

MANULIFE GREEN BOND

Type of Engagement: Annual Review

Date: 24 October 2018

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Introduction

In November 2017, Manulife issued a green bond aimed at financing activities that help contribute to a low-carbon, climate-resilient future. In October 2018, Manulife engaged Sustainalytics to review the projects funded through the issued green bond and provide an assessment as to whether the projects met the Use of Proceeds criteria and the Reporting commitments outlined in the Manulife Green Bond Framework. The proceeds of the green bond were fully allocated at issuance to renewable energy projects, specifically wind and solar.

Evaluation Criteria

Sustainalytics evaluated the projects and assets funded in 2017 based on whether the projects and programmes:

1. Met the Use of Proceeds and Eligibility Criteria outlined in the Green Bond Framework; and
2. Reported on at least one Key Performance Indicator (KPI) for each Use of Proceeds criteria outlined in the Green Bond Framework.¹

Table 1 lists the Use of Proceeds and Eligibility Criteria

Table 1: Manulife Use of Proceeds and Eligibility Criteria for Renewable Energy

Use of Proceeds	Eligibility Criteria
Renewable Energy	<p>Development, construction, operation, maintenance and upgrades of:</p> <p>i. facilities and equipment wholly dedicated to the generation of renewable energy, as defined by the International Renewable Energy Agency (IRENA) Statute², including:</p> <ul style="list-style-type: none"> • wind energy • solar energy • small-scale hydro (under 25 Mega Watts) • bio-energy from waste biomass • tidal energy • geothermal energy <p>ii. transmission infrastructure and other supporting infrastructure wholly dedicated to renewable energy generation facilities including inverters, transformers, energy storage systems and control systems</p> <p>iii. production or manufacturing facilities wholly dedicated to equipment, feedstock or components for renewable energy generation facilities</p>

Issuing Entity's Responsibility

Manulife is responsible for providing accurate information and documentation relating to the details of the projects that have been financed, including description of projects, allocated amounts, and project impact.

¹ The Manulife Green Bond Framework commits to reporting on qualitative and quantitative environmental performance indicators where feasible. See Appendix 1 for environmental performance indicators reported on per use of proceeds category in the Manulife Green Bond Report.

²IRENA 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

Independence and Quality Control

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of Manulife's Green Bond Use of Proceeds. The work undertaken as part of this engagement included collection of documentation from Manulife employees and review of documentation to verify conformance with the Green Bond Framework.

Sustainalytics has relied on the information and the facts presented by Manulife with respect to the eligible projects. Sustainalytics is not responsible nor shall it be held liable if any of the opinions, findings, or conclusions it has set forth herein are not correct due to incorrect or incomplete data provided by Manulife.

Sustainalytics made 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 review.

Conclusion

Based on the limited assurance procedures conducted,³ nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the reviewed projects, allocated through proceeds of Manulife's Green Bond, are not in conformance with the Use of Proceeds and Reporting Criteria outlined in the Green Bond Framework. Furthermore, the methodology used to calculate estimated avoided CO2 emissions was assessed and found to be credible and based on accepted third party GHG emission calculation tools. Manulife has disclosed to Sustainalytics that the proceeds of the green bond were fully allocated as of November 21, 2017.

Detailed Findings

Table 2: Detailed Findings

Eligibility Criteria	Procedure Performed	Factual Findings	Error or Exceptions Identified
Use of Proceeds Criteria	Verification of the projects funded by the green bond in 2017 to determine if projects aligned with the Use of Proceeds Criteria outlined in the Green Bond Framework and above in Table 1.	All projects reviewed complied with the Use of Proceeds criteria.	None
Reporting Criteria	Verification of the projects funded by the green bond in 2017 to determine if impact of projects was reported in line with the KPIs outlined in the Green Bond Framework.	All projects reviewed reported on at least one KPI per Use of Proceeds criteria.	None

³ Sustainalytics limited assurance process includes reviewing the documentation relating to the details of the projects that have been funded, including description of projects and project impact, which were provided by the Issuer. The Issuer is responsible for providing accurate information. Sustainalytics has not conducted on-site visits to projects.

Appendix 1: Impact Reporting by Eligibility Criteria

Green Bond Category	Location(s)	Amount Allocated (million SGD)	Installed capacity (MW)	Energy generated (MWh)	Avoided CO ₂ (tons)
Renewable Energy: Wind Energy	Canada	219	83	271,719	37,700
Renewable Energy: Solar Energy	Canada & US	278	44	61,007	15,000
	TOTAL:	497	127	332,726	52,700

NOTE:

The capacity, energy, and avoided emissions are calculated on a basis proportional to Manulife's share of debt and equity investments in the project, scaled to the amount financed by the green bond proceeds

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Sustainalytics

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