

Green Bond Framework

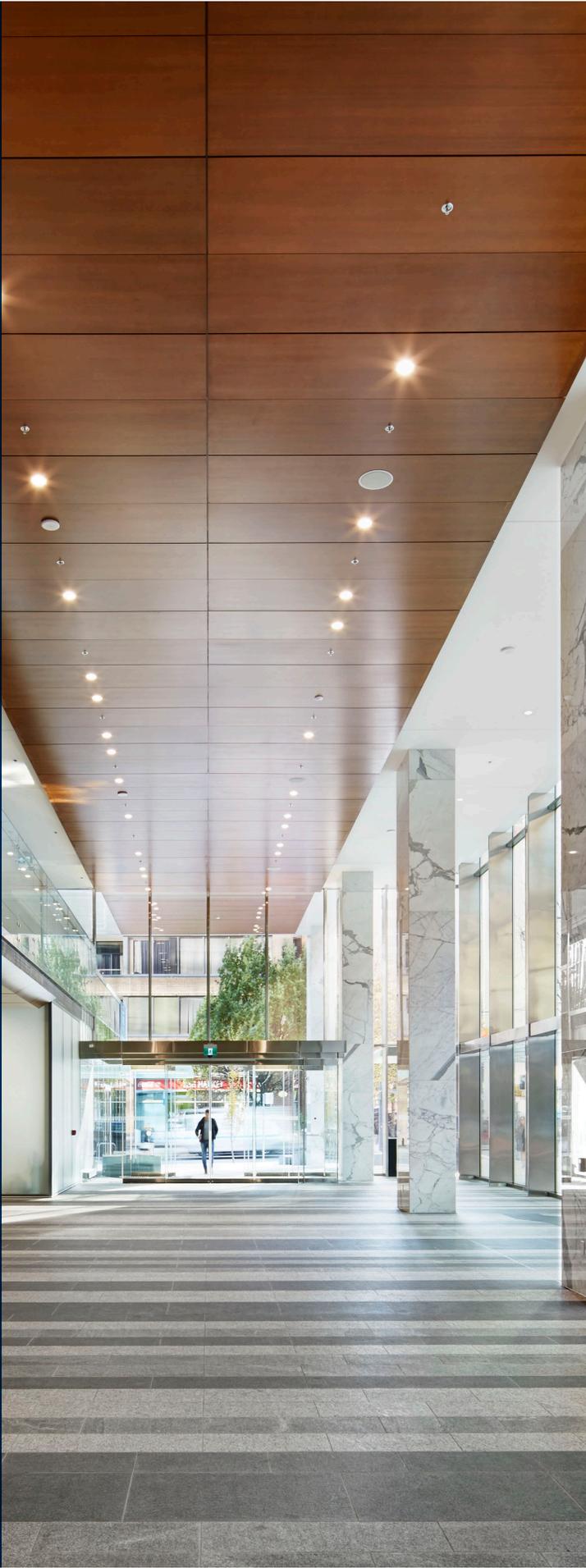
November 2017



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Manulife investment philosophy in support of sustainability

Governments, businesses and civil society are coming together to address the challenges posed by climate change. As a leading international financial services group, we are taking steps to reduce our environmental footprint.

As a large, long-term investor, we pay attention to the risks posed by climate change, but we also recognize that we are in a position to help facilitate the transition to a more sustainable economy and that our success is ultimately linked to the long-term health and wealth of people and economies.

Manulife, and its subsidiaries, have long been committed to sustainability in finance and investments and are signatories to several international sustainability initiatives, including *Accounting for Sustainability*, the *United Nations Environment Program Finance Initiative* and the United Nations-supported *Principles for Responsible Investment*.

Manulife believes that investments in renewable energy, energy-efficient buildings, sustainably-managed forestry and other long-duration assets provide a good economic fit for our long-dated insurance liabilities, some of which continue for over 20 years.

Manulife also believes that asset ownership that adheres to strong governance, environmental, health, safety, and social practices can help to reduce risks and improve financial performance.

This Green Bond Framework (the “**Framework**”) represents the next step in Manulife’s contribution to sustainable economic development. It aligns our financing and investment activities to help us continue funding a low-carbon, climate-resilient future.

The Framework applies to Green Bonds issued by Manulife on or after November 2017. It sets out the guidelines for Manulife’s Green Bond issuances in accordance with the four core components of the International Capital Markets Association’s Green Bond Principles¹: (i) use of proceeds; (ii) process for project evaluation and selection; (iii) management of proceeds; and (iv) reporting.

¹International Capital Markets Association, “Green Bond Principles 2017”, published on June 2, 2017
<https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/GreenBondsBrochure-JUNE2017.pdf>

Use of proceeds

A “**Green Bond**” is a fixed income instrument, where the proceeds are allocated towards green assets.

Manulife’s investment philosophy for its General Fund is to invest in an asset mix that optimizes risk-adjusted returns and matches the characteristics of the underlying liabilities.

Manulife’s green assets are part of the General Fund investments that contribute to the transition to a low-carbon economy and environmental and ecosystem improvements.

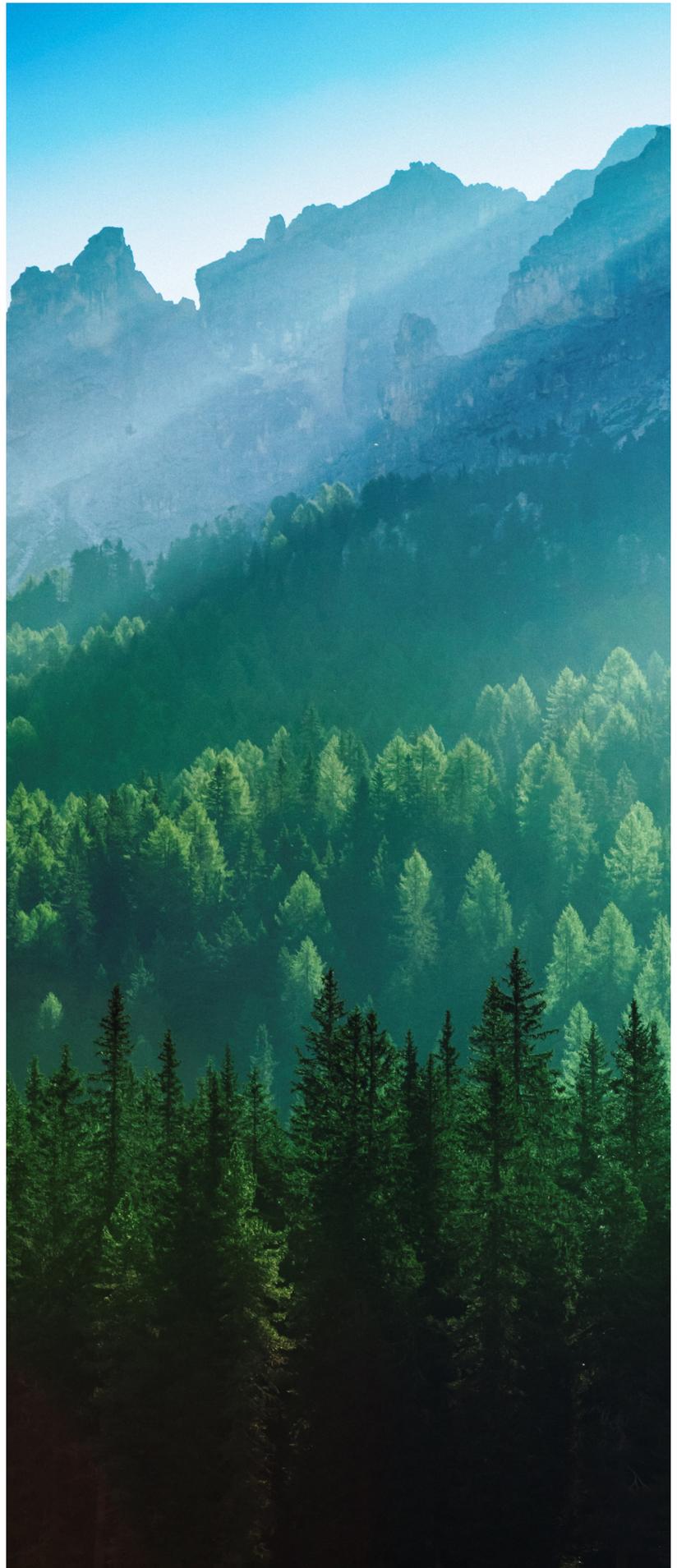
An amount equal to the net proceeds from a Green Bond issuance will be used to finance or re-finance, in part or in full, new and/or existing green assets that meet the Eligibility Criteria outlined on pages 5–6 (the “**Eligible Assets**”).

Eligible Assets include existing green assets that have been funded by us within the 24 months preceding the date of the Green Bond issuance and/or new green assets acquired post issuance.

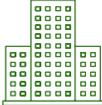
It is Manulife’s intention to fully allocate the net proceeds of a Green Bond within 18 months of issuance.

We commit to not knowingly allocate the proceeds of any Green Bond issue in support of the following excluded activities:

1. Gambling
2. Tobacco
3. Alcohol
4. Weapons
5. Adult entertainment
6. Nuclear energy



Eligibility criteria

Category as per Green Bond Principles	Eligible Assets
 Renewable Energy	<p>Development, construction, operation, maintenance and upgrades of:</p> <ol style="list-style-type: none">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 energysolar energysmall-scale hydro (under 25 Mega Watts)bio-energy from waste biomasstidal energygeothermal energytransmission infrastructure and other supporting infrastructure wholly dedicated to renewable energy generation facilities including inverters, transformers, energy storage systems and control systemsproduction or manufacturing facilities wholly dedicated to equipment, feedstock or components for renewable energy generation facilities
 Green buildings	<p>Purchase, construction, operation and maintenance of new or existing commercial or residential buildings that:</p> <ol style="list-style-type: none">have achieved, based on third-party assessment, greenhouse gas emission performance in the top 15% of their city, orhave received, or expect to receive based on its design, construction and operational plans, certification according to third party verified green building standards, such as:<ul style="list-style-type: none">LEED Gold or Platinum standardother equivalent certification schemes, such as BOMA Best/360, Energy Star
 Environmentally sustainable management of natural resources and land use	<p>Purchase and operation of sustainably-managed forest holdings certified by credible third-party forest certification systems, such as:</p> <ol style="list-style-type: none">Forest Stewardship Council (FSC)Programme for the Endorsement of Forest Certification (PEFC)

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

Category as per Green Bond Principles	Eligible Assets
 <p>Energy Efficiency</p>	<p>Development, construction, acquisition, installation, operation, and upgrades of projects that reduce energy consumption or improve the efficiency of resources, including:</p> <ul 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
 <p>Clean Transportation</p>	<p>Development, construction, acquisition, operation, maintenance, and upgrades of low-energy and low-carbon transport assets, including:</p> <ul style="list-style-type: none"> i. electric, fuel cell and hybrid electric light duty and heavy goods vehicles ii. rolling stock and vehicles for electrified public transport such as rail, trams, trolleybuses, cable cars, taxis and buses iii. infrastructure dedicated to mass public transportation iv. infrastructure dedicated to electrified freight rail, excluding railway lines whose primary purpose is fossil fuel transport
 <p>Sustainable Water Management</p>	<p>Development, construction, acquisition, installation, operation, and upgrades of projects that reduce water consumption or improve the efficiency of resources, including:</p> <ul style="list-style-type: none"> i. new or existing facilities used for the collection, treatment, recycling or reuse of water, rainwater or waste water ii. new or existing infrastructure for water distribution including aqueducts, pumps, drainage and sewage systems, tunnels and canals iii. infrastructure for flood prevention, flood defense or storm-water management such as green roofs, wetlands, retention berms, reservoirs, lagoons, sluice gates, drainage systems, tunnels and channels
 <p>Pollution Prevention and Control</p>	<p>Development, construction, acquisition, installation, operation and upgrades of projects that reduce and manage emissions and waste generated, including:</p> <ul style="list-style-type: none"> i. new or existing facilities, systems and equipment that are used for the collection, treatment, recycling or re-use of emissions, waste, hazardous waste or contaminated soil ii. new or existing facilities, systems and equipment that are used to divert waste from landfills or reduce emissions

Process for project evaluation and selection

Manulife has established the following process:

- Senior officer(s) on the investment team will identify and propose potential green assets to Sustainability Accounting for review
- Sustainability Accounting reviews the identified green assets to ensure they comply with the Eligibility Criteria and the overall Framework. If Sustainability Accounting concurs that the potential green assets comply with the Framework, then the recommendation is made to the Manulife Green Bond Council
- The Manulife Green Bond Council, which is made up of members of senior management of Manulife, including the Chief Financial Officer, the Chief Investment Officer and the Group Treasurer, is responsible for the ultimate review and selection of the green assets that will qualify as Eligible Assets, to which the net proceeds of a Green Bond issuance will be allocated.

Management of proceeds

We will establish a **Green Bond Register** to record on an ongoing basis the allocation of the net proceeds from our Green Bond issuance to Eligible Assets. The net proceeds from each Green Bond issuance will be deposited in the General Fund accounts and an amount equal to the net proceeds will be earmarked for allocation to Eligible Assets in accordance with the Green Bond Framework.

Manulife aims for Green Bond proceeds to be fully allocated within 18 months of the Green Bond issuance. Any portion of the net proceeds of Green Bonds that have not been allocated to Eligible Assets in the Green Bond Register will

Reporting

As long as there are outstanding Green Bonds issued under this Framework, we will publish an annual report (the "**Green Bond Report**") on progress with our green investments on the Investor Relations section of our website.

The Green Bond Report will be externally-reviewed and incorporate the allocation of proceeds by category per the Eligibility Criteria, together with examples of projects that are

Environmental, Social and Governance Risk Management in the Investment Process

Our investment team identifies and assesses environmental, social, governance (ESG) issues in the course of evaluating and monitoring investments, including as part of its targeted legal and regulatory review, in accordance with our investment guidelines and policies.

We believe that our focus on ESG risk management in the investment process can help reduce risks and improve financial performance over the long-term.

Manulife's [Code of Business Conduct and Ethics](#) and [Environmental Policy](#) set forth further compliance requirements relating to ESG risks. Furthermore, Manulife's [Sustainable Real Estate Policy](#) provides guidance on how to identify and assess ESG risks specific to our physical operations as a financial institution.

be invested in cash or liquid securities in accordance with Manulife's normal liquidity management policy.

The Green Bond Register will contain relevant information to identify each Green Bond and the Eligible Assets relating to it, including the asset's location, financed amount, and the applicable eligibility category. The Green Bond Register will form the basis for the impact reporting.

Payment of principal and interest on any Green Bond issuance will be made from our general funds and will not be directly linked to the performance of any Eligible Asset.

being financed, and the remaining balance of unallocated proceeds. Where feasible, the Green Bond Report will include qualitative and quantitative environmental performance indicators.



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