

Manulife

Type of Engagement: Annual Review

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Introduction

In 2017 and 2018, Manulife issued green bonds aimed at financing activities that help advance a low-carbon, climate-resilient future. In April 2020, Manulife engaged Sustainalytics to review the projects financed through the issued green bonds 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. This review follows previous reviews of the 2017 issuance, conducted in October 2018 and November 2019, and a previous review of the 2018 issuance, conducted in May 2019.

Evaluation Criteria

Sustainalytics evaluated the projects and assets financed in 2017 and 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 ¹

Table 1 lists the Use of Proceeds and Eligibility Criteria that are applicable to the 2017 and 2018 issuances.²

Table 1: Use of Proceeds and Eligibility Criteria

| Use of Proceeds | Eligibility Criteria |
|------------------------------------|--|
| Renewable Energy | 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) Statute³, including: • 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 |
| Sustainably Managed Forestry | Purchase and operation of sustainably-managed forest holdings certified by credible third-party forest certification systems, such as: i. Forest Stewardship Council (FSC) ii. Programme for the Endorsement of Forest Certification (PEFC) |

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 Manulife's 2019 Green Bond Annual Report, dated May 2020.

² The Green Bond Framework also allows for investment in green buildings, clean transportation, sustainable water management, and pollution prevention and control.

³ IRENA Statute, 2009. https://www.state.gov/documents/organization/179955.pdf



| Energy Efficiency | Development, construction, acquisition, installation, operation, and upgrades of projects that reduce energy consumption or improve the efficiency of resources, including: 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 |
|----------------------|--|
| | 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 financed, 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,⁴ 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 both the 2017 and 2018 green bonds were fully allocated at the respective times of issuance.

Detailed Findings

Table 3: Detailed Findings

| Eligibility Criteria | Procedure Performed | Factual Findings | Error or Exceptions Identified | |
|-------------------------|---------------------|------------------|--------------------------------------|--|
| | | | | |

⁴ 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.



| Use of Proceeds Criteria | Verification of the projects funded by the green bonds in 2017 and 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 green bond in 2017 and 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

Manulife has provided in their 2019 Green Bond Report the following reporting information. These figures have been revised for the 2019 reporting period to reflect actual energy generation and timber production.

| Green Bond Category | Issuance | Location(s) | Amount Allocated ⁵ (mn) | Avoided CO ₂ (tons) | Other reported quantitative indicators |
|--------------------------------------|-----------------|----------------|--|--------------------------------|--|
| Renewable Energy: Wind Energy | Green Bond 1 | Canada | SGD 219 | 38,485 | 277,003 MWh generated |
| Renewable Energy: Solar Energy | Green Bond 1 | Canada & US | SGD 278 | 15,256 | 59,272 MWh generated |
| Renewable Energy: Wind | Green Bond 2 | Uruguay | CAD 19.8 | 926 | 30,867 MWh generated |
| Renewable Energy: Solar | Green Bond 2 | Canada & US | CAD 333.9 | 19,711 | 73,405 MWh generated |
| Energy Efficiency | Green Bond 2 | US | CAD 171.6 | 44,535 | 32,635 MWh saved |
| Sustainably Managed Forestry | Green Bond 2 | US | CAD 72.6 | 31,398 | 28,440 PEFC-certified acres ⁶ |
| | · | TOTAL: | 497 mn SGD 597.9 mn CAD | 150,311 | |

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

⁵ Allocated amounts from Green Bond 1 are provided in million SGD, amounts from Green Bond 2 are provided in million CAD, reflecting the currency in which the bond was issued.

⁶ Manulife has confirmed that the forestry projects to which green bond proceeds have been allocated are certified by the 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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