

Research on pricing, risk, impact, etc. of Green Bonds and others

Application procedures

July 2021
The Japan Research Institute, Limited

1. Purpose

As an effective green financing tool for providing private funds to project related to countermeasure for global warming and prevention of natural capital deterioration, the issuance of and investment in “Green Bonds” have been more and more active in recent years in Japan and overseas.

In addition, the G20 Sustainable Finance Synthesis Report (published in July 2018) explores a more comprehensive approach to finance that contributes to achieving sustainable growth in the concept of sustainable finance, which is an extension of the concept of green finance. In 2021, it is expected that there will be important developments in the debate over sustainability, especially with regard to climate change. The G7, G20, and COP26 (the 26th UN Climate Change Conference of the Parties) are expected to make progress in discussions toward international policy coordination and rule-making.

Looking at Japan’s Green Bond market, the amount of issuance has been growing increasingly, resulting in the amount of Green Bonds issued in 2020 of approximately 1 trillion yen. In Japan, insight into the issuance of Green Bonds has been built up steadily in practitioners through an accumulation of experience in the issuance. On the other hand, an accumulation of written or articulated knowledge based on clear scientific evidence is insufficient in Japan. Regarding Green Bond pricing and other matters, in addition to reports compiled by the Climate Bonds Initiative (CBI), the Government Pension Investment Fund (GPIF) and the World Bank has released “Incorporating Environmental, Social and Governance (ESG) Factors into Fixed Income Investment.” However, research and practices for green premium in fixed income investments are still in their infancy, and there are few studies based on systematic, theoretical, and continued research.

Furthermore, now that the amount of issued Green Bonds is expanding, our actions for mainstreaming green finance, including Green Bonds is required for Japan to lead the green finance market. There are measures to contribute to the development of a sound green finance market. For example, we should demonstrate to the domestic and overseas investors the concept of risk and return in funding green projects and companies, appropriate pricing methods, and investment behavior of ESG investors, etc. based on scientific evidence. Such information should be widely disseminated in the markets.

Therefore, research on pricing, investment behavior, and others for green finance, including Green Bonds is useful as basic information for market participants in making issuance and investment decisions. It is also important for self-sustained formation and development of the green finance market in Japan.

In the light of the above, the Ministry of the Environment, Japan (MOEJ) publicly invites

“researches on pricing risk impact, etc. of Green Bonds and others” and commissions research. Its purposes are; to promote research on green finance, including green bonds, and ESG finance as a whole; to widely disseminate information on the research findings through the Green Finance Portal; and to contribute to the encouragement of Green Bond issuance and expansion of the Green Bond holders, leading eventually to the stimulation of green finance and ESG investments.

2. How the researches are to be implemented

For this research program, The Japan Research Institute, Limited (hereinafter referred to as “JRI”) will serve as an administrative office for the public invitation and selection of researches.

Specifically, JRI will commission a selected study plan to the proposing researcher, such as research institutions, who proposed that plan. JRI will also be in charge of administrative work related to expenses relevant to the research on pricing, risk, impact, etc. of Green Bonds and others. Furthermore, JRI will work to offer information, through the Green Finance Portal and others, on outcomes of the research. Organizations/relevant parties related to this research and their major roles are as follows:

Chart 1. Organizations/relevant parties related to this research and their major roles

Organizations/relevant parties	Major roles
The Ministry of the Environment, Japan (MOEJ)	Oversee implementation of the research and public invitation, and provide instructions and advices where appropriate.
Selection Committee/ Review Committee	The Selection Committee reviews and selects proposals to be adopted in the research and public invitation from the perspective of experts and practitioners. The Review Committee delivers feedback and assesses operational effects and others regarding outcomes of research studies from the perspective of experts and practitioners. Unless there is a particular reason, the Selection Committee shall have the same members as the Review Committee.
JRI	Manage administrative tasks required until determination of parties whose research on pricing risk impact, etc. of Green Bonds and others is selected. Commission the selected research to the proposing researcher who has proposed its study plan, and administrate the research on pricing risk impact, etc. of Green Bonds and others. Work to offer information, through the Green Finance Portal and others, on outcomes of the research.
Proposing researcher(Applicant)	Make a proposal for a research plan for the research on pricing risk impact, etc. of Green Bonds and others, as well as implement the study in commission from JRI, and compile from results a final report in Japanese. As a voluntary effort, work on communication of information on findings from the research through activities such as submission of papers to academic journals with pre-screening by the editors and conference presentation.

3. Inviting proposals for researches

In this public invitation, JRI solicits proposals for researches on pricing, risk, impact, etc. of Green Bonds and others.

The scope of the studies shall be financial areas covering entire green finance including Green Bonds. The Criteria includes those partially related to an element of “environment and finance” such as ESG investments and not solely based on quantitative financial information but those that have social and environmental elements contributing to promotion of creating a decarbonized society.

Findings must be compiled into a final report (the structure is at the applicant’s discretion) in Japanese and, then, submitted in the form of electronic files.

(1) Themes of research plan

Systematic, theoretical, and continued studies that mainly contribute to stimulation of issuance, investment, and trading in secondary market of Green Bonds and others are widely invited. We assume practical studies that would be referred to and used by practitioners once completed. They should be supported by research and analysis, reflecting the situations of Green Bond issuance in Japan and abroad, and can be a style of experimental studies, case studies, and others. The following three themes will be preferentially considered for selection. However, a research content, such as other green finance approaches and ESG investments, can be proposed freely as long as the content is consistent with the intent of this research.

For example, possible themes include the following:

- Green Bond-related
 - Price formation (pricing) of Green Bonds in comparison with conventional bonds (vanilla bonds)
 - Primary and secondary markets of Green Bonds
- Correlation between a company’s ESG assessment and its financial products’ performance
 - The issuer’s ESG assessment, and the performance of and impact to the fixed income investments (including plain bonds that are not Green Bonds)
 - Scores of ESG index, performance, and impact
- Overall ESG finance
 - Risk and return, and impact related to ESG investments
 - Determinants of investments by category of environmental projects (e.g. renewable energy, clean transportation, waste, and green buildings)
 - Comparison of Performance and impact among ESG investment approaches
 - Correlation between market events, and investment performance and impact reflecting

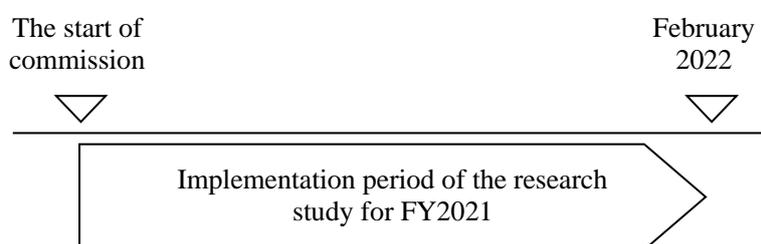
relevant ESG factors

- Relations between ESG elements and credit risk (rating) in finance including loans
- Correlation, etc. between ESG elements, and ROI or ROE and others
- Assessment metrics for ESG efforts of Japanese companies and others

(2) Period of implementation of the research

The period of implementation of the research shall in principle cease by the end of FY2021.

Chart 2. Image of the implementation period of the research



(3) Sharing of information possessed by the MOEJ

The MOEJ collected information on case studies in Green Bond issuance in Japan by interviewing issuers and through other means. Collected information on issuance time, issuance amount, use of proceeds, and other matters has been published on the Green Finance Portal

(<http://greenfinanceportal.env.go.jp/>) as needed.

Since gathered information is, in principle, published unless the issuer objects to it, such information can be utilized in proposed research studies. Out of non-disclosed information, information that can be disclosed through statistical processing and mask processing, such as industry type and attribution ratio of investors, is also available for use. Information that can be disclosed shall be determined through discussions after the adoption.

(4) Matters to be described in the study plan

In the preparation of the study plan, cover the matters to be described in each of the following items and create the plan using the format for this public invitation.

i) Purpose and meaning of the study

In the proposal for the study, state that the study plan will contribute to the following fields; promoting issuance, trading in secondary market, and stimulation of purchase of ESG

(particularly environment) financial instruments such as Green Bonds and entire ESG investments or, deeper understanding of correlation between ESG assessment and financial instruments. In this context, ESG assessment includes social and environmental elements helping to promote creation of a decarbonized society that are not solely based on quantitative financial information. Describe the reasons the study's objectives, the background of selecting the theme and its idea will be useful to practitioners.

ii) Content and implementation method of the study

Describe specifically the content of the proposed study, reflecting the existing studies with the same objectives as above, and the theories and the preceding studies on conventional bonds, etc. If submission of papers to screening-required academic journals or conference presentation, etc. is planned, indicate so.

In the case of a joint research or outsourcing/recommissioning part of the study to an external institution, describe the relationship of the proposing researcher with the assumed research collaborator(s) and others, as well as division of roles thereto.

iii) Study schedule

Describe the study schedule for submitting a preliminary report by January 31, 2022 and a final report by February 28, 2022, respectively.

iv) Principal achievements and published papers of the proposing researcher

Regarding the researcher, research collaborators, and others who implement the proposed research plan, describe their major works (such as research papers, books, and conference presentations in the last three years) relevant to the research content. Items to be specifically described are author names, names of the academic journals, number of volumes, relevant pages, years, achievements, relations with the study plan, and others.

(5) Deliverables of the research

Results of research carried out in this research will be published together with the comments by the committee consisting of third-party experts on the Green Finance Portal and others. Researchers who conducted the study shall also voluntarily present research results at academic conferences/related meetings and on academic journals and other occasions in Japan and abroad as needed. In doing so, it should be stated in acknowledgments that part of results of this research has been utilized.

In publishing the study results, the content of the release shall be shared with the researchers, JRI, and the MOEJ, in advance. If the researchers release the results on their own, they shall

communicate the content to be published, ways of publication, and other matters to JRI and the MOEJ, well in advance. In addition, the researchers may be asked to present any outstanding study results at symposiums hosted by the MOEJ or other occasions.

A preliminary report or final report (a set of electronic files) on study results should be prepared and submitted by the end of each fiscal year (implementation period). The structure and number of pages of preliminary and final reports shall be at the researcher's discretion but shall be finalized through discussions with JRI and the MOEJ based on a preliminary report.

While the copyright of the final reports belongs to the MOEJ, submission of papers and conference presentations utilizing study results during and after the study period are recommended and, therefore, shall not be precluded by the copyright. Ownership of the copyright, etc. shall be discussed when needed.

4. Study implementation period

The period is from the date when the commission starts to February 28, 2022. Complete the study and submit a preliminary or final report by the end of the fiscal year.

5. Applicant eligibility

A proposer of a study plan shall be a researcher belonging to a research institution,* including universities, the national research or development agencies, and companies, that satisfy the following conditions: **Since a study will be commissioned by JRI to the research institution to which the researcher belongs, the researcher should follow the institution's procedures to obtain its internal permission in making the application and contract with the entrusted entities.**

- (a) The institution does not fall under the provisions of the Article 70 and Article 71 of the Cabinet Order on Budgets, the Settlement of Accounts, and Accounting of the Japanese government.
- (b) The institution is not in the period during which the MOEJ is taking a measure to terminate/suspend the right to participate in the public bidding.

* Organization that has a track record in submission of papers or conference presentations conducted at least once in the preceding one year by any researcher who belongs to the organization.

* There are no restrictions on the place where the institute is located. (Proposals are invited from both Japan and abroad.)

6. Conditions for implementation of the research, etc.

- (a) Number of proposals to be adopted: around two proposals
- (b) Budget scale: approximately 3 million yen per proposal. However, while the budget scale is based on the content of the proposal, it shall be determined after coordination with JRI and the MOEJ, according to the content of the study plan and number of proposals to be adopted.
- (c) Expenses covered: Expenses directly needed for the accomplishment of the study and expenses needed to compile study results. For expense items and expenses covered, refer to “9. Estimation of expenses.”
- (d) Number of applications: Since an application is assumed to be made by researcher, the number of applications per research institute is not limited. However, if similar research plans are proposed by the same research institution, it is preferable to make coordination and give considerations, such as a joint implementation or modification of the proposal, within the research institution in advance.

7. Submission of study plans

(1) Application period

Opening date for applications: Thursday, July 1, 2021

Closing date: Due no later than 17:00 on Friday, July 30, 2021 (Japanese Standard Time)

* Selection results are scheduled to be announced at the middle of August .

(2) Holding an explanatory session for the invitation

No such session on this public invitation will be held.

A proposer who has any question on this application should make an inquiry to JRI by reference to information provided at the end of this document. Regarding this public invitation (Research on pricing risk impact, etc. of Green Bonds and others), the MOEJ does not take any question, so do not make inquiries to the MOEJ.

(3) Documents required for application

i) Submit the following documents to the location described in (4) through E-mail . Make sure to state “Application for the public invitation for research studies on ‘Research on pricing, risk, impact, etc. of Green Bonds and others’” on the title of the mail.

- Study plan document (Form 1)
- Estimate of expenses (Form 2)
- Other reference materials (where necessary)

ii) Application documents submitted will not be used for any purpose other than selection of the research studies.

The submitted application documents will not be returned.

iii) Costs for preparation of application documents, etc. are not included in expenses. In addition, costs for preparation of an application for a study plan are not reimbursed, regardless of whether or not it is selected.

iv) The content described on a study plan document shall cover only those feasible within the estimated expense. In case there is any significant change in the provided information due to the applicant’s own reasons, the commission may be terminated even after the selection is made.

(4) Location to which application documents should be submitted

Application documents should be submitted to the following location through mail.

(An administrative office) The Japan Research Institute, Limited, Research Consulting division

“Application for the public invitation for research studies on ‘Research on pricing, risk, impact, etc. of Green Bonds and others’”

Person in charge: Kokita, Toyoshima

E-mail address : 200010-GBP@ml.jri.co.jp

* Submission by hand delivery or facsimile is not acceptable. However, if submission by e-mail is difficult, please submit the following documents in one envelope to the following address by home delivery service, or other means.

- Study plan document (Form 1) (1 copy)
- Estimate of expenses (Form 2) (1 copy)
- other reference materials (where necessary) (1 copy)
- CD-R containing the electronic files (Word/Excel) of Forms 1, 2, and other reference materials (1 copy)

Please Make sure to state “Application for the public invitation for research studies on ‘Research on pricing, risk, impact, etc. of Green Bonds and others’” on the address side of the envelope.

Osaki Forest Building, 2-18-1, Higashi-Gotanda, Shinagawa-ku, Tokyo, 141-0022

The Japan Research Institute, Limited, Research Consulting division

“Application for the public invitation for research studies on ‘Research on pricing, risk, impact, etc. of Green Bonds and others’”

Person in charge: Kokita, Toyoshima

* If there is any flaw in the documents, the applicant does not qualify for screening. Please read through the application procedures and be mindful when providing information.

* Application is not acceptable after the closing date mentioned in 7(1).

* JRI will handle the personal information contained in the application documents in accordance with "Our Privacy Policy".

8. Screening and adoption

(1) Screening method

Screening will be performed from viewpoints of; whether the proposed research will play a leading role in research of pricing etc. of Green Bonds and others, and whether the proposal will contribute to promotion of Green Bond issuance and expansion of the bondholders, leading to stimulation of green finance and ESG investments **in Japan**.

The decision for selection will be made through the screening at the Selection Committee consisting of third-party experts (such as academic experts and market participants). Interviews on proposals will be conducted after the closing date for application, where necessary.

(2) Screening criteria

Screening will be performed based on the screening criteria provided in the attached document “List of screening items.”

(3) Determination and notification of the selection results

Selected applicants will be announced on the Green Finance Portal, and the relevant proposing researchers will be informed accordingly.

9. Estimation of expenses

Please estimate expenses for FY2021.

Expenses covered in this public invitation are those directly needed to accomplish the study and expenses necessary for compiling study results. They are specifically described in the Chart3. Expenses of which the expense item is unknown shall be recorded in an expense item considered appropriate tentatively, and eligibility of the expenses as well as its amount shall be discussed after the selection.

Chart 3. Expense items reimbursable in this public invitation, and their outline

I. Personnel cost		Expenses for employing post-doctoral and other researchers and their assistants as full-time or part-time researchers of the research institute. * Personnel cost of students is generally not reimbursable. The same will apply to full-time researchers of research institutes as independent administrative institution, national universities, and others if their personnel cost is covered by subsidies from the national government.
II. Research cost		
	Traveling cost	Traveling cost for the research representatives, co-researchers, and research assistants necessary for the study.
	Venue cost	Expenses required for meetings, seminars, symposiums, and others necessary to implement the study (including rent of a venue, cost to rent equipment, and cost for refreshments).
	Gratuities	Gratuities necessary to implement the study (including gratuities given to external experts who attend meetings, seminars, symposiums, and others, and gratuities for lectures, writings, research cooperation, and others). * Gratuities given to the research representative and co-researchers cannot be included.
	Cost for fixtures (rent and hire)	Expenses needed to purchase and produce goods and services necessary to implement the study. Expenses required for leasing and renting machinery and appliances necessary to implement the study. (Fixtures directly needed for commissioned businesses. (Acquisition price should be 50 thousand yen or more, and those falling under consumables categories from i) to iv) are not eligible.))
	Supplies expenses	Cost required to purchase goods necessary to implement the study not falling under cost for fixtures (however, it needs to be confirmed that those are used only for the study). i) Goods of acquisition price less than 50 thousand yen ii) Goods of acquisition price 50 thousand yen or more and those not available for repeated use of relatively long-term (about two years) iii) Goods available for repeated use of relatively long-term, but relatively fragile iv) Goods that will be of no use after use for a maximum of two years e.g.) Cost of purchase of reagents, materials, experimental animals, etc.

	for experimentation and research, existing software, and various consumables
Outsourcing cost	Expenses necessary to outsource tasks to other researchers or business operators (service contract basis) in case the tasks cannot be conducted directly or appropriately by the commissioned party.
Cost for printing and bookbinding	Expenses for printing and bookbinding of brochures and leaflets used in the study, study final reports, etc.
Personnel cost for assistants	Expenses for assistants needed to implement the study (such as part-time workers)
Miscellaneous service charges	Expenses for necessary services incidental to implementation of the principal part of commissioned tasks e.g.) charge for use of database
Various other expenses	As part of expenses necessary to implement the study, those identifiable and confirmed for use of the study, and not falling under any other categories. e.g.) Communication and transportation charges (including postal charges, freight charges, communication and telephone fees), and utilities cost (electricity, water, and gas. For example, an applicable case is where charges for the use for the study at large research facilities, etc. can be determined by reading a dedicated meter)
III. Expenses for recommitment	Under an arrangement with JRI, expenses necessary for the contractor to have other parties conduct part of the study (commission or quasi-commission).
IV. General administrative expenses	Expenses necessary to implement the commissioned study, which are difficult to be extracted and identified as expenses required for the study. Such expenses will be treated as indirect expenses that are reimbursable for a certain portion of the total amount based on conditions set when the consignment contract is executed. If the research institute has no arrangement for the ratio of general administrative expenses, 10% of the total of personnel cost and research cost shall be its maximum amount.

* Attachment of vouchers such as estimates of the above expenses is not required at the time of proposal.

10. Contact

Any questions and inquiries should be sent by e-mail to the following contact by 12:00 (JST noon)
Wednesday, July 14, 2021.

The Japan Research Institute, Limited, Research Consulting division

Persons in charge: Kokita, Toyoshima

E-mail address: 200010-GBP@ml.jri.co.jp

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