



LRQA Independent Assurance Statement

Relating to The Manufacturers Life Insurance Company's Greenhouse Gas Inventory and Social Indicators for the 2022 calendar year

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

Terms of Engagement

LRQA Canada was commissioned by The Manufacturers Life Insurance Company (Manulife) to provide independent assurance of its greenhouse gas (GHG) emissions inventory and social indicators ("the Report") for the 2022 calendar year (CY) against the assurance criteria below to a limited level of assurance and materiality of the professional judgement of the verifier using LRQA's verification procedure and ISO 14064 - Part 3 for greenhouse gas emissions. LRQA's verification procedure is based on current best practise and is in accordance with ISAE 3000 and ISAE 3410.

Our assurance engagement covered Manulife's operations and activities in two of Manulife's three business units: Manulife Investment Management Real Estate (MIMRE) and Corporate Real Estate. Manulife Investment Management Timberlands and Agriculture (MIMTA) was not included in this verification, though Scope 3 emissions from business travel and purchased goods and services are inclusive of the entire organization (including MIMTA). Specifically, this engagement covered the following requirements:

- Verifying conformance with:
 - 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 LRQA only include the following:
 - Business Travel: Air and Vehicle
 - Data Centers
 - Corporate Real Estate Leased Spaces
 - Purchased Goods and Services
 - Paper Use
 - Waste Generated in Operations (note this category only covers a portion of properties in Manulife's portfolio, as discussed below);
 - Energy Use;
 - Social Indicators:
 - Workforce Diversity
 - Woman percent of all employees
 - Woman percent of Vice President and Above
 - Community Investments
 - Cash contributions
 - Volunteer hours
 - Employee Engagement
 - Employee engagement score
 - Employees participating in engagement survey
 - Employee Completion of Code of Conduct Training

¹ <http://www.ghgprotocol.org/>



- Talent Acquisition & Retention
 - Average employee tenure
 - Open positions filled by internal candidates
 - Voluntary turnover rate

Scope 3 emissions from municipal solid waste are currently being gathered for a portion of the properties in Manulife’s portfolio. Therefore, LRQA 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 Coverage¹ (%)
Manulife Investment Management Real Estate	61

1. Data coverage is percent of total floor area with reported solid waste generation.

LRQA’s responsibility is only to Manulife. LRQA 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.

LRQA’s Opinion

Based on LRQA’s approach 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.

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.



Table 1. Summary of Manulife’s GHG Emissions and Environmental Data for CY 2022:

Data Parameter	Data	Unit
Scope 1 GHG emissions ¹	39,149	Metric Tons CO ₂ e
Scope 2 GHG emissions (Location-based) ^{1,2}	99,775	Metric Tons CO ₂ e
Scope 2 GHG emissions (Market-based) ^{1,2}	90,315	Metric Tons CO ₂ e
Scope 3 GHG emissions: Business Travel ³	6,464	Metric Tons CO ₂ e
Scope 3 GHG emissions: Corporate Real Estate Leased Properties ⁴	30,994	Metric Tons CO ₂ e
Scope 3 GHG emissions: Purchased Goods and Services: Paper Use ⁵	4,547	Metric Tons CO ₂ e
Scope 3 GHG emissions: Purchased Goods and Services: Electricity Consumption in Third-Party Data Centers ⁶	100	Metric Tons CO ₂ e
Scope 3 GHG emissions: Purchased Goods and Services: All Other ⁷	1,003,493	Metric Tons CO ₂ e
Scope 3 GHG emissions: Capital Goods: IT Infrastructure ⁸	24,139	Metric Tons CO ₂ e
Scope 3 GHG emissions: Waste generated in operations ⁹	1,982	Metric Tons CO ₂ e
Energy Use ¹⁰	662,111,625	kWh equivalent

1. Scope 1 and 2 emissions are for Manulife Investment Management Real Estate (MIMRE) only. Corporate Real Estate emission are reported under Scope 3: Corporate Real Estate leased spaces. Manulife Investment Management Timberlands and Agriculture (MIMTA) business unit was not included in the verification, though Scope 3 emissions from business travel and paper use have been extrapolated across the organization to include Manulife Investment Management Timberlands and Agriculture (MIMTA).

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

3. Business Travel includes air travel, personal vehicle milage and rental car mileage.

4. Corporate Real Estate leased spaces are outside of Manulife’s operational control and therefore reported as Scope 3 Upstream Leased Assets.

5. Paper use emissions were calculated based on weight.

6. Scope 3 emissions for Data Centers refer to electricity consumption only at two of Manulife’s eleven data centers where Manulife does not have control of equipment operations. Emissions from electricity consumption at the remaining nine data centers are included in Scope 2 as Manulife has operational control of the IT equipment.

7. All other purchased goods and services for 2022.

8. Emissions related to purchase of IT equipment are reported under Capital Goods.

9. Waste refers to municipal solid waste generated in operations at MIMRE-controlled spaces. Data is currently being gathered for a portion of the properties in Manulife’s portfolio. Data coverage percentage included in the Terms of Engagement section above.

10. Energy use includes kWh equivalent energy from use of electricity, steam and chilled water, combustion of natural gas, and diesel fuel from stationary sources for Scope 1 and 2 emissions sources. A portion of total energy use comes from green power purchases.



Table 2. Summary of Manulife’s Social Indicators for CY 2022.

Data Parameter	Data	Unit
Workforce Diversity		
Woman (% of all employees)	56%	Percent
Woman (% of Vice President and Above)	32%	Percent
Community Investments		
Cash contributions (C\$ millions)	\$22.14	Million CAD
Volunteer hours (#)	22,099	Hours
Employee Engagement		
Employee engagement score (on a five-point scale)	4.41	Five-point scale
Employees participating in engagement survey (%)	95%	Percent
Employee Completion of Code of Conduct Training	100%	Percent
Talent Acquisition & Retention		
Average employee tenure (years)	7	Year
Open positions filled by internal candidates (%)	3811, 32%	Number, Percent
Voluntary turnover rate (%)	15%	Percent

LRQA’s Approach

LRQA’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, energy use and social data and records;
- auditing Manulife’s data management systems to confirm that there were no significant errors, omissions or mis-statements in the Report; and
- verifying historical GHG emissions, energy use and social data and records at an aggregated level for the calendar year 2022.

LRQA’s Standards and Competence

LRQA 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.

LRQA 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.



Signed

Dated: 04 May 2023

A handwritten signature in cursive script that reads "Brooke Farrell".

Brooke Farrell
LRQA Lead Verifier
On behalf of LRQA, Inc.
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LRQA reference: CQA 00000030 / 5967154

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