

LR Independent Assurance Statement

Relating to The Manufacturers Life Insurance Company's Greenhouse Gas Inventory for the 2020 calendar year

This Assurance Statement has been prepared for The Manufacturers Life Insurance Company in accordance with our contract.

Terms of Engagement

Lloyd's Register Quality Assurance Canada Ltd. (LR) was commissioned by The Manufacturers Life Insurance Company (Manulife) to provide independent assurance of its Greenhouse Gas (GHG) Emissions Inventory and Energy Use data for the 2020 calendar year (CY 2020) against the assurance criteria below to a limited level of assurance using LR's verification procedure and ISO 14064 - Part 3 for greenhouse gas data.

Our assurance engagement covered Manulife's operations and activities for owned and leased facilities worldwide in three of four business units: Corporate, Real Estate, and NAL Resources. Hancock Natural Resources Group (HNRG) was not included in this verification, though Scope 3 emissions from business travel and paper use have been extrapolated across the entire organization. Specifically, this engagement covered the following requirements:

- Verifying conformance with:
 - Manulife's reporting methodologies for the selected datasets: Manulife's GHG Accounting Guidance; and
 - World Resources Institute / World Business Council for Sustainable Development Greenhouse Gas Protocol: A corporate accounting and reporting standard, revised edition (otherwise referred to as the WRI/WBCSD GHG Protocol) for the GHG data¹.
- Evaluating the accuracy and reliability of data and information for only the selected indicators listed below:
 - Direct (Scope 1), Energy Indirect (Scope 2) and Other Indirect (Scope 3) GHG emissions;
 - Scope 3 GHG emissions verified by LR only include the following:
 - Business Travel;
 - Data Centers;
 - Paper Use; and
 - Municipal Solid Waste (note this category only covers a portion of properties in Manulife's portfolio, as discussed below);
 - Energy use

Scope 3 emissions from municipal solid waste are currently being gathered for a portion of the properties in Manulife's portfolio. Therefore, LR was commissioned to verify the portion of data currently being gathered, presented below as percentages of the total portfolio for each business unit:

Business Unit	Data Coverage ¹ (%)
Manulife Real Estate	83
Manulife Corporate	0
NAL Resources	0
HNRG	0

1. Data coverage is percent of total floor area with reported consumption.

LR's responsibility is only to Manulife. LR disclaims any liability or responsibility to others as explained in the end footnote. Manulife's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Report and for maintaining effective internal controls over the systems from which the Report is derived. Ultimately, the Report has been approved by, and remains the responsibility of Manulife.

¹ <http://www.ghgprotocol.org/>

LR's Opinion

Based on LR's approach, except for the effect of the matters described in the Basis for Qualified Opinion, nothing has come to our attention that would cause us to believe that Manulife has not, in all material respects:

- Met the requirements of the criteria listed above; and
- Disclosed accurate and reliable performance data and information as summarized in Table 1 below.

The opinion expressed is formed on the basis of a limited level of assurance² and at the materiality of the professional judgement of the verifier.

Basis for Qualified Opinion

- Some inconsistencies were identified for emission factors used for the same fuel by NAL Resources.
- Emissions from HFC's were not reported for NAL Resources.

These findings are not material.

Table 1. Summary of Manulife's GHG Emissions for CY 2020:

Environmental Data Parameter	Data	Units
Scope 1 GHG emissions ^{1,2}	519,215	Tonnes CO ₂ e
Scope 2 GHG emissions (Location-based) ²	242,285	Tonnes CO ₂ e
Scope 2 GHG emissions (Market-based) ²	230,403	Tonnes CO ₂ e
Scope 3 GHG emissions: Paper	5,725	Tonnes CO ₂ e
Scope 3 GHG emissions: Data Centers ³	2,801	Tonnes CO ₂ e
Scope 3 GHG emissions: Municipal Solid Waste ⁴	1,365	Tonnes CO ₂ e
Scope 3 GHG emissions: Business Travel	6,051	Tonnes CO ₂ e
Energy Use ⁵	2,381,075,900	kWh equivalent

1. This data does not include Scope 1 and 2 emissions from the HNRG business unit, as they have not been included in this verification, though Scope 3 emissions from business travel and paper use have been extrapolated to include HNRG.

2. Scope 2, Location-based and Scope 2, Market-based are defined in the GHG Protocol Scope 2 Guidance, 2015.

3. Emissions from electricity consumption in equipment at third party data centers.

4. Municipal solid waste data is currently being gathered for a portion of the properties in Manulife's portfolio. Data coverage percentages are included in the Terms of Engagement section above.

5. Energy use includes kWh equivalent energy from use of electricity, steam and chilled water, combustion of natural gas/fuel gas & diesel fuel from stationary sources, and mobile combustion of gasoline.

LR's Approach

LR's assurance engagements are carried out in accordance with our verification procedure. The following tasks were undertaken as part of the evidence gathering process for this assurance engagement:

- interviewing relevant employees of the organization responsible for managing GHG emissions and energy use data and records;
- auditing Manulife's data management systems to confirm that there were no significant errors, omissions or mis-statements in the inventory; and
- verifying historical GHG emissions and energy use data and records at an aggregated level for the calendar year 2020.

² The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

LR's Standards, Competence and Independence

LR implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 *Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition* and ISO/IEC 17021 *Conformity assessment – Requirements for bodies providing audit and certification of management systems* that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants.

LR ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

The verification assessment is the only work undertaken by LR for Manulife and as such does not compromise our independence or impartiality.

Signed

Dated: 7 June 2021



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LR reference: CQA00000030

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