Hitachi Research Institute Report

Trends in Finance to Support Decarbonization - Green Bonds and Transition Bonds -

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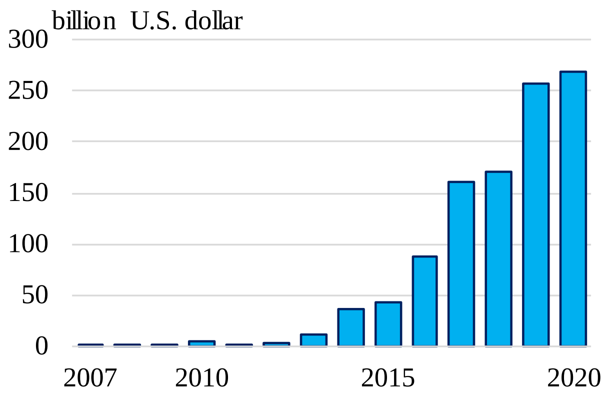
According to estimates by the Organisation for Economic Co-operation and Development (OECD)[1], “the 2-degree target” of the Paris Agreement will require an average of 6.9 trillion annual infrastructure investments worldwide from 2016 to 2030. Public funding is insufficient to cover the large amount of financial resources needed to combat climate change. Financial schemes are necessary to allocate more private funds to the solutions.

Green Bonds are a representative financial instrument for the purpose of raising money from capital markets to slow global warming. The amount of new Green Bond issuance has been increasing consistently from 2012 to 2020 (Chart 1). In particular, there has been remarkable expansion since 2015, when the Paris Agreement and the United Nations’ Sustainable Development Goals (SDGs) were enacted.

Chart 1: New Issuance of Global Green Bonds



Source: Compiled by the Hitachi Research Institute based on CBI (Climate Bonds Initiative)

Focusing on capital markets to fund the decarbonization of social and industrial infrastructure, this paper summarizes the trends in Green Bonds and Transition Bonds, which have been following Green Bonds.

1. Green Bonds Are Accelerating Finance for Decarbonization

1.1 What Are Green Bonds?

Green Bonds are bonds issued on the assumption that proceeds will be allocated to businesses working to improve the environment. They differ from conventional bonds in that the issuer stipulates that the proceeds be used for Green Projects.

1.2 Advantages and Disadvantages of Green Bonds

The advantages and disadvantages of Green Bonds for issuers and investors are shown respectively in Chart 2. In particular, benefits for the issuer side include “diversification and expansion of the investor base,” as well as lower funding costs (price premiums known as “Greenium”).

Chart 2: Advantages and Disadvantages of Green Bonds

	Advantages	Disadvantages
Issuers	• Diversification and expansion of the investor base, and prolonged bond holdings • Eligible green projects can be promoted • In most cases, issuances are oversubscribed (demand exceeds issuance), and the issuer can issue bonds at a longer period of time with lower interest rates[2]	• Additional costs such as fees for external evaluations (External review implementation cost) • Need to report on the use of proceeds • Need to manage procurement funds separately
Investors	• Meet the demand for ESG-conscious investment while maintaining profitability through investment in financial instruments with similar risk-return profiles as conventional bonds • In the infrastructure sector, it is easier to invest in bonds as a common asset class, compared to direct investment constrained by regulations on foreign investments	• In most cases, issuances are oversubscribed (demand exceeds issuance), and the issuer shifts the compliance cost to the coupon (lower interest rate / high price)

Source: Compiled by the Hitachi Research Institute based on "Forefront of Green Finance" by Hideki Takada (in the Ministry of Finance’s public relations magazine "Finance"), etc.

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[1] “Investing in Climate, Investing in Growth” OECD (2017) http://www.oecd.org/env/cc/g20-climate

[2] BIS "Green bond finance and certification" (BIS Quarterly Review, September 2017) found that green bonds are issued at more favorable yields for issuers than conventional bonds, with an average difference of about 18 bp (0.18%). In addition, green bonds issued by the German government for the first time in September-October 2020, based on a "twin bond" concept with identical structure and maturity as conventional bonds, were revealed to have a premium of about 2 bp (0.02%) for 10-year bonds and about 1 bp (0.01%) for 5-year bonds (as stated by a Member of the Executive Board of the Deutsche Bundesbank at the ICMA conference on November 13, 2020).

2. "Green" Requirements Are Moving Toward Stricter Regulations

2.1 Rules Developing in Response to “Greenwashing”

Concerns have also emerged with the increased issuance of Green Bonds. At the outset, an issuer could call a bond a Green Bond as long as it advocated fund-raising for a Green project. However, due to the spread of “Greenwashing,” or allocating funds to projects unrelated to the environment, the need to formulate rules on Green Bonds has arisen.

The most widespread global rules for Green Bonds today are the “Green Bond Principles” (hereinafter, GBP)[3], which were established by the International Capital Market Association (hereinafter, ICMA) as voluntary guidelines in 2014. GBP stipulates “four core components,” including the issuer’s description on the use of proceeds procured by the Green Bond, and encourages external review (Chart 3: Left column). The establishment of GBP has boosted the credibility of Green Bonds, and has been expanding the market for Green Bonds since 2014.

Chart 3: Summary abstract from the ICMA Green Bond Principles (GBP) and EU Green Bond Standard (EU-GBS)

	ICMA GBP	EU-GBS
Core components	**1. Use of Proceeds** • Utilization of the bond’s proceeds for Green Projects should be appropriately described in the legal documentation for the security. • All designated Green Projects should provide clear environmental benefits.	**1. Alignment with EU-taxonomy** Proceeds from EU Green Bonds should go to finance or refinance projects/activities that: (a) contribute substantially to at least one of the six taxonomy Environmental Objectives[4], (b) do not significantly harm any of the other objectives (DNSH) and (c) comply with the minimum social safeguards.
	2. Process for Project Evaluation and Selection	**2. Publication of a Green Bond Framework**
	3. Management of Proceeds	**3. Reporting on use of proceeds and on environmental impact (Mandatory)**
	4. Reporting	**4. Verification (Mandatory)**
External review	It is recommended issuers appoint (an) external review provider(s) to confirm the alignment of their bond or bond program with the four core components of the GBP.	Issuers shall appoint an external Verifier. Verification provider(s) will be subject to official accreditation and supervision.

Source: Compiled by the Hitachi Research Institute based on “Green Bond Principles – Voluntary Process Guidelines for Issuing Green Bonds” ICMA, June 2018 and “Report on EU Green Bond Standard” EU Technical Expert Group on Sustainable Finance, June 2019

Based on the ICMA GBP, the development of country guidelines has also progressed. In Japan, the Ministry of the Environment established the Green Bond Guidelines in 2017, which are consistent with GBP. It has promoted market development by providing subsidies to external review implementation costs.

2.2 EU Leads the Trend of More Prescriptive Standards

Although there are many Green Bonds and domestic standards that advocate ICMA GBP compliance, the GBP is highly abstract and non-binding, and the external review is not mandatory. Therefore, even after the establishment of GBP, "Greenwashing" is still occurring.[5] In response to this situation, the EU is now developing its own "Green Bond Standard," recognizing the need for more stringent standards for Green Projects.

Since 2018, the EU has been implementing an Action Plan on Financing Sustainable Growth. As part of their priorities, the European Commission established Taxonomy Regulations[6] and put them into effect in July 2020.[7] While adopting the characteristics of the ICMA GBP, their Green Bond Standard (hereinafter, EU-GBS) is aiming to tighten criteria for judgment by aligning with the EU Taxonomy.[8]

According to the proposal for EU-GBS[9] published in June 2019 (Chart 3: Right column) by the European Commission (after an interim report in March 2019), the standard will be tightened for the purpose of avoiding "Greenwashing" in the following respects, in addition to alignment with the EU Taxonomy. Firstly, in EU-GBS the "external review acquisition" will be mandatory, whereas it is recommended in ICMA GBP, and external verification providers will be formally “accredited and supervised." Secondly, the allocation report and the impact report will be mandatory. This will require an objective assessment, rather than the issuer's independent judgment, on the occasion of the selection of projects and subsequent progress management.

The European Commission plans to submit the EU-GBS draft law to the European Parliament within 2021. In Europe, some energy companies have already announced a Green Bond Framework based on EU-GBS. In the future, compliance with EU-GBS, which prescriptively indicates the use of proceeds, may become the standard for Green Bond issuance in the EU.

2.3 Green Bond Market Sluggish with COVID-19

The Green Bond issuers were initially limited to public international financial institutions, but they diversified to local governments, private financial institutions, energy companies, and even general non-financial corporations. In addition, the issuance of Green Government Bonds has been expanding mainly in Europe, including Germany in 2020 and the UK in 2021 as examples of major developed countries.

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[3] https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Green-Bonds-Principles-June-2018-270520.pdf

[4] (i) climate change mitigation, (ii) climate change adaptation, (iii) the sustainable use and protection of water and marine resources, (iv) the transition to a circular economy, (v) pollution prevention and control and (vi) protection and restoration of biodiversity and ecosystems

[5] In China, it was known that “Green Bonds Endorsed Projects Catalogue” published by the People's Bank of China used to include "clean coal (Super Critical /Ultra Super Critical coal-fired power generation)" within the scope of Green Bonds. However, Chinese authorities announced in June 2020 a plan to exclude all coal-fired power generation, accepting criticism from western investors.

[6] Criteria for environmentally sustainable economic activities

[7] Published in the Official Journal of the European Union in June 2020, effective since July 12, 2020.

[8] Since Delegated Acts, which establish detailed rules of the Taxonomy Regulation, will come into force on January 1, 2022, there is a grandfathering clause in which post-changes to taxonomy do not affect the definition of Green Bonds being developed concurrently.

[9] https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard_en.pdf

However, the amount of outstanding Green Bonds is insignificant in the global bond market with a balance of over 100 trillion dollars. Looking at the ESG bond market, which includes Green Bonds, the issuance of Green Bonds has slowed, whereas Social Bonds[10] have surged since 2020 as a result of the pandemic.

3. Transition Bonds for Projects Ineligible for "Green" Designation

3.1 Beginning of Issuance of Self-labeled Transition Bonds

While stricter issuance rules for Green Bonds are being considered particularly in the EU, there has been a focus on infrastructure funding for projects that are ineligible for Green Bonds but still support decarbonization. For instance, if a decrepit thermal power plant continues to operate, it will continue to emit a large amount of greenhouse gases, and the environment will deteriorate. So it is necessary to supply funds to promote business transformation in high CO_2 emission sectors.

Also, from the perspective of companies, the transition to low-carbon business is urgently necessary to avoid stranded assets (impairment loss) in the midst of the growing discussion of carbon pricing. In fact, there has been momentum in issuing Transition Bonds, which promotes transition to a low-carbon society, mainly in high CO_2 emission sectors. Particularly in recent years, overseas energy companies issued self-labeled “Transition” Bonds one after another, after having voluntarily formulated each company’s framework that includes the definition of investment destinations. Demands for those bonds exceeded supply.[11]

3.2 Development of International Rules

The recognition that highly transparent rules are necessary for the sound development of the Transition Bond market has, since 2019, prompted both proposition for voluntary rules[12] by market participants and consideration of the standards[13] by advanced countries in the field of Transition. In response to the push for the development of standards, ICMA formulated a Working Group at the end of 2019, led discussions among market stakeholders, and published the "Climate Transition Finance Handbook -Guidance for Issuers-" (hereinafter, the ICMA Handbook) on December 9, 2020.

A noteworthy feature of the ICMA Handbook is that it captures Transition Finance in a broad context under the following three points. Firstly, it does not present neither the definition of Transition business nor the Taxonomy. The issuer can define “Transition” with a certain degree of flexibility. Secondly, it can be interpreted to mean that Transition Bonds can finance not only green expenditures but also “social” expenditures such as “just transition” (see the italic letters in Chart 4). Third, both (1) Use of Proceeds instruments, and (2) General Corporate Purpose instruments linked to key performance indicators (KPIs) are available.

Although the issuance process relies on the principles and guidelines published by ICMA in the past,[14] while leaving a certain degree of flexibility as described above, the issuer is recommended to enhance their disclosure of information on decarbonization measures and strategic planning towards a long-term target to align with the goals of the Paris Agreement, so that the issuer can credibly issue the product (Chart 4).

Chart 4: Summary Abstract from the ICMA Handbook

Four key elements	**1. Issuer’s climate transition strategy and governance** • Disclosures regarding corporate strategies may be aligned with recognized reporting frameworks such as the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), or similar frameworks.
	2. Business model environmental materiality
	3. Climate transition strategy to be “science-based” including targets and pathways
	4. Implementation transparency • *Where a transition may have negative impacts for workers and communities, issuers should outline how they have incorporated consideration of a “just transition” into their climate transition strategy, and may also detail any “social” expenditures that are considered relevant within the context of transition finance.*

Source: Compiled by the Hitachi Research Institute based on "Climate Transition Finance Handbook – Guidance for Issuers" ICMA, December 2020

Note: Italic letters refer to "social" expenditures.

3.3 Japanese Government Announces Basic Guidelines

In response to the announcement of the ICMA Handbook, a draft of the “Basic Guidelines on Climate Transition Finance” (hereinafter referred to as the Basic Guidelines) was released in Japan on April 5, 2021. Referring to the ICMA Handbook, the Basic Guidelines explain the types of Transition Finance subject to the Basic Guidelines (Chart 5). With clarified guidelines, further expansion of the Transition Bond market is expected in the future.

In addition, the Basic Guidelines are characterized by consideration of efforts in the area of loans, taking into account Japan’s current financial structure centered on indirect financing. In the future, a company that will continue to make steady efforts to reduce CO_2 might be able to benefit from the “performance-based interest subsidy system” for promoting the transition.

[10] Social Bonds are any type of bond instrument where the proceeds will be exclusively applied to finance eligible Social Projects (Projects that directly aim to address or mitigate a specific social issue)

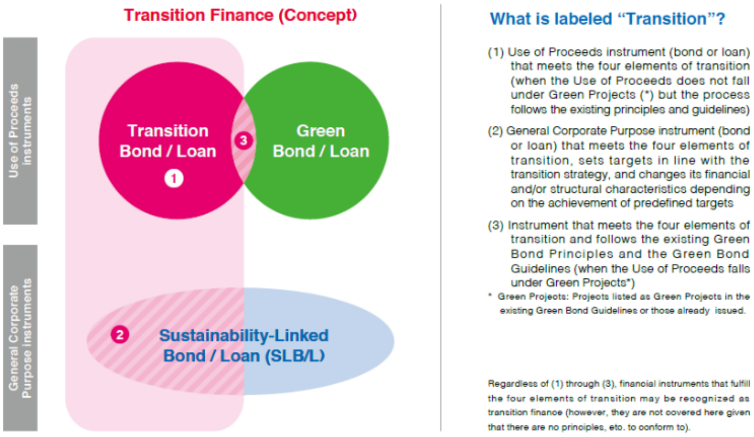
[11] Transition Bonds issued by the natural gas sector are oversubscribed, in some cases by more than three times, as seen with Italy’s Snam in June 2020.

[12] France’s AXA published “Financing Brown to Green: Guidelines for Transition Bonds” in June 2019.

[13] In June 2019, Canada published “Final Report of the Expert Panel on Sustainable Finance: Mobilizing Finance for Sustainable Growth,” which proposed 15 recommendations. Of those proposals, "Recommendation 9" is "Expand Canada's green fixed income market, and set a global standard for transition-oriented financing." In September 2020, the UK-based Climate Bonds Initiative (CBI) and Credit Suisse released their “Financing Credible Transitions” white paper, while in the same month, Japan’s Ministry of Economy, Trade and Industry (METI) compiled its “Climate Innovation Finance Strategy 2020.”

[14] The Green Bond Principles (January 2014), the Social Bond Principles (June 2017), the Sustainability Bond Guidelines (June 2018), and the Sustainability-Linked Bond Principles (June 2020).

Chart 5: Transition Finance Covered by Basic Guidelines



Source: The Financial Services Agency, the Ministry of the Environment, the Ministry of Economy, Trade and Industry (METI) "Basic Guidelines on Climate Transition Finance"

4. Development of Financing Rules to Support Decarbonization is Accelerating, Anticipating the Increase in Issuance

As outlined in this paper, the rulemaking for financing to support decarbonization has progressed at a very rapid pace since the Green Bond Principles established by ICMA in 2014. While bearing in mind the development of EU Taxonomy that has been in discussion for more than three years in order to avoid "Greenwashing" mainly in Europe, further efforts are required to achieve "the 2-degree target" of the Paris Agreement.

From a corporate perspective, Green Bonds, which already have achieved a certain degree of recognition from the market, and the nascent Transition Bonds are not limited to the context of CSR as environmental and social activities, but also support contributions to environmental improvement and realization of the SDGs through business, and can be seen as a new way of fulfilling social responsibility.

From the standpoint of the Japanese government, Green Bonds have only been issued by local governments in Japan. However, in the course of promoting a "Green Recovery," which simultaneously achieves economic revitalization from COVID-19 as well as decarbonization, the Greening of the Japanese Government Bonds will also be worthy of consideration. A survey of foreign governments on sovereign debt[15] has confirmed the emergence of "Greenium," and the use of Green Bonds may enable financing for decarbonization to be more efficient and accelerate its progress. Further issuance is expected to meet the needs of investors.

About the Author

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After having graduated from Tokyo University with a degree in Economics, started a professional career in Bank of Japan before assuming her current position.

Recent research themes include non-financial reporting and sustainable finance.

[15] https://www.climatebonds.net/files/reports/cbi-sovereign-green-social-sustainability-bond-survey-jan2021.pdf