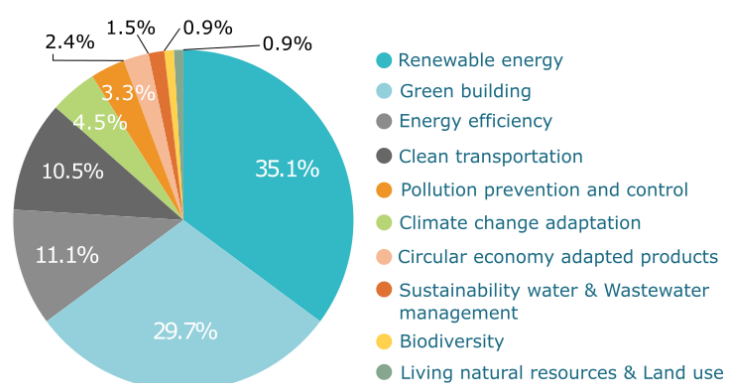
## Data Attributes

- Breakdown by sector: Finance (28%), REIT (22.8%) and Energy (20.1%) combined represent approximately 70% of the issuance studied.
- Breakdown by use of proceeds: Renewable Energy (35.1%) and Green Building (29.7%) combined represent approximately 70%, followed by Energy Efficiency and Clean Transportation representing 10% respectively.

Breakdown by Sector (n=254)



Breakdown by Use of Proceeds (n=333)



※In case of multiple projects financed by one green bond, each project was counted separately (n=333).

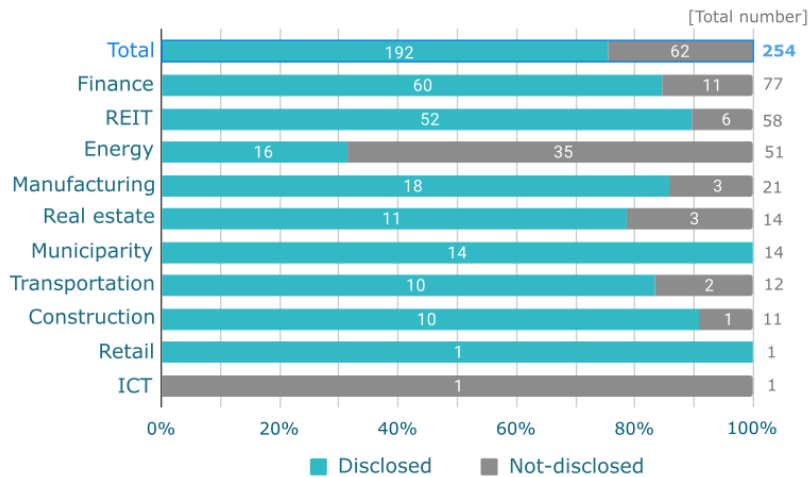
## Key Findings

### 1. Disclosure of Incremental Environmental Impact

Disclosure of environmental impact in issuer's impact report (i. by sector, ii. by use of proceeds)

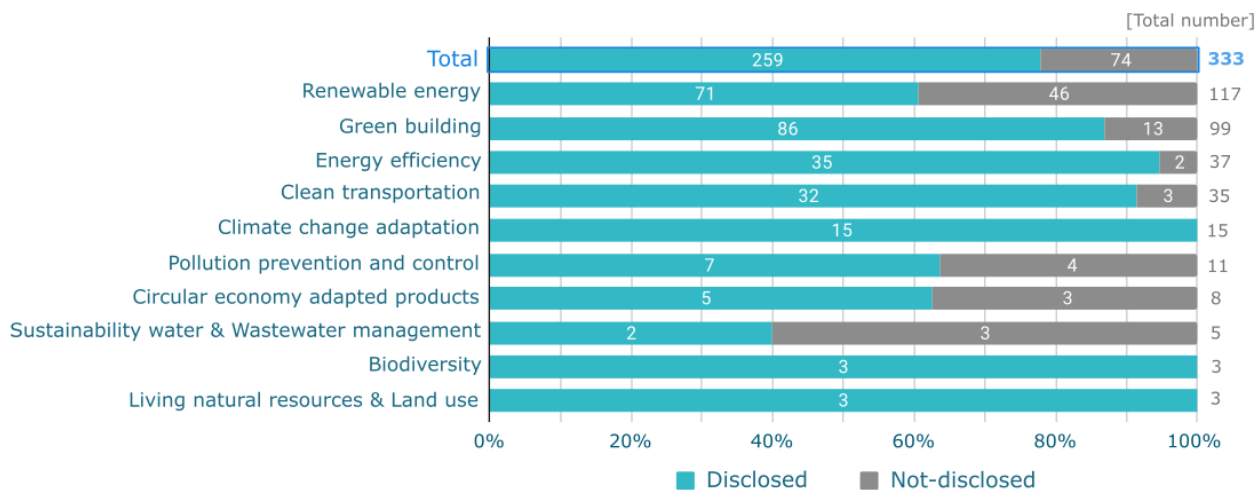
※ In case of the projects/assets under construction or yet to start operating, which have no impact information available or opt to disclose on completion, we deemed them 'no disclosure'. However, disclosure of detailed progress of a project is deemed 'disclosure' even if actual environmental impact is yet to be achieved.

#### (i) Disclosure of Environmental Impact by Sector (n=254)



- Among the issues we studied, 75.6% had impact disclosure on the issuers' websites. By sector, 85% of Finance (the largest segment of issuance) and 90% of REIT (the second largest segment) had impact disclosure.
- In the Energy sector (the third largest in issuance), only 30% had impact disclosure on their websites. In the Energy sector as compared to the others, the issuers are often private companies, which tend to choose private placements of green bonds. It's been observed that the issuers in the sector offer limited disclosure overall, not only on green bonds.

#### (ii) Disclosure of Environmental Impact by Use of Proceeds (n=333)



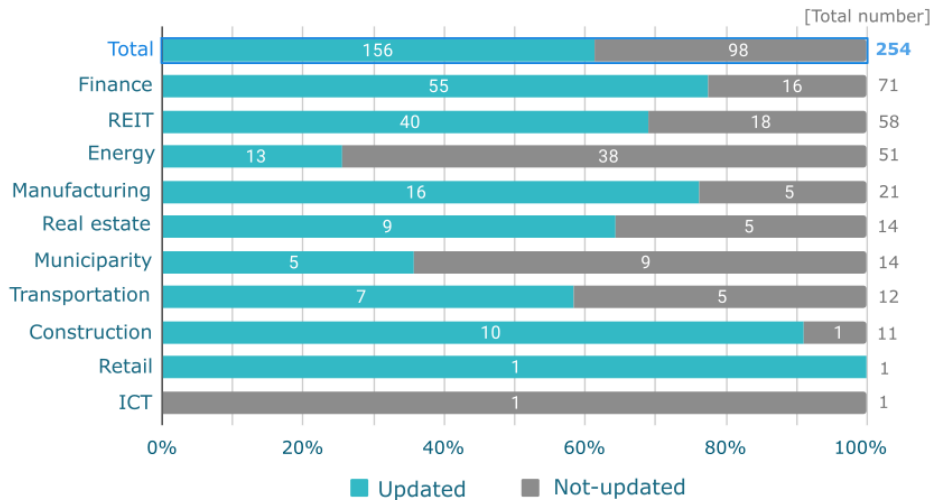
- As to impact disclosure by use of proceeds, 259 out of 333 or 78% of the projects/assets have such disclosure.
- By use of proceeds, Renewable Energy represents 30% of the total and shows the disclosure rate of approximately 60%, or 71 cases, lower rate than the average. On the other hand, the disclosure rate is nearly 90% or 86 cases for Green Building (the second largest segment by use of proceeds).
- Similarly, Energy Efficiency (the third largest) and Clean Transportation (the fourth largest) had disclosure rate of 90% or 35 cases and 32 cases respectively.

## 2. Regular Updating of Impact Disclosure

Regular release of impact reports

- During the 15 months between September 2021 and November 2022 (this study was conducted in November 2022), 61.4% of the total issuance updated impact disclosure.
- Finance (nearly 80%) and REIT (nearly 70%) led while Energy, which scored low on environmental impact disclosure, showed another low score on the report updating (25.5%).

Updating of Impact Report (n=254)

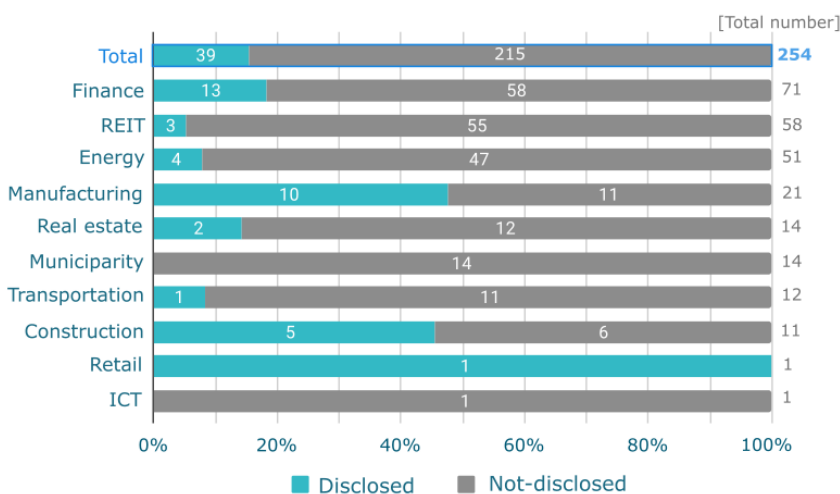


## 3. Disclosure of Annual External Review

External review on the latest impact report

✂ This concerns annual external review for post-issuance disclosure: either those included in the latest impact disclosures or those certifying such reports (including external assurance).

Disclosure of Annual External Review (n=254)



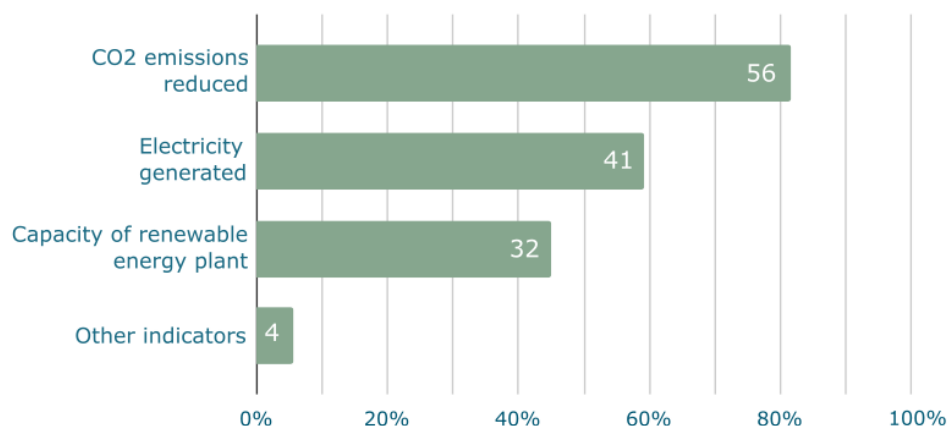
- Only 15.4% of the latest impact disclosures had external review or assurance.
- The score was low across sectors: Finance (18.3%), REIT (5.2%) and Energy (7.8%).

## 4. Application of Environmental Performance Indicators

Qualitative/ quantitative indicators adopted for performance measurement

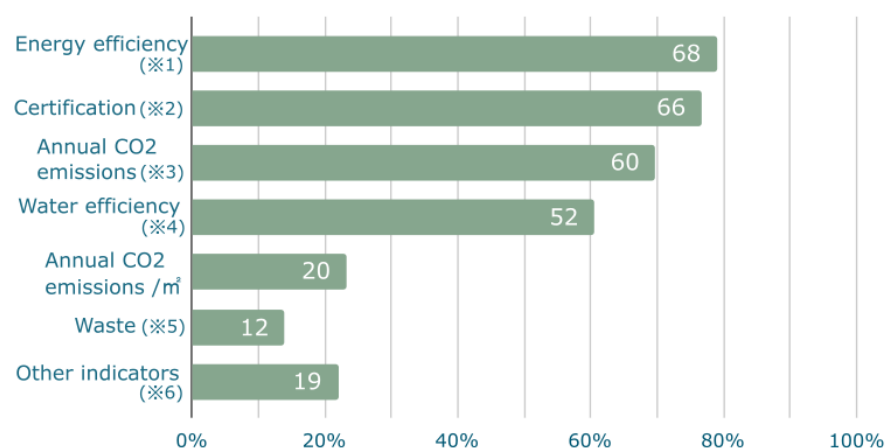
- ※ We examined 259 cases by use of proceeds, which disclosed indicators (see Key Findings 1(i)).
- ※ We classified the indicators according to the ICMA Green Bond Principles, the Ministry of the Environment Green Bond Guidelines 2022 and the CBI Taxonomy (hereinafter called the Guidelines).
  - Those indicators unique to the issuers (but not in the Guidelines) were categorized as 'Other Indicators'.
  - In case of a single green project financed by multiple green bonds, we examined performance metrics for each bond.

### Renewable Energy (71 cases)



- The most commonly used indicator in the area of Renewable Energy was CO2 emissions, whose adoption rate exceeded 80%.
- The indicators unique to the issuers, classified as Other Indicators, include renewable energy consumption volume/ ratio and purchase volume.

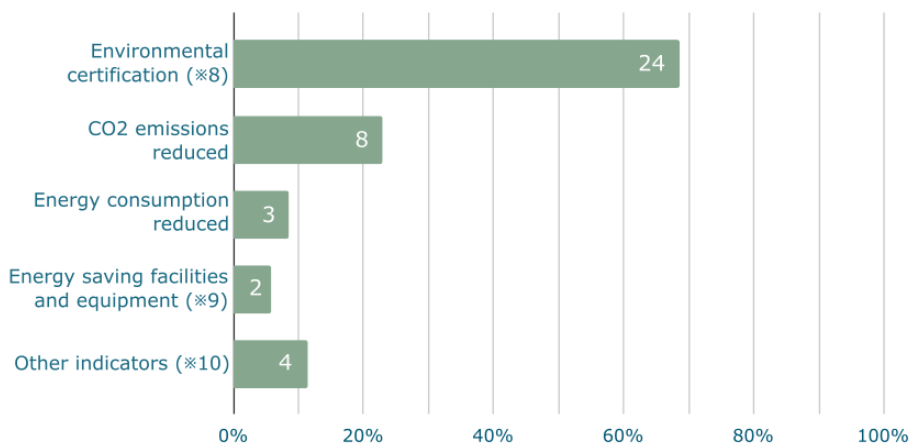
### Green Buildings (86 cases)



- The most commonly used indicators in the area of Green Buildings are energy efficiency (79%), green building certification (77%) and annual CO2 emissions (70%).
- The CBI Taxonomy proposes emission intensity, or annual CO2 emissions per square meter, as an indicator consistent with scientific evidence. However, the adoption rate of this indicator was as low as 20% according to our study.

- (※1) Energy Efficiency: annual energy consumption per floor space, annual energy consumption in total, degree of energy saving, etc.
- (※2) Certification: classification, grade and the total number obtained
- (※3) Annual CO2 emissions: Annual total of CO2 emissions, annual GHG emissions reduced (in CO2e).
- (※4) Water Efficiency : annual water consumption per floor space, annual water consumption in total, water saving, etc..
- (※5) Waste: minimization of waste (trend in annual amount of waste), rate of recycling, etc.
- (※6) Other indicators: consumption/purchase/share within energy mix of renewable energy as well as CO2 emissions reduction achieved by purchasing products produced with renewable energy.

## Energy Efficiency (35 cases)



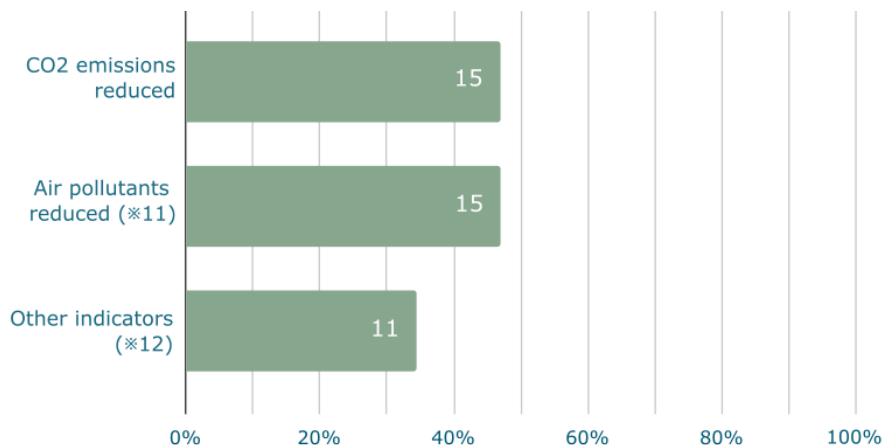
- The application of Energy Efficiency indicators, which clearly show the environmental impact, was limited to CO2 emissions reduced (23%) and energy consumption reduced (9%).
- The adoption rate of environmental certification as a performance indicator was nearly 70%. This is due to the fact that the most popular project in Energy Efficiency area is investment in housing loans satisfying statutory standards of energy efficiency (19 out of 35 cases).

(※8) Environmental Certification (numbers and details): Clean Building Certification, Housing Loans satisfying statutory energy efficiency standards (number and amount).

(※9) Energy Saving Facilities and Equipment (in number): LED lightings, highly efficient refrigeration and air-conditioning facilities, heat pumps, etc.

(※10) Other Indicators: Power generation and capacity of renewable energy facilities, etc.

## Clean Transportation (32 cases)

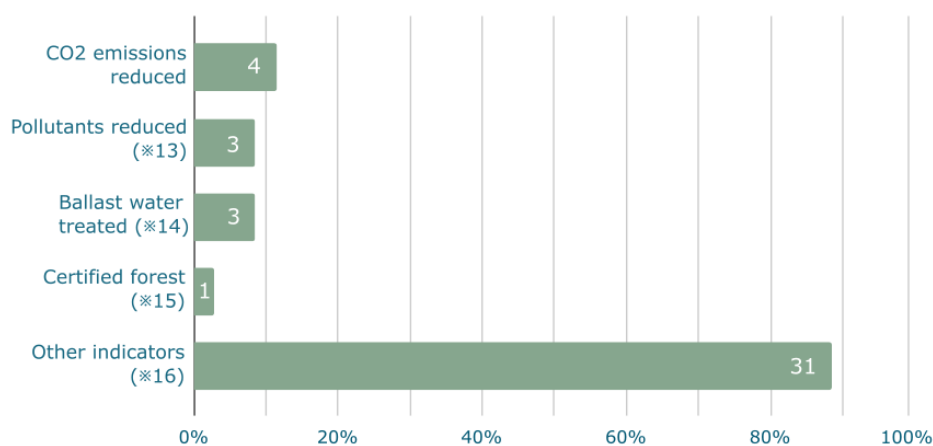


- Nearly 50% of the cases (or 15 out of 32) adopted the indicators of CO2 emissions reduced (in volume) and NOx/SOx emissions reduced (in volume and percentage).
- We observed no adoption of the key indicators proposed by the Guidelines including passenger capacity, fuel efficiency and traffic volume change.

(※11) Reduction of Air Pollutants (in volume and percentage): PM, SOx, NOx, CO, NMVOCs, etc.

(※12) Other Indicators: annual sales volume of EV motors, LNG bunkering vessels and LNG-fueled vessels (in units), GHG/CO2 reduction rate, etc.

## Other Uses of Proceeds (35 cases)



※ Here we examined the indicators used in Pollution prevention and control, Climate change adaptation, Circular economy adapted products, Sustainable water and wastewater management, Biodiversity, and Natural living resources and land use.

- Many adopted their own indicators other than those proposed by the Guidelines (31 out of 35 cases). The most of such cases were found in the Climate Change Adaptation (15 out of 31 cases).

(※13) Reduction of Pollutants (in volume/ percentage): BOD, phosphorus, SOx, NOx, etc.

(※14) Treatment of Ballast Water (in volume): number of vessels equipped with ballast water treatment system and volume of treated ballast water.

(※15) Certified Forest: size of certified forest, production volume of sustainable timber, resulting carbon fixation

(※16) Other indicators: river maintenance, breakwater and bridge maintenance (distance and # of spot), water volume in reservoir, usage of environmentally friendly materials (in volume). etc.



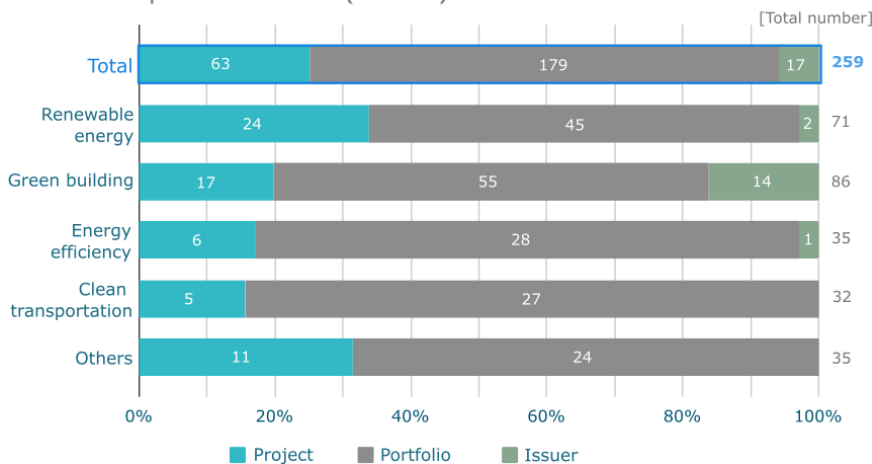
## 5. Disclosure of Environmental Impact by Project

### Project by project impact disclosure

- ✂ We examined 259 cases, which had impact disclosures (see Key Findings 1 (ii)), on proceeds usage basis.
- ✂ We classified impact disclosures as follows.

By Project	Disclosure of individual projects and their impact on project basis
By Portfolio	Disclosure of aggregate impact by business segment such as Solar or Wind Energy
By Issuer	Disclosure of aggregate impact by assets held by Issuers and their SPCs/ subsidiaries which are beneficiaries of green bond

Level of impact disclosure (n=259)



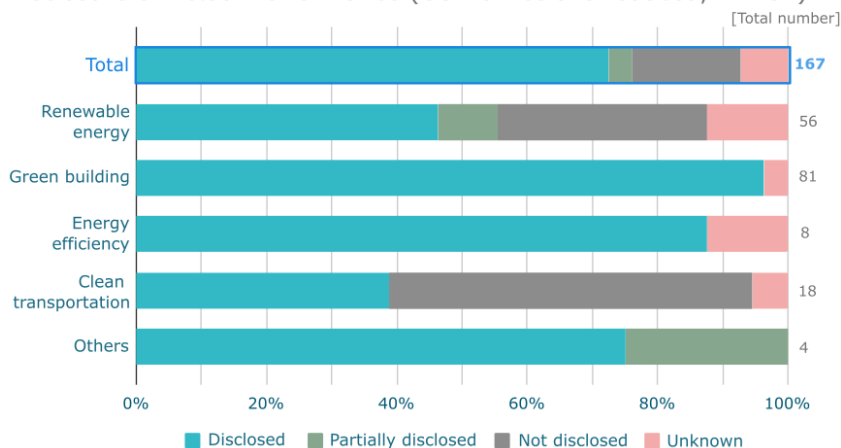
- The Guidelines recommend project-by-project disclosure for environmental impact. However, merely 24.3% made disclosures by project while nearly 70% made disclosures on portfolio level.
- On the Issuer level, only 6.6% (or 17 cases) disclosed the aggregate environmental impact by the entire assets, whether or not financed by green bonds, held by the issuers, and their SPCs/ subsidiaries. Out of the 6.6%, nearly 90% (or 15 cases) were related to Green Buildings.

## 6. Disclosure of Datapoints

### Actual performance data (CO2 emissions related indicators)

- ✂ We examined whether the disclosed carbon data reflected the actual results of projects/assets in operation since their inception.
- ✂ We focused on CO2 emissions as it is directly related to net zero emission target by 2050(167 cases).
- ✂ We deemed 'Disclosed' in cases where CO2 emissions were calculated by emission factor combined with operational data (actual power generation, power sales, etc.). We deemed 'Partially Disclosed' in cases where estimated and actual data were not differentiated in some projects or businesses. We deemed 'Unknown' in cases where disclosure was insufficient to determine the actual performance.

Disclosure of Actual Performance (CO2 emissions reduced, n=167)



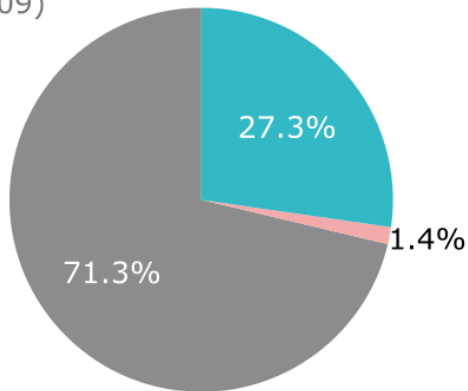
- There were 167 cases where CO2 emissions indicators were adopted for environmental performance, 72.5% of which (121 cases) disclosed the actual data reflecting power generation, sales, etc.
- Most frequent disclosure of actual performance was seen in Green Buildings while none or insufficient disclosures were found in Renewable Energy and Clean Transportation.

## 7. Disclosure of Refinancing

Post-issuance disclosure of the actual allocation for refinancing, which is necessary to measure the incremental environmental impact

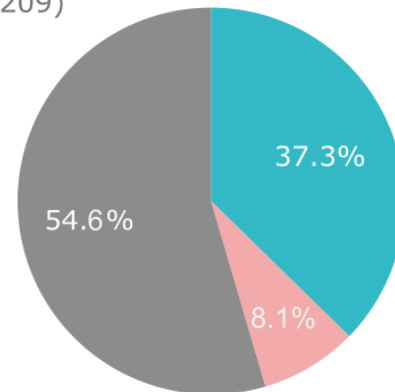
- ※ We screened 209 refinancing cases out of 254 issues (the remaining 45 issues were new financing).
- ※ In order to compare with the information at the time of issuance, we referred to external review as well.

Disclosure of refinance: Post-issuance  
(n=209)



- Ratio/amount and project are disclosed on issuer's website
- Information found in external review report
- Information not found

Disclosure of refinance: Pre-issuance  
(n=209)



- Ratio/amount and project are disclosed on issuer's website
- Information found in external review report
- Information not found

- Only 27.3% disclosed on their websites the actual refinancing ratio (or amount) as well as projects/ assets refinanced. The percentage fell short of 30% even when including disclosure in external reviews (1.4%).
- We examined the disclosures at the time of issuance in those 209 cases. Less than a half (or 45.4%) disclosed at the time of issuance either on their websites or external review report. The number declines by 17 percentage points in post-issuance disclosure.

## Conclusion

We summarize here the evaluation results of environmental impact disclosures and the outstanding issues identified by our study.

### Environmental Impact Disclosure - Integrity and Transparency

The 75.6% of issuance had their environmental impact disclosed on the issuers' websites. However, the Energy sector (the third largest sector in the number of issuance) showed a remarkably low percentage of 30%. Furthermore, Renewable Energy (the largest segment in terms of proceeds usage) showed as low as 60%. Renewable Energy is expected to remain a growth driver of the green bond market. Therefore, it is an urgent matter to improve the transparency in disclosure.

As to impact report updating, only 61.4% updated it over the 15 months preceding November 2022. In anticipation of increasing demand by investors for disclosure, impact reports should be published on an annual basis through maturity.

Integrity of disclosure should be addressed as only 15.4% had their impact reports reviewed by external organizations.

### Environmental Impact Disclosure - Validity of Performance Indicators

As we pointed out in our first report, most of the green bonds issued in the domestic market referred to the ICMA Green Bond Principles or the Ministry of the Environment Green Bond Guidelines and comply with their recommendations for the performance indicators. On the other hand, the adoption rate of the scientifically-proven indicators proposed by the CBI Taxonomy has remained low since our first survey in general and Green Buildings in particular. In many cases of Climate Change Adaptation, Sustainable Water and Wastewater Management, performance was measured by the indicators other than those recommended by the Guidelines, which makes it difficult to determine the actual impact.

Regarding project-by-project disclosure recommended by the Guidelines, 70% disclosed not by project but by portfolio level.

In our study on actual performance disclosure with a focus on CO2 emissions, we examined whether the measurement disclosed reflected the operational data of projects. 70% disclosed actual performance data reflecting figures such as power generation and sales. However, we would like to see higher percentage, considering those bonds that did not disclose the performance because the projects/assets are yet to start operating were excluded from the calculation.

### Disclosure of Incremental Environmental Benefits of Refinancing

Less than 30% disclosed information on refinancing based on actual expenditure after issuance. We would like to reiterate the urgency of improvement in refinancing disclosure, as disclosure of projects or business category is essential for measuring incremental environmental benefits by refinancing.

## Conclusion

In the EU, the application of SFDR (Sustainable Finance Disclosure Regulations) launched in March 2021 has been expanded in January 2023 <sup>(4)</sup>. This will require financial institutions to disclose environmental impact for each financial product. In Japan, the Financial Services Agency is revising the guidelines for ESG funds to require environmental impact disclosure on a regular basis (due March 2023) <sup>(5)</sup>. In the U.S., the SEC (Security Exchange Commission) is contemplating an introduction of ESG disclosure standards <sup>(6)</sup>. The trend for further regulation suggests more demand for disclosure by investors in the coming future, which necessitates the issuers to disclose in earnest.

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(4) July 2022, the European Commission published the detailed regulations (RTS) of the SFDR: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R1288&from=EN>

(5) December 2022, the Financial Services Agency proposed partial amendments to the comprehensive supervisory guidelines for financial instruments business operators: <https://www.fsa.go.jp/news/r4/shouken/20221219/02.pdf>

(6) May 2022, SEC proposed rules to enhance transparency in ESG investing: <https://www.sec.gov/rules/proposed/2022/33-11068.pdf>

## 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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