



SECOND PARTY OPINION

KIRIN HOLDINGS COMPANY, LIMITED. GREEN BOND DNV PERIODIC REVIEW (#3)

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Revision history	Remarks	
6 November 2020	Kirin Holdings Company, Limited. Green Bond Framework Second-Party Opinion	
28 June 2021	Green Bond Annual Review	
28 June 2022	Green Bond Annual Review (#2)	
	Green Bond DNV Periodic Review (#3)	
23 June 2023	Allocation status: JPY 5.4 billion has been allocated of the JPY 10 billion raised (unallocated	
	balance: JPY 4.6 billion)	
(This report)	Environmental benefits: Recycled PET resin ratio: 8%	
	GHG reduction by the introduction of heat pump systems: 2,750 t-CO ₂ (FY2022)	

Disclaimer

Our assessment relies on the premise that the data and information provided by Issuer to us as part of our review procedures have been provided in good faith. Because of the selected nature (sampling) and other inherent limitation of both procedures and systems of internal control, there remains the unavoidable risk that errors or irregularities, possibly significant, may not have been detected. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied as per scope of work. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Statement.

Statement of Competence and Independence

DNV applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2011 - Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We have complied with the DNV Code of Conduct1 during the assessment and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. DNV was not involved in the preparation of statements or data included in the Framework except for this Statement. DNV maintains complete impartiality toward stakeholders interviewed during the assessment process.

 $^{^{1}}$ DNV Code of Conduct is available from DNV website (www.DNV.com)



I. Scope and Objectives

Kirin Holdings Company, Limited (hereinafter, Kirin Holdings) has commissioned DNV to conduct a post-issuance periodic review of the "Green Bond" issued on 20 November 2020. The objective of the post-issuance periodic review of DNV is to ensure that Kirin Holdings meets the requirements of the Green Bond Principles (hereinafter, GBP) and the Green Bond Guidelines (hereinafter, GBGLs) described below, and to provide a second party opinion on the eligibility of this Green Bond.

Kirin Holdings issued a Green Bond on 20 November 2020. The issuance amount was JPY 10 billion, and the repayment period was five years. DNV conducted a periodic review (#3) based on the GBP and GBGLs.

DNV, as an independent external reviewer, identified no real or perceived conflict of interest associated with the delivery of this second-party opinion for Kirin Holdings.

In this paper, no assurance is provided regarding the financial performance of the Green Bond, the value of any investment in the Green Bond, or the long-term environmental benefits of the transaction.

Standards to be Applied

No.	Standards/Guidelines	Scheme owner	Applied level*1
1.	Green Bond Principles	International Capital Market Association (ICMA), 2018	Apply
2.	Green Bond Guidelines	Ministry of the Environment, 2020	Apply

 st^{1} Apply: Eligibility for all four core common elements to each principle and guideline was evaluated.



II. Project Overview

The Kirin Group has identified "Health and Well-being" as one of the key issues within "CSV Purpose". It has determined as to "enrich the sustainable Earth for future generations by generating positive impacts from the actions".

Specifically, the Kirin Group aims to be a leading company which tackles environmental problems, and launched Kirin Group's Environmental Vision 2050, a revised version of Kirin Group Long-term Environmental Vision. In the vision, the Kirin Group states to achieve net zero of GHG emissions in its entire value chain by 2050, in order to overcome climate change. In 2019, the Kirin Group also formulated the "Kirin Group Plastics Policy," declaring to reduce the percentage of recycled resin used in PET bottles in Japan to 50% by 2027.

The Green Bond was raised to finance these initiatives.

Kirin Holdings has allocated the proceeds to two projects of which eligibility has been confirmed.

Eligible projects	Green Categories	Contribution to SDGs
Procurement of recyclable PET resin	 Pollution prevention and control Eco-efficient products and/or circular economy adapted products, production technologies and processes 	Goals 9, 12, and 14
Introduction of heat pump systems to production sites	Energy Efficiency	Goals 7, 9, and 13

III. Responsibilities of Kirin Holdings and DNV

Kirin Holdings has provided the information and data used by DNV during the delivery of this review. DNV's second party opinion represents an independent opinion and is intended to inform Kirin Holdings and other interested stakeholders in the allocated Green Bond of whether the established criteria have been met, based on the information provided to us. In our work, we have relied on the information and the facts presented to us by Kirin Holdings.

DNV is not responsible for any aspect of the nominated assets referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV shall not be held liable if any of the information or data provided by the management of Kirin Holdings and used as a basis for this assessment were not correct or complete.



IV. Basis of DNV's Opinion

To provide as much flexibility for the issuer, Kirin Holdings, as possible, we have adapted our Kirin Holdings Green Bond assessment methodology, which incorporates the requirements of the GBP and GBGLs, to create a Green Bond Eligibility Assessment Protocol (hereinafter, Protocol). (Refer to Schedule-2 and 3). The Protocol is applicable to Green Bond based on the GBP and GBGLs.

Our Protocol includes a set of suitable criteria that can be used to underpin DNV's opinion. The overarching principle and guidelines behind the criteria are that a Green Bond should "enable capital-raising and investment for new and existing projects with environmental benefits."

As per our Protocol, the criteria against which the Green Bond has been reviewed are grouped under the four Principles:

• Principle One: Use of Proceeds

The Use of Proceeds criteria are guided by the requirement that a Green Bond issuer must use the funds raised to eligible activities. The eligible activities should produce clear environmental benefits.

• Principle Two: Process for Project Evaluation and Selection

The Project Evaluation and Selection criteria are guided by the requirements that a Green Bond issuer should outline the process it follows when determining the eligibility of an investment using Green Bond proceeds and outline any impact objectives it will consider.

• Principle Three: Management of Proceeds

The Management of Proceeds criteria are guided by the requirements that a Green Bond should be tracked within the issuing organization, that separate portfolios should be created when necessary and that a declaration of how unallocated funds will be handled should be made.

Principle Four: Reporting

The Reporting criteria are guided by the recommendation that at least Sustainability Reporting to the bond investors should be made of the use of finance proceeds and that quantitative and/or qualitative performance indicators should be used, where feasible.



V. Work Undertaken

Our work constituted a high-level review of the available information, based on the understanding that this information was provided to us by Kirin Holdings in good faith. We have not performed an audit or other tests to check the veracity of the information provided to us. The work undertaken to form our opinion included:

i. Pre-Issuance Assessment of Green Bond (*not included in this report)

- Creation of the issuer's specific Protocol, adapted to the purpose of the Green Bond, as described above and in Schedule-2 to this assessment;
- Assessment of documentary evidence provided by the issuer on this bond and supplemented by high-level desktop research. These checks refer to current assessment best practices and standards methodology;
- Discussions with the issuer, and review of relevant documentation;
- Documentation of findings against each element of the criteria.

ii. Post-Issuance Assessment of Green Bond *This Report

- Assessment of evidential documents provided by Kirin Holdings after the Green Bond issuance, and supplemental by desk review from a higher perspective;
- Interview with key personnel of Kirin Holdings and review the relevant documentation;
- Field research and inspection (if necessary);
- Review of the nominated projects and assets at the time of post-issuance (update of the details mentioned in Schedule-1);
- Document creation at the time of post-issuance verification.



VI. Findings and DNV's Opinion

DNV's findings and opinion are as follows.

Principle One: Use of Proceeds

DNV confirmed that a part of the proceeds JPY 10 billion raised by Kirin Holdings from the Green Bond have been allocated to green projects, which are consistent with the following eligible project categories outlined in the GBP and GBGLs.

DNV also confirmed that these projects have environmental benefits and contribute to SDGs.

Green project	Eligible projects	Allocated amount
Procurement of recyclable PET resin and capital investment	Procurement of recyclable PET resin	FY2020-2021: JPY 3.2 billion FY2022: JPY 1.7 billion Total allocation: JPY 4.9 billion (refinancing ratio: 42.4%)
Introduction of heat pump systems to production sites	Introduction of heat pump systems to production sites (5 factories)	FY2020-2021: JPY 0.2 billion FY2022: JPY 0.3 billion Total allocation: JPY 0.5 billion (refinancing ratio: 41.7%)
	Total amount	FY2020-2021: JPY 3.4 billion FY2022: JPY 2 billion Total allocation: JPY 5.4 billion (unallocated balance: JPY 4.6 billion)

Schedule-1 describes the list and details of these green projects.

DNV reviewed the above nominated projects and assets for eligibility.

Principle Two: Process for Project Evaluation and Selection

For the evaluation and selection of projects closely related to the key issues outlined in "CSV Purpose" and "Management Issues for Sustainable Growth (the Kirin Group Materiality Matrix (GMM)", DNV confirmed through the review that the accounting department and the CSV strategy department selected the eligible projects which meet the eligible criteria defined by the Framework, and the Executive Officer in charge of Financial Strategy made the final decisions on the selected eligible projects.

DNV confirmed that Kirin Holdings has met the eligibility criteria set out in the "Standards to be applied" in selecting the project in question, and that it has assessed and considered the negative impacts associated with the implementation of the project and identified the environmental and social risks in advance.

Principle Three: Management of Proceeds

DNV confirmed the management of proceeds from January 2022 to December 2022, the period covered by this periodic review, after the bond issuance based on specific records



(documentation) provided by Kirin Holdings. All proceeds are managed in cash and cash equivalents until disbursement. Details of disbursements and balances are recorded in accordance with Kirin Holdings' internal procedures. In each accounting period (year), Kirin Holdings reviews the balances of proceeds in accordance with the above management.

Kirin Holdings allocated JPY 4.9 billion (refinancing ratio: 42.4%) of the proceeds raised from the Green Bond to the procurement of recyclable PET resin.

Furthermore, JPY 0.5 billion (refinancing ratio: 41.7%) of the proceeds raised from the Green Bond was allocated to the introduction of heat pump systems to production sites.

DNV confirmed that Kirin Holdings had allocated a total of JPY 5.4 billion of the JPY 10 billion raised from the Green Bond to the above two projects, and that the unallocated balance of JPY 4.6 billion will be allocated to the procurement of recyclable PET resin before repayment.

Principle Four: Reporting

DNV confirmed that Kirin Holdings plans to report annually on its website with regard to information specific to the Green Bond required by the GBP and GBGLs.

The annual report will include the allocation status of proceeds and environmental benefits as described below until the proceeds have been allocated to projects.

Key reporting items will include the following.

<Allocation of Proceeds>

- Eligible criteria and the amount of allocated proceeds:
 - Procurement of recyclable PET resin

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FY2020-2021: JPY 3.2 billion; FY2022: JPY 1.7 billion; total allocation: JPY 4.9 billion
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- Introduction of heat pumps in factories (5 factories).
 - FY2020-2021: JPY 0.2 billion; FY2022: JPY 0.3 billion; total allocation: JPY 0.5 billion
- Management methods and the balance of unallocated proceeds:
 - Balance of unallocated proceeds: JPY 4.6 billion
 - Management methods of unallocated proceeds: Managed by cash and cash equivalents
- Proceeds to be allocated to refinancing:
 - Procurement of recyclable PET resin: JPY 2.1 billion
 - Introduction of heat pump systems to production sites (5 factories): JPY 0.2 billion

<Environmental benefits>

GHG emission reduction by the introduction of heat pump systems: 2,750 t-CO₂ (FY2022)



Calculation method:

[Annual reduction in city gas consumption due to introduction of systems $(Nm^3/year)] \times [CO_2 \text{ emission factor } (t-CO_2/Nm^3)]^{*1}$

- [Annual increase in electricity consumption due to introduction of systems (MWh/year)] \times [CO₂ emission factor^{*2} (t-CO₂/MWh)]^{*3}
 - *1: Annual reduction in city gas consumption calculated by comparison with metered steam consumption
 - *2: Emission factor by electricity provider (for calculation of GHG emissions of specific emitter)
 - *3: Increased annual electricity consumption due to the introduction of heat pump systems
- Percentage of recyclable PET resin procured: 8%

Calculation method:

[Amount of recyclable resin used] / [Amount of resin used for plastic bottles]



Assessment Conclusion

On the basis of the information provided by Kirin Holdings and the work undertaken, it is DNV's opinion that Kirin Holdings meets the criteria established in the Protocol and is aligned with the stated definition and purpose of the Green Bond within the GBP and GBGLs, which is to "enable capital-raising and investment for new and existing projects with environmental benefits."

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About DNV

Driven by our purpose of safeguarding life, property and the environment, DNV enables organisations to advance the safety and sustainability of their business. Combining leading technical and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight. With our origins stretching back to 1864, our reach today is global. Operating in more than 100 countries, our 16,000 professionals are dedicated to helping customers make the world safer, smarter and greener.

Disclaimer

Responsibilities of the Management of the Issuer and the Second-Party Opinion Providers, DNV: The management of Issuer has provided the information and data used by DNV during the delivery of this review. Our statement represents an independent opinion and is intended to inform the Issuer management and other interested stakeholders in the Bond as to whether the established criteria have been met, based on the information provided to us. In our work we have relied on the information and the facts presented to us by the Issuer. DNV is not responsible for any aspect of the nominated assets referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV shall not be held liable if any of the information or data provided by the Issuer's management and used as a basis for this assessment were not correct or complete.



Schedule-1 Overview of Eligible Projects

The projects in the table are those that have already been allocated after the issuance of the Green Bond.

Environmental Projects Categories	Green project	Eligible projects		Environmental Benefits	Allocated amount*
 Pollution prevention and control Eco-efficient products and/or circular economy adapted products, production technologies and processes 	Procurement of recyclable PET resin and capital investment	Proclirement of recyclanie PET resin		Percentage of recyclable PET resin: 8%	FY2020-2021: JPY 3.2 billion FY2022: JPY 1.7 billion Total allocation: JPY 4.9 billion (refinancing ratio: 42.4%)
· Energy Efficiency	heat pump he systems to sy	Introduction of heat pump systems to production sites	Fukuoka Plant (system introduced in February 2019)	GHG emission reduction by the introduction of heat	FY2020-2021: JPY 0.2 billion FY2022: JPY 0.3 billion Total allocation: JPY 0.5 billion (refinancing ratio: 41.7%)
			Okayama Plant (system introduced in December 2019 and March 2022)		
			Toride Plant (system introduced in January 2020)		
			Shiga Plant (system introduced in January 2020)		
			Nagoya Plant (system introduced in February 2020)		
Total amount					FY2020-2021: JPY 3.4 billion FY2022: JPY 0.2 billion Total allocation: JPY 5.4 billion (unallocated balance: JPY 4.6 billion)

^{*}As of December 2022



Schedule-2 Green Bond Eligibility Assessment Protocol

The following GBP-1 ~ GBP-4 are DNV's Framework Eligibility Assessment Protocol created for Kirin Holdings based on the requirements of GBP (2018). The "Confirmed documents" in the work undertaken includes internal documents of the issuer and are provided by the Kirin Holdings as evidence of eligibility judgement for DNV. The Kirin Holdings Green Bond Framework and related legal documents (Publication Registration Supplement Document) and the periodic report on FY2020 and FY2021 results, which are listed in the table, are separately disclosed as explanatory materials for investors.

GBP-1 Use of Proceeds

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1a	Type of bond	The bond must fall in one of the following categories, as defined by the Green Bond Principles: Green Use of Proceeds Bond Green Use of Proceeds Revenue Bond Green Project Bond Others	Confirmed Documents: • Kirin Green Bond Framework (hereinafter, Framework) • Publication Registration Supplement Document Interviews with stakeholders	Through the evaluation process, DNV confirmed that Kirin Holdings' Green Bond falls into the following categories. Green Use of Proceed Bond
1b	Green Project Categories	The cornerstone of a green bond is the utilization of the proceeds of the bond which should be appropriately described in the legal documentation for the bond.	Confirmed Documents: • Framework • Publication Registration Supplement Document • Allocation results-related documents • Project-related documents Interviews with stakeholders	DNV confirmed that all of the proceeds have been allocated to the following projects. <businesses efficiency="" energy="" related="" to=""> - Introduction of heat pump systems to production sites (5 factories) <businesses and="" control,="" environmentally-friendly="" manufacturing="" pollution="" prevention="" processes="" products,="" related="" technologies,="" to=""> - Procurement of recyclable PET resin and capital investment</businesses></businesses>



Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1c	Green benefits	All designated Green Project categories should provide clear greenly sustainable benefits, which, where feasible, will be quantified or assessed by the issuer.	Confirmed Documents: • Framework • Project-related documents • Environmental benefits result documents Interviews with stakeholders	DNV confirmed that the green project is a solution for the objective environmental issue, and that the environmental benefits of the project are clearly identified by the issuer. Specifically, DNV confirmed that each green project had environmental benefits respectively: introduction of heat pump systems to production sites for energy efficiency, and procurement of recyclable PET resin and capital investment for pollution prevention and control, environmentally-friendly products, manufacturing technologies, and processes, and that the benefits were quantitatively evaluated in terms of GHG emission reduction and percentage of recyclable resin used, respectively.
1d	Refinancing share	In the event that a proportion of the proceeds may be used for refinancing, it is recommended that issuers provide an estimate of the share of financing vs. refinancing, and where appropriate, also clarify which investments or project portfolios may be refinanced.	Confirmed Documents: • Framework • Publication Registration Supplement Document • Allocation results-related documents Interviews with stakeholders	At the end of December 2022, a total of JPY 5.4 billion of the proceeds (JPY 10 billion) had been allocated to green projects as follows, and the unallocated balance was JPY 4.6 billion. Procurement of recyclable PET resin: JPY 4.9 billion (refinancing ratio: 42.2%) Introduction of heat pump systems to production sites: JPY 0.5 billion (refinancing ratio: 41.7%)



GBP-2 Process for Project Selection and Evaluation

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
2a	Investment-decision process	The issuer of a Green bond should outline the decision-making process it follows to determine the eligibility of projects using Green bond proceeds. This includes, without limitation: • A process to determine how the projects fit within the eligible Green Projects categories; • The criteria making the projects eligible for using the Green bond proceeds; and • The environmental sustainability objectives	Confirmed Documents: • Framework • Green Bond periodic review materials • Project selection records Interviews with stakeholders	DNV confirmed that the accounting department and the CSV strategy department selected the eligible projects which meet the eligible criteria defined by the Framework, and the Executive Officer in charge of Financial Strategy made the final decisions on the selected eligible projects. DNV also confirmed that Kirin Holdings has met the eligibility criteria set out in the "Standards to be applied" in selecting the project in question, and that it has assessed and considered the negative impacts associated with the implementation of the project and identified the environmental and social risks in advance.
2b	Issuer's environmental, social and governance framework	In addition to information disclosed by an issuer on its Green bond process, criteria and assurances, Green bond investors may also take into consideration the quality of the issuer's overall framework and performance regarding green sustainability.	Confirmed Documents: • Framework • Green Bond periodic review materials Interviews with stakeholders	DNV confirmed that Kirin Holdings' social projects are in line with Kirin Holdings' "CSV Purpose" and the Long-Term Management Vision "Kirin Group Vision 2027 (KV2027)," and compliance with environmental laws, regulations, ordinances and agreements with the relevant regions was taken into account when implementing the projects. DNV also confirmed that the environmental benefits of social projects have been clearly identified through the review of the Framework and other documents and interviews with relevant stakeholders.



GBP-3 Management of Proceeds

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
3a	Tracking procedure-1	The net proceeds of Green bond should be credited to a sub-account, moved to a sub- portfolio or otherwise tracked by the issuer in an appropriate manner and attested to by a formal internal process that will be linked to the issuer's lending and investment operations for Green Projects.	Confirmed Documents: • Framework • Green Bond periodic review materials Interviews with stakeholders	DNV confirmed through document review and interviews the following required by the cash management. The net proceeds were credited to the account of Kirin Holdings and allocated through group companies and local subsidiaries to the eligible projects indicated in Schedule-1. DNV also confirmed that the proceeds from the Green Bond were managed by the internal management system, which specifies the recipients and the amount of proceeds to be allocated.
3b	Tracking procedure-2	So long as the Green bond outstanding, the balance of the tracked proceeds should be periodically reduced by amounts matching eligible green investments made until green benefit appearance or completion of proceeds allocation.	Confirmed Documents: • Framework • Green Bond periodic review materials Interviews with stakeholders	DNV confirmed through document review and interviews the following required by the cash management. Tracking and management of proceeds from the Green Bond (deposits, withdrawals, and balance checks) were conducted by the Kirin Holdings accounting department every month, and were controlled by the internal management system and internal regulations.
3C	Temporary holdings	Pending such investments or disbursements to eligible Green Projects, the issuer should make known to investors the intended types of temporary investment instruments for the balance of unallocated proceeds.		DNV confirmed through document review and interviews the following required by the cash management. The proceeds were managed in cash and cash equivalents until the time of actual allocation. The unallocated balance will be allocated to procurement of recyclable PET resin before repayment.



GBP-4 Reporting

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
4a	Periodical reporting	In addition to reporting on the use of proceeds and the temporary investment of unallocated proceeds, issuers should provide at least annually a list of projects to which Green bond proceeds have been allocated including - when possible with regards to confidentiality and/or competitive considerations - a brief description of the projects and the amounts disbursed, as well as the expected greenly sustainable impact.	Confirmed Documents: • Framework • Green Bond periodic review materials Interviews with stakeholders	DNV confirmed that Kirin Holdings plans to disclose information on the Kirin Holdings website regarding specific items required by the Green Bond (reporting of allocation status and impact reporting). • Eligible criteria and the amount of allocated proceeds: Procurement of recyclable PET resin (FY2020-FY2021: JPY 3.2 billion, FY2022: JPY 1.7 billion, total allocation: JPY 4.9 billion); introduction of heat pump systems to production sites (5 factories) (FY2020-FY2021: JPY 0.2 billion, FY2022: JPY 0.3 billion, total allocation: JPY 0.5 billion) • Management methods and the balance of unallocated proceeds: JPY 4.6 billion was managed in cash and cash equivalents • Proceeds to be allocated to refinancing: Procurement of recyclable PET resin (JPY 2.1 billion); introduction of heat pump systems to production sites (JPY 0.2 billion) • Percentage of recyclable PET resin: 8% • GHG emission reduction due to introduction of heat pump systems: 2,750 t-CO ₂ (FY2022)