

**Independent Opinion
on the Statements of
Manufacturers Life Insurance
Company**

Relative to Its

**Greenhouse Gas Emissions Inventory, Energy
Consumption, and Select Social and
Governance Indicator Disclosures for 2023**

Opinion Date: 2024-05-06

To the Management of:

Manufacturers Life Insurance Company
200 Bloor Street East
Toronto ON M4W 1E5

**Independent Verification
Opinion of:**

Futurepast: Inc.
4250 Fairfax Drive, Suite 600
Arlington, Virginia 22203 USA

Subject Matter:

2023 Greenhouse Gas Emissions Inventory, Energy Consumption,
and select Social and Governance Indicator Disclosures

For the Period:

January 1, 2023 – December 31, 2023

Details Pertaining to the Statements

Statement of Responsibility:

It was the responsibility of Manufacturers Life Insurance Company (“Manulife”) to prepare its greenhouse gas (GHG) inventory statement in accordance with the WRI/WBCSD GHG Protocol Corporate Accounting and Reporting Standard (including the Scope 2 and Scope 3 updates issued in 2015 and 2013, respectively). It was the responsibility of Manulife to prepare its energy consumption data and select social and governance indicator disclosures in accordance with its own internal data management and reporting criteria for said indicators. This responsibility includes designing, implementing, and maintaining a data management system adequate for the preparation and fair presentation of the statements. Manulife is responsible for the fair presentation of its data and information and ensuring that these are free from material misstatements.

Based on the work we performed, it was the responsibility of Futurepast to express an opinion as to whether the GHG emissions, energy consumption, and select social and governance indicator disclosures as stated by Manulife were presented fairly in accordance with the agreed criteria.

Intended User and Limitation of Liability

Intended User:

This report has been prepared for the management of Manulife for internal management purposes and for public disclosure.

Limitation of Liability:

Manulife is solely responsible for the preparation and presentation of the information it has submitted to Futurepast for verification. Our role is limited to expressing a conclusion as to whether the disclosures as stated by Manulife are presented fairly in accordance with the agreed-upon criteria. In doing so, we do not assume any duty, liability, or responsibility of Manulife or of any third party. Our duties in relation to the opinions expressed are owed solely to Manulife. As such, we do not accept any responsibility for any loss allegedly occasioned by any third party acting or refraining from action because of our expressed opinions.

Details Pertaining to the Validation/Verification Body

Futurepast's Role:

Futurepast is an impartial third-party validation/verification body.

Declaration of Impartiality

Evaluation of Actual or Potential Conflicts-of-Interest

Futurepast, and the verification team members and independent reviewer, have evaluated their potential for compromised impartiality and found no actual or potential threats to impartiality with respect to the performance of this engagement.

Details Pertaining to the Verification Team and Independent Reviewer

Verification Team Leader:

The verification of GHG emissions and energy consumption data was led by Stephen Boles. The verification of select social and governance indicator disclosures was led by Alexander Scott.

Independent Reviewer:

This verification was independently reviewed by John Shideler.

Details Pertaining to the [Verification/Validation]

Type(s) of Engagement:

This engagement included the following types of activities:

- Verification
- Validation
- Agreed-upon procedures

Objectives of the Verification:

To provide limited assurance to Manulife that there is no evidence that the GHG Statement, energy consumption, and select social and governance indicator disclosures made by Manulife are not materially correct and are not in conformance with the stated criteria.

Scope of the Verification:

This opinion pertains to the verification of GHG emissions, energy consumption, and select social and governance indicator disclosures from the following Manulife business units:

- Manulife Financial Corp. (MFC), including Corporate Real Estate and Manulife Investment Management Real Estate

<p>Facilities, physical infrastructure, activities, technologies, and processes</p>	<p>Manulife is a leading international financial services group with offices in Canada, USA, Asia, and Europe.</p> <p>GHG inventories from financial services firms like Manulife include Scope 1 emissions (fossil fuel combustion, fugitive emissions from refrigerant recharge), Scope 2 emissions from consumption of imported energy (electricity, steam), and several categories of Scope 3 emissions.</p>
<p>Types of greenhouse gases</p>	<p>Manulife’s GHG inventory calculates and reports CO₂, CH₄, N₂O, and HFC emissions.</p>
<p>Time period</p>	<p>January 1, 2023 – December 31, 2023</p>
<p>GHG sources, sinks, and reservoirs</p>	<p>The GHG emissions included in this verification opinion are presented in the table on the following page (by GHG scope and source).</p> <p>This verification opinion excludes the following sources of GHG emissions that are relevant to Manulife:</p> <ul style="list-style-type: none"> • Scope 3 Category 13 (downstream leased assets) – data were not ready for verification at the time of preparing this opinion • Scope 3 Category 15 (investments) – Manulife does not currently obtain assurance on its Category 15 emissions

Greenhouse gas sources, sinks, and reservoirs	GHG Scope	GHG Source
	1	Stationary & Mobile Fuel Combustion
	1	Fugitive Emissions (refrigerant recharge)
	2	Imported electricity and steam
	3 (Category 1)	Purchased Goods and Services: <ul style="list-style-type: none"> • Paper use • Data center energy consumption • All other purchased goods and services
	3 (Category 2)	Capital Goods
	3 (Category 3)	Upstream Fuel/Energy Impacts
	3 (Category 5)	Waste Generated in Operations
	3 (Category 6)	Business Travel
	3 (Category 7)	Employee Commuting
	3 (Category 8)	Upstream Leased Assets
Other disclosures included in scope of verification	<p>The following select environmental, social, and governance indicator disclosures that have been prepared for Manulife’s global operations are included in the scope of this verification:</p> <ul style="list-style-type: none"> • Energy consumption • employee training to code of conduct and business ethics • value (\$) of community investments • employee volunteer hours • employee engagement • women (% of workforce) • women (% of VP and above) • voluntary employee turnover rate • average employee tenure at Manulife • open employment positions filled by internal candidates 	

Level of Assurance: Limited.

Threshold of Materiality: 5%

Futurepast conducted its GHG and energy consumption verification activities based on the requirements of ISO 14064-3:2019, *Specification with guidance for the verification and validation of greenhouse gas statements*.

Verification Criteria:

Futurepast conducted its verification activities of the select social and governance indicator disclosures based on the requirements of ISAE 3000, *Assurance engagements other than Audits and Reviews of Historical Financial Statements*.

Description of Work Performed

Futurepast designed and executed analytical procedures and controls testing on a risk-based approach after reviewing Manulife’s reported disclosures. Futurepast performed the following assessments of information and data during the verification:

Description of the Basis for Our Conclusions and Opinion

1. Assessment of the geographic and temporal boundaries of Manulife’s disclosures.
2. Tracing of GHG calculations in the consolidated statements to confirm the accuracy of reported values.
3. Review for accuracy of GHG emission factors and calculation methodologies.
4. Comparison to the prior year results of GHG emissions and key input data values (e.g. fuel consumption).
5. Assessment of the reasonableness of assumptions (including Manulife’s definition of non-relevant sources of GHG emissions).

The data reviewed were historical in nature.

Summary of the Responsible Party's Statements

Manulife's 2023 GHG totals are presented in the table below:

GHG Scope and Source	GHG (tonnes CO ₂ e)
SCOPE 1	
Stationary and Mobile Fuel Combustion	31,983
Fugitive Emissions (refrigerant recharge)	2,803
Total Scope 1	34,786
SCOPE 2	
Location-based	87,677
Market-based	81,739
SCOPE 3⁵	
Category 1 (Purchased Goods & Services) - paper	12,030
Category 1 (Purchased Goods & Services) – data centers	119
Category 1 (Purchased Goods & Services) – all other	157,191
Category 2 (Capital Goods)	6,837
Category 3 (Upstream Fuel and Energy Impacts)	9,615
Category 5 (Waste Generated in Operations) ¹	5,172
Category 6 (Business Travel)	9,155
Category 7 (Employee Commuting) ³	2,810
Category 8 (Upstream Leased Assets)	27,939
Category 13 (Downstream Leased Assets) ²	--
Total Scope 3	230,869
Total (Location-Based)⁴	353,332
Total (Market-Based)⁴	347,394

¹ Scope 3 emissions from waste are currently being calculated for a portion of the properties in Manulife's portfolio covering 71% of square footage for Manulife Investment Management Real Estate only.

² MFC quantifies and reports Category 13, but the data was not ready for verification at the time of this opinion preparation.

³ Scope 3 Category 7 (employee commuting) is calculated for Manulife's North American employees only.

⁴ The table does not include GHG emissions from Manulife Bank.

⁵ The following Scope 3 categories have been deemed not relevant to Manulife: upstream and downstream transportation and distribution, processing of sold products, use of sold products, end-of-life-treatment of sold products, franchises.

Manulife's 2023 energy consumption totals are presented in the table below:

Energy Source	Equivalent kWh (ekWh)
Natural Gas	169,222,743
Diesel	2,424,007
Steam and chilled water	16,396,531
Electricity (grid-supplied)	397,184,268
Total⁶	585,227,550
Green power	21,507,123

⁶ Energy use includes 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 in 2023.

Manulife's 2023 select social and governance indicator disclosures are presented in the table below:

Disclosure Item	Reported Value
Employee training to code of conduct and business ethics	100%
Value of community investments	\$24,050,000 (Canadian)
Employee volunteer hours	30,509
Employee engagement (on a five-point scale)	4.41
Women (% of workforce)	56%
Women (% of Vice President and above)	34%
Voluntary employee turnover rate	11%
Average employee tenure at Manulife	7.47 years
Open employment positions filled by internal candidates	3031 / 38% (Number / %)

Limitations, If Any

None

Modifications, If Any

Manulife's GHG inventory did not fulfil all requirements for public disclosure listed in the GHG Protocol, Chapter 9, "Reporting GHG Emissions", including:

- Emissions data for all seven GHGs separately (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃) in metric tonnes and in tonnes of CO₂ equivalent

Conclusions

Except for the modification listed above, and based on our evaluation of the evidence, nothing comes to our attention which causes us to believe:

- That Manulife's disclosures of GHG emissions, energy consumption, and select social and governance indicators for the period from 01/01/2023 to 31/12/2023 are not materially correct and are not a fair representation of its data and information, and
- That Manulife's GHG inventory report for the period from 01/01/2023 to 31/12/2023 has not been prepared in accordance with the World Resources Institute/World Business Council for Sustainable Development's "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard – Revised Edition" (March 2004) as amended in 2013 and 2015.

Approvals

Verification Team Leader
(GHG Emissions and Energy Consumption):



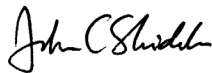
Stephen Boles, 3 May 2024

Verification Team Leader
(select Social and Governance Indicators):



Alexander Scott, 3 May 2024

Independent Reviewer:



John C. Shideler, 5 May 2024

Signature

Verification/Validation Body: Futurepast: Inc., Arlington, Virginia USA

Opinion Issued: 2024-05-06

