

MANULIFE

VERIFICATION LETTER FOR THE CLIMATE BONDS STANDARD – SOLAR, WIND

Issuing entity: Manulife

Type of engagement: Assurance Engagement

Period engagement was carried out: October 20, 2017 – October 31, 2017

Approved verifier: Sustainalytics

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Scope and Objectives:

Manulife is a global financial services company that aligns its financing and investment activities to help it continue funding a low-carbon, climate-resilient future. Manulife has engaged Sustainalytics to provide pre-issuance verification for a potential Manulife Green Bond under the Solar and Wind criteria of the Climate Bonds Standard.

Proceeds from the potential Manulife Green Bond will be allocated towards the development, construction, operation, maintenance and upgrades of:

- i. facilities and equipment wholly dedicated to the generation of renewable energy as defined by the International Renewable Energy Agency (IRENA) Statute¹, including solar energy and wind energy;
- ii. transmission infrastructure and other supporting infrastructure wholly dedicated to renewable energy generation facilities including inverters, transformers, energy storage systems and control system;
- iii. production or manufacturing facilities wholly dedicated to equipment, feedstock or components for renewable energy generation facilities.

Manulife has identified a portfolio of potentially eligible solar energy and wind energy projects (“Nominated Projects”) that may receive allocations from the proceeds of its potential Green Bond. Please see Schedule 1 for examples of Nominated Projects.

¹ IRENA Statute, 2009.

http://uat.irena.org/-/media/Files/IRENA/Agency/About-IRENA/Statute/IRENA_FC_Statute_signed_in_Bonn_26_01_2009_incl_declaration_on_further_authentic_versions.ashx?la=en&hash=FAB3B5AE51B8082B04A7BBB5BDE978065EF67D96&hash=FAB3B5AE51B8082B04A7BBB5BDE978065EF67D96

Climate Bonds Standard Criteria:

Climate Bonds Standards Version 2.1

- Solar
- Wind

Issuing Entity's Responsibility

Manulife was responsible for providing information and documents relating to:

- The details concerning the selection process for the Nominated Projects;
- The details of the Nominated Projects;
- The management systems for internal processes and controls for Nominated Projects, including: tracking of proceeds, managing unallocated proceeds and earmarking funds to Nominated Projects;
- The details of commitments for reporting prior to issuance, including: investment areas, management of unallocated proceeds and frequency of periodic Assurance Engagements.

Independence and Quality Control

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted pre-issuance verification of the potential Manulife Green Bond. Sustainalytics provided an independent opinion on the conformance of this potential Green Bond with the Climate Bonds Standard - Solar and Wind criteria. Sustainalytics makes all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment of the Green Bond.

Verifier's Responsibility

The work undertaken as part of this engagement included review of relevant documentation to confirm the potential Green Bond's conformance with the Climate Bonds Certification Pre-Issuance Requirements, which include:

- Climate Bonds Standard Version 2.1;
- Technical Criteria on Solar;
- Technical Criteria on Wind;
- Internal Processes & Controls requirements;
- Reporting Prior to Issuance requirements.

Basis of the Opinion

Sustainalytics conducted the verification in accordance with the Climate Bond Standard Version 2.1 and with International Standard on Assurance Engagements 3000 – Assurance Engagements other than Audits or Reviews of Historical Information.

Sustainalytics planned and performed the verification by obtaining evidence and other information and explanations that Sustainalytics considers necessary to give reasonable assurance that the potential Green Bond meets the requirements of the Climate Bond Standard. Upon reviewing evidence and other information, Sustainalytics is of the opinion that the proposed uses of proceeds of the Green Bond will comply with Climate Bond Standard requirements.

Sustainalytics has relied on the information and the facts presented by Manulife. Sustainalytics is not responsible for any aspect of the Nominated Projects referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, Sustainalytics shall not be held liable if any of the information or data provided by Manulife's management and used as a basis for this assessment were not correct or complete.

Opinion

Based on the limited assurance procedures conducted, nothing has come to Sustainalytics' attention that causes Sustainalytics to believe that, in all material respects, the potential Manulife Green Bond whose proceeds will be allocated to finance Solar and Wind renewable energy projects, is not in conformance with the Climate Bonds Standard Version 2.1 Pre-Issuance Requirements.



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Schedule 1: Examples of Nominated Projects

Project Name	Asset Type	Asset Location	Size (MW)
Riviere-de-Moulins Wind Project	Wind	Quebec, Canada	350
Mount Sainte-Marguerite Wind Farm	Wind	Quebec, Canada	147
Kingston Solar Project	Solar	Ontario, Canada	100
Grand Renewable Solar Project	Solar	Ontario, Canada	100

The portfolio of Nominated Projects is comprised of:

- 58% wind energy projects;
42% solar energy projects.
- 83% projects located in Canada;
17% projects located in the USA.

Schedule 2A: Criteria of the Climate Bonds Certification Pre-Issuance Requirements

<p>Selection of Nominated Projects and Assets:</p>	<p>1.1 Statement on the environmental objectives of the bond and process to determine whether the Nominated Projects & Assets meet the eligibility requirements</p> <p>1.2 Confirmation that Nominated Projects and Assets meet the Climate Bonds criteria</p> <p>1.3 Document a list of Nominated Projects and Assets</p> <p>1.4 Confirmation that Nominated Projects and Assets will not be nominated to other Climate Bonds</p> <p>1.5 Confirmation that Net Proceeds of the Green Bond shall not be greater than the value of the Nominated Projects and Assets</p>
<p>Internal Processes and Controls</p>	<p>2.1.1 Tracking of proceeds</p> <p>2.1.2 Managing of unallocated proceeds</p> <p>2.1.3 Earmarking funds to Nominated Projects and Assets</p>
<p>Reporting Prior to Issuance</p>	<p>3.1.1 Investment area of Nominated Projects and Assets</p> <p>3.1.2 Intended types of temporary investments for the management of unallocated proceeds</p> <p>3.1.3 Approach of Verifier</p> <p>3.1.4 Whether periodic Assurance Engagement will be undertaken, and the expected frequency of any periodic Assurance Engagements</p>

Schedule 2B: Conformance to the Climate Bonds Standard

Procedure Performed	Factual Findings	Error or Exceptions Identified
Verification of requirements specified under Selection of Nominated Projects and Assets	<p>1.1 The objective of the Green Bond is to finance solar and wind renewable energy projects (Nominated Projects), detailed in Schedule 1.</p> <p>1.2 The Nominated Projects meet the Solar criteria and Wind criteria of the Climate Bond Standard.</p> <p>1.3 Current Nominated Projects may include:</p> <ul style="list-style-type: none"> • Riviere-de-Moulins Wind Project • Mount Sainte-Marguerite Wind Farm • Kingston Solar Project • Grand Renewable Solar Project <p>1.4 Manulife’s management confirms that the projects shall not be nominated to other Climate Bonds.</p> <p>1.5 Manulife’s management confirms that the net proceeds of the Green Bond shall not be greater than the value of the projects.</p>	None
Verification of requirements specified under Internal Processes and Controls	<p>2.1.1 Manulife’s management confirms that proceeds will be earmarked and tracked in a systematic manner and will be exclusively used to finance Nominated Projects.</p> <p>The net proceeds from the Green Bond issuance will be deposited in general fund accounts and an amount equal to the net proceeds will be earmarked for allocation to Nominated Projects.</p> <p>2.1.2 Manulife’s management confirms that the balance of unallocated proceeds will be invested in cash or liquid securities in accordance with Manulife’s normal liquidity management policy.</p> <p>2.1.3 Manulife’s management has confirmed that the proceeds from the bond will be earmarked until designated to the Nominated Projects.</p>	None

<p>Verification of requirements specified under Reporting Prior to Issuance</p>	<p>3.1.1 The Bond Disclosure Documentation discloses that the proceeds of the transaction will be used to finance solar and wind renewable energy projects.</p> <p>3.1.2 The Bond Disclosure Documentation discloses the intended types of temporary investments for the management of unallocated proceeds.</p> <p>3.1.3 The Bond Disclosure Documentation discloses that an approved third party verifier has been engaged to confirm the Green Bond’s conformance with pre-issuance requirements of the Solar criteria and Wind criteria of the Climate Bonds Standard.</p> <p>3.1.4 The Bond Disclosure Documentation discloses that an approved third party verifier will conduct post-issuance assurance exercise within a year’s time to reaffirm conformance of the Green Bond with the Solar criteria and Wind criteria of the Climate Bonds Standard.</p>	<p>None</p>
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The client is fully responsible for ensuring its commitments' compliance, implementation and monitoring.

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Sustainalytics is an independent ESG and corporate governance research, ratings and analysis firm supporting investors around the world with the development and implementation of responsible investment strategies. With 13 offices globally, Sustainalytics partners with institutional investors who integrate environmental, social and governance information and assessments into their investment processes. Today, the firm has more than 300 staff members, including 170 analysts with varied multidisciplinary expertise of more than 40 sectors. Through the IRRI survey, investors selected Sustainalytics as the best independent responsible investment research firm for three consecutive years, 2012 through 2014 and in 2015, Sustainalytics was named among the top three firms for both ESG and Corporate Governance research. The firm was also named the Best SRI or Green Bond Research Firm by Global Capital in 2015. For more information, visit www.sustainalytics.com

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