



ANNEX - SECOND PARTY OPINION

The Government of Japan Climate Transition Bond Framework (CTBG additional application)

CTBG: Climate Transition Bond Guidelines, International Capital Market Association (ICMA)

Prepared by: DNV Business Assurance Japan K.K.

Location: Kobe, Japan

Date: 13 March 2026

Ref. Nr.: PRJN-627316-2023-ANX-JPN-01

This report is ANNEX - Second Party Opinion, which is prepared based on the "The Government of Japan Climate Transition Bond Framework (June 2025 Revision) Second Party Opinion" (Ref. Nr.: PRJN-627316-2023-AST-JPN-02), which was reviewed against to the Climate Transition Bond Framework (hereinafter, the "Framework") revised by the Government of Japan in June 2025.

This report provides an independent opinion as a third-party evaluation body (external reviewer) on whether the Framework continuously aligns with the Climate Transition Bond Guidelines in November 2025 and the latest relevant international principles and guidelines issued by the International Capital Market Association (ICMA).

*For more information on the ANNEX - Second Party Opinion, see the DNV website at

<https://www.dnv.jp/news/page-227965>



Executive Summary

DNV Business Assurance Japan K.K. (hereinafter, "DNV") provides an independent opinion as a third-party evaluation body (external reviewer) on the Climate Transition Bond Framework (Cabinet Secretariat, Financial Services Agency, Ministry of Finance, Ministry of Economy, Trade and Industry, Ministry of the Environment; hereinafter, the "Framework") revised by the Government of Japan (hereinafter, the "Issuer") in June 2025.

Specifically, DNV assesses whether the Framework is continuously aligned with the Climate Transition Bond Guidelines (hereinafter, the "CTBG") published by the International Capital Market Association (ICMA) in November 2025 and relevant latest international principles and guidelines.

In particular, DNV evaluated whether the representative use of proceeds (eligible projects) that correspond to the newly introduced Climate Transition Projects (CT Projects) in the CTBG among the eligibility criteria exemplified in the Framework is eligible as a CT Project in this report. DNV also evaluated whether the evaluation and selection protocol for the CT Projects have been established in consideration of the CTBG.

The overview of the assessment results of the ANNEX - Second Party Opinion on the Framework is shown below and in Table-1.

As for eligibility of other elements, DNV has evaluated and expressed our opinion through a second party opinion on the Framework that has already issued.

Overview of the assessment results of the ANNEX - Second Party Opinion

- As a result of the overall assessment, DNV concluded that the Framework has been aligned with the CTBG and relevant international principles and guidelines.
- DNV has confirmed through the assessment of the Issuer that the implementation of the CT Projects is important for the Japan's transition strategy for achieving carbon neutrality by 2050, including the Plan for Global Warming Countermeasures, the GX Promotion Strategy (GX 2040 Vision), Japan's NDCs, the Sectoral Technology Roadmap for the Promotion of Transition Finance, and the Sector-specific Investment Strategies, and that they are being carried out as an initiative aligned with the CTFH. DNV has also confirmed that the CT Projects, along with the Green Projects, are closely related to initiatives to achieve carbon neutrality in line with the CTFH.
- In addition, DNV has confirmed that the CT Projects target projects with technical and/or economic constraints and that the CT Projects, along with the Green Projects, are closely related to initiatives to achieve carbon neutrality in line with the CTFH.
- Considering technological trends and economic feasibility related to the CT Projects, the Issuer has set eligibility criteria with priority given to advanced technologies equivalent to BAT (Best Available Technology) that exceed BAU (Business as Usual), high-efficiency/low-carbon technologies, etc. As a specific example, DNV has confirmed that the Issuer reviews the criteria for the CT Projects based on the resolutions of external experts and committees, and the progress of the CT Projects,



and that the Issuer requires the CT Project implementers to carry on initiatives to avoid carbon lock-in.

In addition, DNV recommends the following measures to further support the elements set out in the CTBG (see Table-1 in Executive Summary and Section V of the main text “Findings and DNV’s Opinion” (2)).

- The current Framework does not specify the criteria and differences between CT Projects and Green Projects. As the CT Projects are positioned as complementing and going beyond the scope of the Green Projects in the CTBG, DNV recommends distinguishing the classification between CT Projects and Green Projects.
- As for the CT Projects requiring additional explanations on the alignment with the Sectoral Technology Roadmap, the governmental frameworks, etc., especially when fossil fuels are used, DNV recommends, where necessary, providing further supplementary information, in addition to addressing the five safeguards required by the CTBG.
- The Issuer has presented the policy direction on the important technologies common to carbon neutrality in each industrial field (e.g., supply and use of low-carbon and decarbonized fuels such as hydrogen, introduction of CCUS) in the Sectoral Technology Roadmap. DNV recommends providing further proactive explanation on these important technologies, with attention to the CTBG elements from the perspective of enhancing the probability of achieving carbon neutrality in the entire society in the future.

As a conclusion of the assessment, DNV, as a third-party evaluation body (external reviewer), has confirmed that the Climate Transition Bond to be issued by the Government of Japan based on the Framework are aligned with the CTBG and relevant latest international principles and guidelines, based on an assessment of the relevant documents and information provided by the Government of Japan, including the Framework.

As for the recommendations for some elements of the CTBG, DNV calls for these points to be continuously addressed from the perspective of promoting the goal stated in the Framework, “to achieve the national reduction targets and the international commitment to carbon neutrality by 2050 through the realization of GX (Green Transformation),” while enhancing transparency and credibility within the international frameworks.

Table-1 The Government of Japan Climate Transition Bond
ANNEX - Second Party Opinion

| | | | |
|---|---|---|---|
| Target finance | The Government of Japan Climate Transition Bond | | |
| Target organization | The Government of Japan | | |
| Target framework | Climate Transition Bond Framework June 2025 Revision (Initial version published in November 2023) Cabinet Secretariat/Financial Services Agency/Ministry of Finance/Ministry of Economy, Trade and Industry/Ministry of the Environment | | |
| Target external review | Climate Transition Bond Framework June 2025 Revision Second Party Opinion Ref. Nr.: PRJN-627316-2023-AST-JPN-02 Issued on 3 July 2025 | | |
| Target criteria | <p>Criteria for Climate Transition Finance</p> <ul style="list-style-type: none"> - [Updated] Climate Transition Finance Handbook (CTFH, International Capital Market Association (ICMA), 2025) - Basic Guidelines on Climate Transition Finance (CTFBG, Financial Services Agency, Ministry of Economy, Trade and Industry, Ministry of the Environment, 2025) <p>Criteria for Climate Transition Bonds with specific use of proceeds</p> <ul style="list-style-type: none"> - [Updated] Green Bond Principles (GBP, International Capital Market Association (ICMA), 2025) - Green Bond Guidelines (GBGL, Ministry of the Environment, 2022) - [Added] Climate Transition Bond Guidelines (CTBG, International Capital Market Association (ICMA), 2025) | | |
| Climate Transition Finance (response to the four disclosure elements) | Disclosure element-1 (Transition Strategy and Governance) Disclosure element-2 (Environmental Materiality) Disclosure element-3 (Science-based Strategy) Disclosure element-4 (Implementation Transparency) | | - Confirmed reliance on the Framework |
| Climate Transition Bond with specific use of proceeds (response to the CTBG additional elements and four common elements to the CTBG and GBP/GBGL) | Principle-1 Use of Proceeds (CTBG-1: Five safeguards for the use of proceeds) | 1. Aligning to CTFH | <ul style="list-style-type: none"> - The Government of Japan (hereinafter, the "Issuer") has formulated the sectoral technology roadmap (10 areas) to indicate the specific transition direction for GHG-intensive industries to achieve carbon neutrality by 2050. - DNV has confirmed through the assessment the CT Projects are aligned with the initiatives towards the CTFH. |
| | | 2. Technological / Economic unfeasibility | - DNV has confirmed through the assessment that the CT Projects were targeted for projects with technical and/or economic constraints. |
| | | 3. Taxonomy & Roadmap | <ul style="list-style-type: none"> - Same as "1. Aligning to CTFH." - However, DNV recommends, where possible, further expanding the content of the sectoral technology roadmap and related materials, which will serve as the basis for determining the eligibility of the CT Projects, such as by quantifying the criteria, setting milestones, etc. |
| | | 4. BAT & Not BAU | - Considering technological trends and economic feasibility related to the CT Projects, the Issuer has set eligibility criteria with priority given to advanced technologies |

| | | |
|---|---|---|
| | | equivalent to BAT (Best Available Technology) that exceed BAU (Business as Usual), high-efficiency/low-carbon technologies, etc. |
| | 5. Avoiding carbon lock-in risks | <ul style="list-style-type: none"> - DNV has confirmed that the Issuer is requiring the CT Project implementers to take measures to avoid carbon lock-in risks. - However, DNV recommends enhancing responses to avoid carbon lock-in risks (e.g., fuel switching or retrofitting plans, project expiration dates) in order to ensure that the Framework continuously aligns with the CTBG and the latest relevant international principles and guidelines. |
| <p>Principle-1 Use of Proceeds (CTBG-2: Seven confirmation items) *Seven confirmation items to consider when additional safeguards are needed to ensure the credibility of the CTB, where the CT Projects substantially relate to fossil fuel infrastructure or activities and are not already addressed through alignment with the taxonomy, pathways, roadmaps, or policy frameworks.</p> | The CTBG does not require all CT Projects to respond to all of (i) to (vii) below. It is important to consider the necessary items according to the content of the CT Projects. | |
| | (i) Activities/assets level transition plan | <ul style="list-style-type: none"> - The Issuer has indicated the activities/assets necessary for achieving the goals in the sectoral technology roadmap. - From the perspective of sufficiently complementing eligibility of the CT Projects, especially for fossil fuel used projects, DNV recommends clarifying transition plans at the project level, where necessary, such as quantified criteria and milestones of the CT Projects. |
| | (ii) Decommission/switch scenario | <ul style="list-style-type: none"> - The CT Projects are being organized and evaluated mainly those that currently play an important role in low-carbon and decarbonization. - To further ensure that the goals of the transition plan are achieved, DNV recommends presenting more specific decommissioning/switching scenarios or encouraging the CT Project implementers to present them, especially for fossil fuel used projects. |
| | (iii) Milestones reporting & verification | <ul style="list-style-type: none"> - The Issuer receives reports on the progress of each project (including the CT Projects) at a predetermined timing, such as annually, semi-annually, and at the completion of the project, and reflects them in the review of criteria and strategies as necessary. |
| | (iv) Low-carbon alternative investment plan | <ul style="list-style-type: none"> - The Issuer has established the sector-specific investment strategies and the sectoral technology roadmap as its own investment strategy, and is reviewing its strategies, investments, and supports, while monitoring the progress. |
| | (v) Limitation of the use of fossil fuels | <ul style="list-style-type: none"> - As for some CT Projects (where long-term usage of equipment or products is expected, or when there is an impact on the supply chain), DVV recommends, where necessary, taking measures to avoid continuous use of fossil fuels. |

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| (vi) Utilization of already existing assets | <ul style="list-style-type: none"> - Since the CT Projects have both perspectives of economic growth (business growth) and low-carbon/decarbonization realization, some CT Projects may involve new construction or expansion, in addition to the use of the existing equipment. |
| (vii) Introduction of CCUS | <ul style="list-style-type: none"> - The policy for introduction of CCUS has been presented in the sectoral technology roadmap. - However, CCUS is assumed to be introduced in a wide range of industries and businesses at various scale and constraints. Therefore, DNV recommends, where necessary, clarifying what kind of CT Projects would require introduction of CCUS, the timing of use, the scale of use, the required performance, etc. |
| Principle-1 Use of Proceeds (Common elements to the GBP and CTBG) | <ul style="list-style-type: none"> - DNV recommends distinguishing the classification between the Green Project criteria and the CT Project criteria within the eligibility criteria indicated in the Framework. - Confirmed that other elements rely on the Framework. |
| Principle-2 Process for Project Evaluation and Selection | <ul style="list-style-type: none"> - DNV recommends clarifying the periodic review of CT Project eligibility criteria. - Confirmed that other elements rely on the Framework. |
| Principle-3 Management of Proceeds | <ul style="list-style-type: none"> - Confirmed reliance on the Framework *Partly changed from the Second Party Opinion Revision-1 (July 2025) |
| Principle-4 Reporting | <ul style="list-style-type: none"> - Confirmed reliance on the Framework |



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Revision history

| Date of Issue | Main Changes |
|------------------------------|--|
| 7 November 2023 | The Government of Japan Climate Transition Bond Framework Second Party Opinion (Initial) |
| 3 July 2025 | The Government of Japan Climate Transition Bond Framework Second Party Opinion (Revision-1) |
| 13 March 2026 This report | Newly issued as ANNEX - Second Party Opinion of the above (Revision-1) - Additional assessment of the eligibility of the Climate Transition Bond Framework (June 2025 Revision) against the Climate Transition Bond Guidelines published by the International Capital Market Association in November 2025 and the latest relevant international principles and guidelines |

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

DNV has been commissioned by the Government of Japan (hereinafter, the "Issuer") to provide an additional assessment that the Climate Transition Bond Framework (Cabinet Secretariat, Financial Services Agency, Ministry of Finance, Ministry of Economy, Trade and Industry, Ministry of the Environment) revised in June 2025 (hereinafter, the "Framework") continuously aligns with the Climate Transition Bond Guidelines (hereinafter, the "CTBG") issued by the International Capital Market Association (ICMA) in November 2025 and the latest relevant international principles and guidelines.

The objective of DNV's assessment is to implement an assessment to confirm that the Issuer meets the criteria described below, and to provide an independent opinion as a third-party evaluation body (external reviewer) as the ANNEX - Second Party Opinion.

In particular, this report focuses on whether the eligibility criteria/projects that can be classified as climate transition projects (hereinafter, the "CT Projects") in the existing framework are eligible, against the disclosure elements required for issuing newly introduced climate transition bonds in the CTBG and the latest relevant international principles and guidelines.

DNV, as an independent external reviewer, has identified no real or perceived conflict of interest associated with the delivery of this ANNEX - Second Party Opinion for the Government of Japan.

In this paper, no assurance is provided regarding the financial performance of the climate transition bonds to be implemented in the future, the value of any investment, or the long-term environmental benefits of the transaction.

(1) Scope of review*

The review assessed the following elements and confirmed their alignment with the CTBG additional elements and the four core elements in the CTBG and GBP/GBGL, as required in the climate transition bonds with specific use of proceeds.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting |

* See Schedule-1 for the details on the CTBG-specific elements, though the names of the four core elements are the same as those in the GBP.

* Opinions on the elements in common with the CTFH/CTFBG and GBP/GBGL are expressed below*¹.

*1: "The Government of Japan Climate Transition Bond Framework (June 2025 Revision) Second Party Opinion"

Ref. Nr.: PRJN-627316-2023-AST-JPN-02, issued on 3 July 2025

(2) Role(s) of review provider

- | | |
|--|--|
| <input checked="" type="checkbox"/> Second Party Opinion | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> Rating |
| <input type="checkbox"/> Other (please specify): | |



(3) Standards to be applied and referred

| No. | Standards/Guidelines ^{*1} | Scheme Owner |
|-----|--|---|
| 1. | Climate Transition Finance Handbook (CTFH) ^{*2} | International Capital Market Association (ICMA), 2025 |
| 2. | Climate Transition Bond Guidelines (CTBG) ^{*3} | International Capital Market Association (ICMA), 2025 |
| 3. | Basic Guidelines on Climate Transition Finance (CTFBG) ^{*2} | Financial Services Agency, Ministry of Economy, Trade and Industry, Ministry of the Environment, 2025 |
| 4. | Green Bond Principles (GBP) ^{*4} | International Capital Market Association (ICMA), 2025 |
| 5. | Green Bond Guidelines (GBGL) ^{*4} | Ministry of the Environment, 2024 |

*1 Provide an eligibility assessment, citing relevant books recommended for reference in the principles and guidelines, etc., as appropriate.

*2 The concept of climate transition focuses principally on the credibility of the issuer's (fundraiser's) climate change-related commitments and practices (quoted from CTFH/CTFBG).

*3 Introduce the use of climate transition bonds with specific use of proceeds. Present the definition of the Climate Transition Project, safeguards, and the list of representative projects. In addition, provide the use of SLB by GHG-intensive fundraisers and relevant reference books (quoted and edited from CTBG).

*4 It confirms compliance with the four core elements (Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds, and Reporting) that must be met when implemented as a bond with specific use of proceeds that meets the four elements of transition (quoted and edited from CTFBG).

II. Responsibilities of the Issuer and DNV

The Issuer has provided the information and data used by DNV in this review. DNV's ANNEX - Second Party Opinion represents an independent opinion and is intended to inform the Issuer and stakeholders of 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 facts presented to us by the Issuer.

DNV is not responsible for any aspect of the projects nominated or to be nominated referred to in this opinion and assumes no responsibility for any inaccuracies in any facts, findings, opinions, or conclusions. Thus, DNV shall not be held liable if any of the information or data provided by the Issuer and used as a basis for this assessment was not accurate or complete.



III. Basis of DNV's Opinion

To provide a more flexible ANNEX - Second Party Opinion for the Issuer, DNV identified the key assessment targets and carried out assessments in accordance with its protocol.

DNV, as an independent external reviewer, provides ANNEX - Second Party Opinion according to the protocol.

Our Protocol includes a set of suitable criteria that can be used to underpin DNV's opinion. The overarching principles behind the Climate Transition Bond with specific use of proceeds as the basis for the opinion are as follows:

"Enable capital-raising and investment for new and existing projects with environmental benefits"

"Provide an investment opportunity with transparent sustainability credentials"

As per our Protocol, the Government of Japan's criteria against the Climate Transition Bond have been grouped into the following elements (1) to (2):

The additional assessment for this ANNEX - Second Party Opinion covers Principle-1: Use of Proceeds, and Principle-2: Process for Project Evaluation and Selection of (2) Four common elements of CTBG and GBP/GBGL.

All of (1) and a part of (2) (Principle-3: Management of Proceeds, Principle-4: Reporting) have already been assessed for eligibility, with no major changes or additions to the requirements. Detailed results of the eligibility assessment can be found in the "Government of Japan Climate Transition Bond Framework (June 2025 Revision) Second Party Opinion" (Ref. Nr.: PRJN-627316-2023-AST-JPN-02, issued on 3 July 2025) (hereinafter, the "SPO Revision-1").

(1) Four Common Elements of CTFH/CTFBG (disclosure elements)

→ **No major changes from the previous assessment (SPO Revision-1)**

Principle 1: Issuer's climate transition strategy and governance

The financing purpose should be for enabling a fundraiser's climate change strategy.

Principle 2: Business model environmental materiality

The planned climate transition trajectory should be relevant to the environmentally-material parts of the fundraiser's business model.

Principle 3: Climate transition strategy and targets to be science-based

The fundraiser's climate strategy should reference science-based targets and transition pathways.

Principle 4: Implementation transparency

Market communication in connection with the offer of a financing instrument which has the aim of funding the fundraiser's climate transition strategy should also provide transparency of the underlying investment program.



(2) Four Common Elements of CTBG and GBP and GBGL

***Subject to additional assessment of ANNEX - Second Party Opinion**

Principle 1: Use of Proceeds

CTBG and GBP/GBGL common elements: The Use of Proceeds criteria are guided by the requirement that a fundraiser of transition finance with specific use of proceeds must use the proceeds to eligible projects. The eligible projects should produce clear environmental benefits.

CTBG additional elements: It is required to explain the five safeguards for the activities covered by the CT Projects. In particular, where the CT Projects substantially relate to fossil fuel infrastructure or activities, and to the extent not already addressed by alignment with a taxonomy, pathway, roadmap, or policy framework, additional safeguards may be needed to ensure the credibility of a CTB.

Principle 2: Process for Project Evaluation and Selection

CTBG and GBP/GBGL common elements: The Process for Project Evaluation and Selection criteria are guided by the requirements that a fundraiser of transition finance should outline the process it follows when determining eligibility of an investment using transition finance proceeds, and outline any impact objectives it will consider.

CTBG additional elements: The Issuer's assessment of the CT Projects, considering the level of technical criteria (green vs. amber (transition), decarbonization measures), net-zero pathway, roadmap, market practices and investor expectations, technical aspects of projects, and the ambition level of the transition strategies and plans. It is required to conduct periodic reviews of the CT Project eligibility criteria at appropriate intervals.

Principle 3: Management of Proceeds

CTBG and GBP/GBGL common elements: The Management of Proceeds criteria are guided by the requirements that a transition finance should be tracked within the fundraising organization, that separate portfolios should be created when necessary and that a declaration of how unallocated proceeds will be handled should be made.

CTBG additional elements: There are no major additional elements.

Principle 4: Reporting

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

CTBG additional elements: There are no major additional elements.



IV. Work Undertaken

Our work constituted a comprehensive review of the available information, based on the understanding that this information was provided to us by the Issuer in good faith. We have not performed an audit or other tests upon pre-issuance assessment (Framework assessment) to check the veracity of the information provided to us.

The work undertaken to form our opinion included:

(1) Pre-issuance assessment (ANNEX - Second Party Opinion)

- Assessment of additional documentary evidence provided by the Issuer on the new criteria and guidelines for the Climate Transition Bond, and supplemented assessment by a comprehensive desktop research. These checks refer to current assessment best practices and standard methodologies;
- Discussions with the Issuer, and review of relevant documentation;
- Documentation of findings against each element of the criteria to be additionally assessed.

(2) Post-issuance assessment (periodic review) (not included in this report*)**

- Interviews with the management of the Issuer and review of relevant documentation;
- Field researches and inspections (if required);
- Document creation of post-issuance assessment results.



V. Findings and DNV's Opinion

DNV's findings and opinion are as described below.

CTBG-1 to CTBG-4 shows the assessment results for the additional elements required for the Climate Transition Bond with specific use of proceeds upon addition of the CTBG.

Among the CTBG elements, the four elements common to the GBP/GBGL have been evaluated in the Second Party Opinion (Revision-1) and have been confirmed eligibility. Therefore, the assessment results for the additional elements of the CTBG are mainly described here. See the Second Party Opinion (Revision-1) for the assessment results of the GBP/GBGL and similar elements after publication of the CTBG.

Table-2 shows the representative CT Projects included in the Framework that were selected for additional assessment.

Table-2 Representative CT Projects subject to assessment*

*Mainly selected projects that use fossil fuels and projects that emit a lot of CO₂, among the eligibility criteria for the Framework.

(This does not cover all potential nominated CT Projects for the Framework and the Climate Transition Bond)

| Eligibility Criteria | | Representative Nominated CT Projects |
|---|---|--|
| Main Category (GBP Categories) | Sub-category | |
| 1. Energy efficiency | 1.1 Promotion of thorough energy efficiency improvement | Subsidy for promoting energy saving investments and supporting demand structure transformation projects |
| | | Support program for installing CO ₂ -saving facilities to reduce Scope 3 emissions through collaboration among companies |
| 2. Renewable energy | 2.2 Infrastructure | Grant for accelerating regional decarbonization transition (microgrid-related projects utilizing privately-owned distribution lines and other related initiatives) |
| 4. Clean transportation | 4.1 GX in transport sector | Subsidy for introduction of next-generation automobiles (Subsidy for promoting introduction of clean energy vehicles) |
| | | Promotion of the construction of zero-emission ships etc. |
| 5. Circular economy adapted products, production technologies and processes | 5.2 Facilitating introduction of hydrogen and ammonia | Support projects for supply chain building and price differences of low-carbon hydrogen etc. |



CTBG-1. Use of Proceeds

(1) Five safeguards for CT Projects

1. Aligning to CTFH at the Issuer-level and CT Projects

- The Issuer has established Japan's transition strategy for achieving carbon neutrality by 2050, including the Plan for Global Warming Countermeasures, the GX Promotion Strategy (GX 2040 Vision), Japan's NDCs, the Sectoral Technology Roadmap, and the Sector-specific Investment Strategies, and is promoting initiatives in line with the CTFH. DNV has also confirmed through the assessment of the Issuer that the CT Projects, along with the Green Projects, are closely related to carbon neutrality initiatives aligned with the CTFH.
- As a specific initiative, the Issuer has formulated and updated a sectoral technology roadmap (10 areas) and presented sector-specific investment strategies etc. that are considered important for promoting GX in order to indicate the specific transition direction to carbon neutrality in GHG-intensive industries. DNV has confirmed through the assessment that the CT Projects are aligned with these CTFH initiatives.

Sectoral technology roadmap:

https://www.meti.go.jp/english/policy/energy_environment/transition_finance/index.html

Sector-specific investment strategies:

https://www.meti.go.jp/english/press/2024/1227_001.html

2. Technological & economic unfeasibility of low-carbon alternatives

- DNV has confirmed through the assessment that the Issuer has set up the CT Projects on the condition that there are technical or economic constraints on the introduction of low-carbon (decarbonized) alternative technologies from the use of fossil fuels as energy for heat supply and power in promoting decarbonization of a wide range of industrial sectors.
- In addition, DNV judges that the CT Projects (promotion of energy saving) that enable the reduction of electricity and fossil fuel usage (or percentage) as described by the Issuer are initiatives to reduce low-carbon or decarbonized energy (electricity and fuel) in the long term, as well as in the short- to medium-term, which will play an important role in achieving carbon neutrality.

3. Alignment with relevant taxonomy & roadmap

- DNV has confirmed through the assessment that the CT Projects are aligned with Japan's decarbonization policies, such as the formulation of the sectoral technology roadmap and the sector-specific investment strategies (see Figure-1), as shown in CTBG-1 (1) 1. The sectoral technology roadmap is exemplified in ANNEX-2 of the CTBG as a representative transition pathway and roadmap.

- However, DNV recommends, where possible, further expanding the content of the sectoral technology roadmap and related materials, which will serve as the basis for determining the eligibility of the CT Projects, such as by quantifying the criteria, setting milestones, etc.

4. BAT (Best Available Technology) and Not BAU (Business As Usual)

- Considering technological trends and economic feasibility related to the CT Projects, the Issuer has set eligibility criteria with priority given to advanced technologies equivalent to BAT (Best Available Technology) that exceed BAU (Business as Usual), high-efficiency/low-carbon technologies, etc. As a specific example, DNV has confirmed through the assessment that the Issuer is reviewing the criteria for the CT Projects based on the resolutions of external experts and committees, and the progress of the CT Projects.
- While some CT Projects have quantitative reference values^{*}, DNV recommends specifically indicating the basis for these criteria to be used as eligibility criteria for the CT Projects, and why they were considered BAT and not BAU.

*Examples of quantitative reference values: CO₂ reduction effect of investment promotion projects to reduce Scope 3 emissions by 30%, low-carbon hydrogen: 3.4 kg-CO₂/kg-H₂ (boundary: Well to Gate *From raw material production to final products of hydrogen production equipment), etc.

5. Avoiding carbon lock-in risks

- DNV has confirmed through the assessment that the Issuer is requiring the CT Project implementers to consider and implement initiatives to avoid carbon lock-in risks^{*}.

*Examples of initiatives to avoid carbon lock-in risks: Conversion to non-fossil energy sources such as the use of hydrogen and ammonia and the introduction of synthetic methane, and fuel conversion from coal and oil to lower-carbon (fossil) fuels such as LNG and methanol

- However, DNV recommends enhancing responses to avoid carbon lock-in risks (e.g., fuel switching or retrofitting plans, project expiration dates) in order to ensure that the Framework continuously aligns with the CTBG and the latest relevant international principles and guidelines.



(2) Considerations for CT Projects using fossil fuels*

*Seven confirmation items to consider when additional safeguards are needed to ensure the credibility of the CTB, where the CT Projects substantially relate to fossil fuel infrastructure or activities, and to the extent not already addressed by alignment with a taxonomy, pathway, roadmap, or policy framework.

DNV conducted an assessment of the Issuer on the representative CT Projects, and has confirmed that these initiatives align with the sector-specific investment strategies and the sectoral technology roadmap of the government, and that the Issuer is working in each project to avoid carbon lock-in risks.

The CTBG does not require all CT Projects to respond to all of (i) to (vii) below. It is important to consider the necessary items according to the content of the CT Projects.

Here describes an overall assessment of the representative CT Projects through the assessment of the Issuer.

(i) Activities/assets level transition plan

- The Issuer has presented an overall transition plan to achieve carbon neutrality by 2050 at the industrial level through the formulation of Japan's and the sectoral technology roadmaps.
- On the other hand, at the practical level such as the project level required by the CTBG, the formulation of transition plans until 2050 is limited. DNV has confirmed through the assessment that it is difficult to develop a unique and predictable transition plan from a technical and economic perspective at this time. In the future, to achieve carbon neutrality by 2050, DNV recommends that priority will be given to formulating and disclosing project-level transition plans, where necessary, for industries, common decarbonization technologies(e.g., energy saving, electrification, supply and use of decarbonized fuels such as hydrogen, CCUS) that are considered to play an important role, and the CT Projects that require long-term research, development, demonstration, and implementation.

(ii) Decommissioning/fuel switching scenario

- In the sectoral technology roadmap (prepared with reference to government measures, overseas scenarios, etc.), the Issuer has presented the main reduction methods and reduction images for the three periods ((1) 2020/2023 - 2030, (2) 2030 - 2040, and (3) 2040 - 2050). As for emission reduction through decommission or fuel switching mentioned in them, DNV recommends, where possible, further expanding the content of the sectoral technology roadmap and related materials, which will serve as the basis for determining the eligibility of the CT Projects, such as by quantifying the criteria, setting milestones, etc.
- In addition, the decommission and fuel switching of the CT Projects using fossil fuels are closely related to the development and introduction of common

technologies necessary for decarbonization (e.g., energy saving, electrification, supply and use of decarbonized fuels such as hydrogen, CCUS). Therefore, DNV recommends presenting more concrete scenarios from research to introduction (including decommissioning/fuel switching scenarios) for the common technologies that complement each of the sectoral technology roadmaps in promoting such scenarios of fossil fuel used projects.

(iii) Reporting & verification of key milestones

- The Issuer receives reports on the implementation status of the CT Projects annually or at an appropriate time from the CT Project implementers. While the reports do not include certain items set out in the CTBG, such as major milestones, deadlines, and annual reports of external verification, it can be assessed that major milestones have been reported and verified from the perspective of the characteristics of the CT Projects and the role of the Issuer.
- It can be positively assessed that the Issuer receives reports from the CT Project implementers and leads to a review of the reference values and requirements for the CT Projects when necessary.

(iv) Incidental investments and supports for future low-carbon alternative measures

- The Issuer has presented the sector-specific investment strategies and the sectoral technology roadmap to enhance the predictability of companies to achieve green transformation (GX), which aims to achieve the three goals of decarbonization, economic growth, and stable energy supply, and to strongly attract GX investments. These investment strategies and roadmap include various investment strategies and supports for the GX-related technologies.
- DNV recommends the Issuer and the CT Project implementers to carry on investments and supports for achieving future low-carbon alternative measures of the CT Projects subject to allocation.

(v) Expanding the use of fossil fuels & limiting the extension of asset life

- DNV has confirmed through the assessment of the Issuer that most CT Projects do not lead to critical fossil fuel use expansion or asset life extension at the project, system, and industry levels.
- On the other hand, for technologies that require large-scale and long-term research, development, demonstration, introduction, and operation (e.g., promotion of the introduction of hydrogen and ammonia (promotion of zero-emission thermal power, fuels and raw materials conversion in the steel and chemical industries, etc.), CCUS), and for technologies that currently face significant economic constraints and are already widely used (e.g., GX in the

transportation sector such as passenger cars and ships), fossil fuels may be used over the long term. In this context, DNV recommends that the Issuer promote low-carbon and decarbonization initiatives through the promotion of current CT Projects, and where necessary, set conditions for the CT Projects (such as requiring phased reduction conditions) and set time limits for the CT Projects, so as not to lead to increased use of fossil fuels or extended asset life in the medium- to long-term.

(vi) Use of existing assets

- DNV has confirmed through the assessment that the CT Projects have both the perspectives of economic growth (business growth) and achieving low-carbon/decarbonization, therefore, some CT Projects may involve new construction or expansion, in addition to utilizing existing facilities.
- New construction and expansion are subject to the CT Projects only when it is technically and economically difficult at this time to introduce the Green Projects, as they have both the perspectives of economic growth (business growth) and achieving low-carbon/decarbonization, which are necessary for the realization of GX. As new construction and expansion temporarily increase CO₂ emissions, DNV recommends that, where necessary, the Issuer set conditions for CT Projects, especially those involving new construction or expansion, so that they do not lead to continued use of fossil fuels over the long term.

(vii) Introduction of CCUS for further emission reduction

- DNV has confirmed through the assessment of the Issuer that the need for CCUS introduction varies depending on the nature of the CT Project. DNV believes that the introduction of CCUS will be limited for GX projects where electrification and hydrogenation will be an option for decarbonization in the future (e.g., use of heat pumps and air conditioners, GX in certain transportation sector where electrification is possible, GX in heat and electricity using decarbonized fuels such as hydrogen), so DNV recommends that the Issuer, where necessary, clarify what kind of CT Projects would need to introduce CCUS, the timing and scale of use, the required performance, etc. (It has been explained on the utilization of CCUS at the industrial level in the sectoral technology roadmap etc., but DNV recommends considering it at the project level in accordance with the CTBG elements.)



CTBG-2. Process for Project Evaluation and Selection

(1) Setting CT Project evaluation criteria

- DNV has confirmed through the assessment of the Issuer that the Issuer is working to clarify the safeguards required in CTBG-1 and the items to be considered when using fossil fuels, assuming that the eligibility of the CT Projects is aligned with Japan's transition strategy.
- On the other hand, the current Framework does not specify the criteria and differences between CT Projects and Green Projects. As the CT Projects are positioned as complementing and going beyond the scope of the Green Projects in the CTBG*, DNV recommends distinguishing between CT Projects and Green Projects.
- As for the projects falling under the CT Projects category, in addition to addressing the five safeguards required under the CTBG, DNV recommends, where necessary, providing further supplementary information on those that require additional explanations on the alignment with the Sectoral Technology Roadmap, the governmental frameworks, etc., especially when fossil fuels are used.

(2) Review of CT Project evaluation criteria

- The Issuer receives reports on the implementation status from the CT Project implementers on an annual basis or at an appropriate time, and is working to review the CT Project evaluation criteria.
- In addition, the Issuer has determined the scope and selection criteria for the CT Projects through discussions within the expert working group and the GX Implementation Council on the basic principles and necessary GX measures for investment promotion strategies.

Through the assessment to CTBG-2, DNV recommends periodically reviewing the procedures for evaluation and selection for the Green Projects/CT Projects, especially for those critical to the realization of GX, such as setting of criteria, the criteria period, review plans, etc., in order to ensure that the Framework continuously aligns with the CTBG and the latest relevant international principles and guidelines.

CTBG-3. Management of Proceeds

Same as the results of the SPO Revision-1. There are no major additional elements by the CTBG.

CTBG-4. Reporting

Same as the results of the SPO Revision-1. There are no major additional elements by the CTBG.



VI. Assessment Conclusion

On the basis of the information provided by the Issuer and the work undertaken, it is DNV's opinion that the Climate Transition Bond to be executed by the Government of Japan based on the Framework meets the major elements of the requirements in the Eligibility Assessment Protocol that is aligned with the CTBG and the latest relevant international principles and guidelines, and is aligned with the following stated definition or purpose of climate transition bonds with specific use of proceeds:

- "Enable capital-raising and investment for new and existing projects with environmental benefits"
- "Provide an investment opportunity with transparent sustainability credentials"

In addition, DNV recommends the Issuer continuously review and improve the expected and recommended items presented in this ANNEX - Second Party Opinion and the Second Party Opinion (Revision-1) which has already been issued, from the perspective that the future Climate Transition Bonds align with the CTBG and other international frameworks (standards/guidelines) and provide transparency and credentials.

DNV Business Assurance Japan K.K.

13 March 2026

A handwritten signature in black ink, appearing to read "Akira Tsukasaki".

Akira Tsukasaki

Technical Reviewer

DNV Business Assurance Japan K.K.

A handwritten signature in black ink, appearing to read "Naoki Maeda".

Naoki Maeda

Representative Director /

Senior Vice President

DNV Business Assurance Japan K.K.

A handwritten signature in black ink, appearing to read "Masato Kanedome".

Masato Kanedome

Project Manager

DNV Business Assurance Japan K.K.



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.