

Manulife Second Green Bond

Type of Engagement: Annual Review

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Engagement Team:

Zach Margolis, zach.margolis@sustainalytics.com, 647-695-4341

Winnie Toppo, winnie.toppo@sustainalytics.com, 647-317-3649

Introduction

In November 2017, Manulife released a Green Bond Framework¹. In May 2018, Manulife issued its second green bond under the Framework, aimed at financing renewable energy, energy efficiency and sustainably managed forestry projects. In April 2019, Manulife engaged Sustainalytics to review the projects financed through its second green bond and provide an assessment as to whether the projects met the Use of Proceeds criteria and the Reporting commitments outlined in the Green Bond Framework.

Evaluation Criteria

Sustainalytics evaluated the projects and assets financed in 2018 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 qualitative and/or quantitative environmental performance indicators as outlined in the Green Bond Framework.

Table 1: Use of Proceeds and Eligibility Criteria

Use of Proceeds	Eligibility Criteria
Renewable Energy	<ul style="list-style-type: none"> • Development, construction, operation, maintenance and upgrades of: <ol style="list-style-type: none"> i. facilities and equipment wholly dedicated to the generation of renewable energy, as defined by the International Renewable Energy Agency (IRENA) Statute², including: <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 ii. transmission infrastructure and other supporting infrastructure wholly dedicated to renewable energy generation facilities including inverters, transformers, energy storage systems and control systems iii. production or manufacturing facilities wholly dedicated to equipment, feedstock or components for renewable energy generation facilities

¹ The Manulife Green Bond Framework (<http://m.manulife.com/servlet/servlet.FileDownload?file=00P5000000u15GVEAY>) commits to reporting on qualitative and quantitative environmental performance indicators where feasible. See Appendix 1 for environmental performance indicators reported in the Manulife Green Bond Report on per use of proceeds category.

² IRENA Statute, 2009. <https://www.state.gov/documents/organization/179955.pdf>

Sustainably Managed Forestry	<ul style="list-style-type: none"> • Purchase and operation of sustainably-managed forest holdings certified by credible third-party forest certification systems, such as: <ol style="list-style-type: none"> i. Forest Stewardship Council (FSC) ii. Programme for the Endorsement of Forest Certification (PEFC)
Energy Efficiency	<ul style="list-style-type: none"> • Development, construction, acquisition, installation, operation, and upgrades of projects that reduce energy consumption or improve the efficiency of resources, including: <ol style="list-style-type: none"> i. projects involving the installation, maintenance or replacement of efficient heating, ventilation, air conditioning, refrigeration, lighting and electrical equipment ii. projects that allow the monitoring and modeling of energy performance such as the design and installation of digital controls, sensors or building information systems iii. projects that optimize the amount and time of energy consumption by minimizing peak loads, such as design and installation of metering systems, smart grids, load control systems

Issuing Entity's Responsibility

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

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 confirm the conformance with the Green Bond Framework.

Sustainalytics has relied on the information and the facts presented by Manulife with respect to the Nominated 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 at time of issuance, May 9, 2018.

³ Sustainalytics' limited assurance process includes reviewing the documentation relating to the details of the projects that have been financed, including description of projects, allocated amounts, 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.

Detailed Findings

Table 3: Detailed Findings

Eligibility Criteria	Procedure Performed	Factual Findings	Error or Exceptions Identified
Use of Proceeds Criteria	Verification of the projects funded by the second green bond in 2018 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 second green bond in 2018 to determine if the impact of projects was reported in line with the Green Bond Framework. For a list of KPIs reported please refer to Appendix 1.	All projects reviewed reported on at least one KPI per Use of Proceeds criteria.	None

Appendix 1: Impact Reporting by Eligibility Criteria

Use of Proceeds and Eligibility Criteria Category	Reported estimated emissions avoided (tonnes CO ₂)	Other reported quantitative indicators
Renewable Energy: Wind	725	24,173 MWh electricity generated ⁴
Renewable Energy: Solar	19,760	77,343 MWh electricity generated ⁵
Energy Efficiency	44,535	32,635 MWh energy savings
Sustainably Managed Forestry	193,380	28,440 PEFC-certified acres ⁶
Total	258,400	

NOTE:

The avoided emissions and other quantitative indicators 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

⁴ Annual energy generation for wind power is calculated based on forecasted figures.

⁵ Annual energy generation for solar power is calculated based on estimated and actual figures.

⁶ Manulife has confirmed that the forestry projects to which green bond proceeds have been allocated are certified by Sustainable Forest Initiative (SFI) endorsed by the Programme for the Endorsement of Forest Certification (PEFC), and has provided information on the certifications for Sustainalytics' review.

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Sustainalytics

Sustainalytics is a leading independent ESG and corporate governance research, ratings and analytics firm that support investors around the world with the development and implementation of responsible investment strategies. With 13 offices globally, the firm partners with institutional investors who integrate ESG information and assessments into their investment processes. Spanning 30 countries, the world's leading issuers, from multinational corporations to financial institutions to governments, turn to Sustainalytics for second-party opinions on green and sustainable bond frameworks. Sustainalytics has been certified by the Climate Bonds Standard Board as a verifier organization, and supports various stakeholders in the development and verification of their frameworks. In 2015, Global Capital awarded Sustainalytics "Best SRI or Green Bond Research or Ratings Firm" and in 2018 and 2019, named Sustainalytics the "Most Impressive Second Party Opinion Provider. The firm was recognized as the "Largest External Reviewer" by the Climate Bonds Initiative as well as Environmental Finance in 2018, and in 2019 was named the "Largest Approved Verifier for Certified Climate Bonds" by the Climate Bonds Initiative. In addition, Sustainalytics received a Special Mention Sustainable Finance Award in 2018 from The Research Institute for Environmental Finance Japan and the Minister of the Environment Award in the Japan Green Contributor category of the Japan Green Bond Awards in 2019.

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Or contact us info@sustainalytics.com

