
Tohoku Electric Power Co., Inc.

DNV·GL

For Green bond eligibility for pre-issuance

DNV GL Verification Report



Dec. 2019 (Rev1.0)

DNV GL Business Assurance Japan K. K.

Table of Contents

Executive Summary	3
I Introduction	5
II Scope and Objectives	5
III Responsibilities of the Management of the Issuer and DNV GL	6
IV Basis of DNV GL's opinion	6
V Work Undertaken	7
VI Findings and DNV GL's opinion	8
Schedule-1. List of green project candidates	12
Schedule-2. Green Bond Eligibility Assessment Protocol	13

Revision history

Revision number	Issue Date (dd/mm/yyyy)	Remarks
0.1	20/12/2019	Draft verification report for internal review
1.0	23/12/2019	The first revision (published)

Executive Summary

Tohoku Electric Power Co., Inc. (hereinafter “Tohoku Electric Power” or “Issuer”) plans to issue a green bond to raise funds for projects related to the development, construction, operation and renovation of renewable energy. Based on the contract with Tohoku Electric Power, DNV GL Business Assurance Japan Co., Ltd. (hereinafter “DNV GL”) has conducted verification that the Green Bond Framework (hereinafter “Framework”), which is formulated by Tohoku Electric Power, and the planned green bond meet the Climate Bonds Standard V2.1 (hereinafter “CBS”). As a result, based on the limited assurance procedures conducted by DNV GL, nothing has come to our attention that causes us to believe that the green bond is not, in all material respects, in compliance with the requirements of the CBS and the associated sector technical criteria. The following is an overview of the assessment results for the four elements indicated in the Green Bond Principles 2018 (hereinafter referred to as “GBP”), which are also the core elements of the CBS:

1. Use of Proceeds:

Framework defines eligible criteria for the use of proceeds as “renewable energy project”. This is in line with the eligible Green Project categories described in the GBP. Specifically, the proceeds are planned to be used for financing (new investment) and refinancing for wind, geothermal, solar PV, hydro and/or biomass power generation. These projects are expected to have clear environmental benefits and contribute to “The Commitment to a Low Carbon Society”, which is an initiative by electric utilities in Japan, as well as the UN “Sustainable Development Goals”.


2. Process for Project Evaluation and Selection:

Tohoku Electric Power has formulated both the “Tohoku Electric Power Group Environmental policies” and “Medium-Term Environmental Action Plan”. It also has set goals for environmental sustainability. The evaluation and selection of green projects are finalized by the Board of Directors through an appropriate internal determination process at the relevant department of the issuer. Specifically, the department responsible for projects related to renewable energy evaluates and selects green project candidates based on the eligibility criteria, and the accounting and finance department reviews their conformity. These processes are consistent with the GBP.

3. Management of Proceeds:

The net proceeds are managed by the accounting department with the internal accounting system that can track them at any time. The net proceeds are given a unique code of cash management and managed so as not to exceed the total amount of new investment/refinance of the nominated projects and assets. Unallocated proceeds will be managed as cash or cash equivalents in accordance with the Issuer’s internal rules, including internal accounting procedures, until they are fully allocated to the nominated project and assets. These are aligned with the GBP.

4. Reporting:



Tohoku Electric Power plans to report on the status of the bond proceeds allocated in its annual integrated report, until the bond proceeds are fully allocated. This includes the balance of the amount of unallocated proceeds, the allocated amount of the proceeds, and the approximate amount (or percentage of the portion) of proceeds that have been used for refinancing. Tohoku Electric Power also plans to disclose indicators, with respect to environmental benefits, for both the total amount of annual CO₂ emission reductions and the total plant capacity, sorted by sub-category of renewable energies. These are aligned with the GBP.

In addition, Tohoku Electric plans to prepare for post-issuance verification by DNV GL to ensure that the green bonds comply with the key elements of the above-mentioned principles and guidelines.

This is an additional information. This verification was conducted from a viewpoint of conformity to the Green Bond Guidelines 2017 (by Ministry of the Environment Japan Government), and the same conclusions were obtained. DNV GL may revise the verification report and clarify the amount of the fund raised and relevant information after issued/determined.

I Introduction

i. About the Issuer

Tohoku Electric Power Co., Inc. (hereinafter “Tohoku Electric Power” or “Issuer”) is one of Japan's major power companies, which are engaged in power generation, transmission/distribution and retail sales in the local market in Japan. Established in 1951, the Issuer is based in mainly six prefectures within Tohoku region (Aomori, Iwate, Akita, Miyagi, Yamagata, Fukushima) and Niigata prefecture.

Based on the Group Environmental Policy, Tohoku Electric Power develops renewable energy power generation facilities with a total output of 2.0 million kW, mainly in the Tohoku region and Niigata prefecture.

ii. About Green Bond Framework

Tohoku Electric Power has formulated the Green Bond Framework (hereinafter “Framework”) as part of its activities in line with the Group Environmental Policy. Using this framework, the Issuer plans to issue green bonds (hereinafter “BOND”) to raise funds to realize projects that are expected to have environmental benefits. The funds raised will be allocated to green projects in accordance with the following eligible Green Project categories:

- Renewable energy (including production, transmission, appliances and products)

II Scope and Objectives

The issuer has commissioned DNV GL Business Assurance Japan Co., Ltd. (hereinafter “DNV GL” or “we”) to conduct verification for its green bond eligibility for pre-issuance requirements. As an approved verifier, DNV GL's purpose of the pre-issuance verification is to verify that the BOND and the candidates of the green projects are aligned with Climate Bond Standard V2.1 (hereinafter “CBS”) and the relevant sector eligibility criteria. DNV GL conducts verification considering that CBS is fully aligned with ICMA's Green Bond Principles 2018 (hereinafter “GBP”).

In addition to and separate from DNV GL performing a pre-issuance verification on the compliance of the green bond with the CBS and the associated sector technical criteria, DNV GL has conducted a qualitative review of the green bond eligibility to consider their alignment with Green Bond Guidelines 2017 (hereinafter “GBGLs”), which has been formulated by the Ministry of the Environment Japan Government.

DNV GL holds no other engagements with the Issuer, including its direct shareholders, for which we foresee conflict of interest to carry out the Scope of Work as defined in the agreement agreed with the Issuer. In this paper, no assurance is provided regarding the

financial performance of the BOND, the value of any investments in the BOND, or the long-term environmental benefits of the transaction.

III Responsibilities of the Management of the Issuer and DNV GL

The management of the Issuer has provided the information and data used by DNV GL during the delivery of this review. DNV GL's statement represents an independent opinion and is intended to inform the Management of the Issuer 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 GL is not responsible for any aspect of the nominated projects and assets referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV GL shall not be held liable if any of the information or data provided by the Management of the Issuer and used as a basis for this assessment were not correct or complete.

IV Basis of DNV GL's opinion

To provide as much flexibility as possible for the issuer, DNV GL have applied our green bond assessment methodologies, which incorporates the requirements of the GBP, CBS and GBGLs, to create the Issuer-specific Green Bond Eligibility Assessment Protocol (hereinafter "DNV GL's Protocol"). The DNV GL's Protocol has the capacity for potential application of green bonds under the CBS, GBP and GBGLs (please see Schedule-2 of this report in details).

DNV GL's Protocol includes a set of suitable criteria that can be used to underpin DNV GL'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 DNV GL's Protocol, the criteria against which the 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 an issuer of a green bond must use the funds raised to bond 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 an issuer of a

green bond should outline the process it follows when determining 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 bond proceeds and that quantitative and/or qualitative performance indicators should be used, where feasible.

V Work Undertaken

Our work constituted a high level of 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 to check the veracity of the information provided to us. The work undertaken to form our opinion included:

i. Pre-Issuance verification

- Creation of the Issuer-specific DNV GL's Protocol;
- Assessment of evidential documents provided by the Issuer before issuance of the BOND, and supplemental assessment with desk review from a higher perspective;
- Interview with key personnel of the Issuer, and review of the relevant documentation; and
- Reporting of findings against each element of the eligibility criteria

ii. Post-issuance verification (*it is not included in this report)

- Assessment of evidential documents provided by the Issuer after issuance of the BOND, and supplemental assessment by desktop review from a higher perspective;
- Interview with key personnel of the Issuer, and review of the relevant documentation;
- Field survey and inspection, if necessary;
- Review of the nominated projects and assets at the time of the post-issuance verification, including updating the list of them in Schedule-1; and
- Reporting of findings against each element of the eligibility criteria at the post-issuance verification


Documents provided by the Issuer that relate directly to the BOND are listed below:

- /1/ Green Bond Framework (the Issuer's internal document)
- /2/ List of investment target (the Issuer's internal document)
- /3/ Internal control audit report (June 2019, publicly available)
- /4/ Audit report of independent auditor (July 2019, publicly available)
- /5/ Internal accounting standards/procedures (the Issuer's internal document)
- /6/ Itemized statement of asset/liability account (the Issuer's internal document)
- /7/ Determination of green bond projects and cash management (Established by Accounting Department in Nov/ 2019)
- /8/ Green Bond Amended Shelf Registration Statement (draft)
- /9/ Documents of Environmental Review Advisory Committee and Wind Power Subcommittee (Electric Power Safety Division of Commerce and Distribution safety group of Ministry of Economy, Trade and Industry Japan Government, FY2015-FY2018, publicly available)
- /10/ Written opinion of the Minister of the Environment on the EIA process
- /11/ List of emission factors by electric power company (FY2019, Ministry of the Environment)
- /12/ CDM registered PDD (UNFCCC)
- /13/ Environmental and Social Impact Assessment Report, Environmental and Social Due Diligence, and Environmental and Social Monitoring Report, published by Asian Development Bank
- /14/ Akita Prefecture Official Website (subsite named "Overview of EIA for each project")
- /15/ Iwate Prefecture Official Website (subsite named "Status of EIA procedures")
- /16/ Aomori Prefecture Official Website (subsite named "Status of EIA procedures")
- /17/ Miyagi Prefecture Official Website (subsite named "Status of EIA")
- /18/ Legal requirements such as technical standards based on Electric Utility Industry Law (Act No. 170 of 1964)
- /19/ Ministerial Ordinance Establishing Technical Standards for Wind Energy Facilities for Power Generation (Ministry of Trade and Industry Ordinance No. 53 of 1997)

These have been used as direct sources of evidence for the verification conclusions, and are also further checked, as considered appropriate, through interviews with key personnel.

VI Findings and DNV GL's opinion

DNV GL conducted the verification in accordance with ISAE3000 (Assurance engagements other than audits or review of historical financial information). The verification included: i) checking whether the provisions of the CBS were consistently and appropriately applied and ii) the collection of evidence supporting the verification.



DNV GL's verification approach draws on an understanding of the risks associated with conforming to the CBS and the controls in place to mitigate these. DNV GL planned and performed the verification by obtaining evidence and other information and explanations that DNV GL considers necessary to give limited assurance that the BOND meet the requirements of the CBS. In addition, since the conformity to GBGLs of the BOND can be related to the conformity to CBS, the verification results are summarized in one form as described below. The Findings and DNV GL's opinion are as follows:

1. Use of Proceeds

DNV GL confirmed that the net proceeds are planned to be allocated to projects related to the development, construction, operation and renovation of "renewable energy" such as wind, geothermal, solar PV, hydro, geothermal and/or biomass power generation. The candidates (not formally nominated yet) of the eligible green project are in the process of environmental impact assessment in accordance with the EIA Act in Japan or other countries and meets the relevant sector eligibility criteria of the CBS.


All net proceeds are used for financing (new investment) or refinancing in green projects. These projects are expected to have clear environmental benefits and contribute to "The Commitment to a Low Carbon Society", which is an initiative by electric utilities in Japan, as well as the UN "Sustainable Development Goals". All these aspects are considered that the candidate green projects are aligned with one of eligible green project categories specified in the CBS/GBP. The conformity to GBGLs was also confirmed.

2. Process for Project Evaluation and Selection

The Issuer has formulated the "Medium-Term Environmental Action Plan" based on "Tohoku Electric Power Group Environmental policies" and has set goals to be achieved for environmental sustainability. Through the review, DNV GL confirmed that the green project candidates listed in Schedule-1 are aligned with the Issuer's environmental policy.

In addition, the Issuer has defined the whole processes for project evaluation and selection for eligible green projects, in accordance with its business practices using conventional internal controls in the company. Specifically, the division/department responsible for projects related to renewable energy evaluates and selects green project candidates based on the eligibility criteria, and the accounting and finance department reviews their conformity. DNV GL confirmed through verification activities that the evaluation and selection of green projects are finalized by the Board of Directors through an appropriate internal determination process. The issuer takes CBS requirements into consideration seriously when evaluating and selecting projects. Therefore, it was confirmed that these processes are aligned with the CBS/GBP. The conformity to GBGLs was also confirmed.

3. Management of Proceeds



DNV GL has reviewed how the issuer can track and manage allocation of the net proceeds until they are fully allocated. The details are as followings:

- Management of the net proceeds through the BOND is performed by the internal accounting system. Unallocated proceeds are managed as cash or cash equivalents until they are fully allocated to the nominated projects and assets.
- The net proceeds are given a unique code of cash management and managed by the accounting department with the internal accounting system.
- At the stage of allocation, the accounting department confirms whether each notice of investment decision matches the eligible project, and the actual expenditure is tracked and managed on the accounting system. The amount of unallocated proceeds is confirmed through itemized statement of asset/liability account at least annually, and managed that the total amount of new investment/refinance of the nominated projects and assets is to be no less than the total amount of the BOND until the allocation is completed.
- The financial records related to cash management are retained appropriately in accordance with the document retention period specified in the Issuer's accounting procedures.

As a result, we confirmed that the Issuer's method to manage the total amount of net proceeds is appropriate and it is aligned with the CBS/GBP. The conformity to GBGLs was also confirmed.

4. Reporting

DNV GL confirmed that the issuer plans to report on the status of the net proceeds of the BOND allocated in its annual integrated report until all the allocation is completed. The scope of reporting includes the balance of the amount of unallocated proceeds, the allocated amount of the proceeds, and the approximate amount (or percentage of the portion) of proceeds that have been used for refinancing. The Issuer also plans to disclose indicators, with respect to environmental benefits, as below:

- Total amount of annual CO₂ emission reductions by sub-category of renewable energies (t-CO₂/y)
- The total plant capacity by sub-category of renewable energies (MW)

These are aligned with the CBS/GBP. In addition, the Issuer plans to prepare for post-issuance verification by DNV GL to ensure that the green bonds comply with the key elements of the above-mentioned principles and guidelines. The conformity to GBGLs was also confirmed.

As a result, based on the limited assurance procedures conducted by DNV GL, nothing has come to our attention that causes us to believe that the green bond is not, in all material respects, in compliance with the requirements of the CBS/GBP and the associated sector technical criteria.

DNV GL Business Assurance Japan K.K.

23rd December 2019



Mark Robinson
Manager, Sustainability Services
DNV GL – Business Assurance, Australia



Naoki Maeda
Managing Director
DNV GL – Business Assurance Japan K.K.



Masato Kanedome
Project Leader
DNV GL – Business Assurance Japan K.K.

About DNV GL

Driven by our purpose of safeguarding life, property and the environment, DNV GL 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.



Schedule-1. List of green project candidates

DNV·GL

No.	Category	Sub-category	Remarks
1	Renewable energy	Geothermal	Currently, one project is listed as a candidate and it is in the process of environmental impact assessment as well as environmental due diligence.
2		Offshore wind farms	Currently, several projects are listed as candidates and it is in the process of environmental impact assessment.
3		Onshore wind farms	Currently, several projects are listed as candidates and it is in the process of environmental impact assessment.

Schedule-2. Green Bond Eligibility Assessment Protocol

GBP-1 Use of proceeds

#	Criteria	Requirements/Contents	Work Undertaken	DNV GL Findings
1a	Type of bond	The bond must fall in one of the following categories, as defined by the Green Bond Principles: <ul style="list-style-type: none"> • Green Use of Proceeds Bond • Green Use of Proceeds Revenue Bond • Green Project Bond • Green Securitized Bond • 	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	The BOND falls into the category below: <ul style="list-style-type: none"> • Green Use of Proceeds Bond
1b	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 security.	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	It was confirmed through the legal documents related to the BOND that the all the net proceeds are allocated to financing (new investment) or refinancing for projects related to development, construction, operation and renovation of renewable energy.
1c	Environment al benefits	All designated Green Project categories should provide clear environmentally sustainable benefits, which, where feasible, will be quantified or assessed by the issuer.	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	It was confirmed that the green project will contribute to reduce CO ₂ emissions, and the environmental benefits are reported annually.
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. re-financing, and where appropriate, also clarify which investments or project portfolios may be refinanced.	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	It was confirmed through interview with the personnel of the Issuer that the approximate amount (or percentage of the portion) of the proceeds for refinancing are disclosed through a periodic reporting.

GBP-2 Process for Project Evaluation and Selection

#	Criteria	Requirements/Contents	Work Undertaken	DNV GL 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: <ul style="list-style-type: none"> • A process to determine how the projects fit within the eligible Green Projects categories identified in the Green Bond Principles; • The criteria making the projects eligible for using the Green Bond proceeds; and • The environmental green objectives 	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	It was confirmed through document review and interview with the personnel of the Issuer that processes to determine the eligibility of the project that use the proceeds from the BOND have been clearly described in the framework.
2b	Issuer’s environmental 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 environmental sustainability.	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	It was confirmed through document review and interview with the personnel of the Issuer that the candidate green projects are based on the local regulations of each country and they are in the process of EIA (or have already done) where the environmental aspects are fully considered and publicly available in each assessment stage.

GBP-3 Management of proceeds

#	Criteria	Requirements/Contents	Work Undertaken	DNV GL Findings
3a	Tracking procedure-1	The net proceeds of Green Bonds 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.	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	It was confirmed through document review and interview with the personnel of the Issuer that the net proceeds can be traced by the Issuer’s accounting system and ensured by confirmation processes in the Issuer’s internal accounting standard/procedures.

#	Criteria	Requirements/Contents	Work Undertaken	DNV GL Findings
3b	Tracking procedure-2	So long as the Green Bonds are outstanding, the balance of the tracked proceeds should be periodically reduced by amounts matching eligible green investments or loan disbursements made during that period.	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	It was confirmed through document review and interview with the personnel of the Issuer that the Issuer plans to review the balance of the tracked proceeds regularly (at least annually), in order to be reduced by amounts matching eligible green investments.
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.	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	It was confirmed through document review and interview with the personnel of the Issuer that the balance of the unallocated amount is recognized sequentially through the Issuer's accounting system and confirmation processes based on internal accounting standards/procedures. In addition, it was confirmed that the balance of unallocated proceeds is disclosed through periodical reporting on the allocation of proceeds.

GBP-4 Reporting

#	Criteria	Requirements/Contents	Work Undertaken	DNV GL 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 <ul style="list-style-type: none"> - 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 environmentally sustainable impact. 	<ul style="list-style-type: none"> • Interviews with stakeholders • Document review 	It was confirmed through document review and interview with the personnel of the Issuer that the issuer reports on the BOND annually and disclose the status of the net proceeds as needed until the allocation of proceeds is completed.