

## Scope of Reporting

Liberty Mutual is committed to the transparent disclosure of greenhouse gas (GHG) emissions. This policy outlines our approach to calculating and reporting Scope 1, Scope 2 and limited categories of Scope 3 emissions for the year ended December 31, 2024.

## Organizational and Operational Boundaries

Liberty Mutual applies the operational control approach, in accordance with the Greenhouse Gas Protocol Corporate Standard as amended by the GHG Protocol Scope 2 Guidance, which means it has the authority to introduce and implement operating policies of an asset or at a location. Under this approach, Liberty Mutual accounts for the emissions for its global operations, which includes the organization and its subsidiaries.

	2024	2023	2022
Total Scope 1 & location-based Scope 2 emissions (mt CO2e)	53,358	66,636	69,766
Scope 1 emissions (mt CO2e) <sup>1</sup>	22,717	30,162	29,236
Scope 2 emissions (mt CO2e) location-based (LB) <sup>2</sup>	30,641	36,474	40,530
Scope 2 emissions (mt CO2e) market-based (MB) <sup>3</sup>	24,128	31,731	36,791
Scope 3, Category 5 emission (mt CO2e) <sup>4</sup>	675	402	399
Scope 3, Category 6 emission (mt CO2e) <sup>5</sup>	42,442	45,838	29,120

<sup>1</sup>The composition of Scope 1 GHG emissions consists of approximately 97% CO2 with the remaining gases consisting of N2O, CH4 and HFC. SF6, NF3, PFCs and biogenic emissions are not material to the Company's emissions.

<sup>2</sup>The composition of location-based Scope 2 GHG emissions consists of approximately 99% CO2 with the remaining gases consisting of N2O and CH4. HFC, SF6, NF3, PFCs and biogenic emissions are not material to the Company's emissions.

<sup>3</sup>The composition of market-based Scope 2 GHG emissions consists of approximately 99% CO2 with the remaining gases consisting of N2O and CH4. HFC, SF6, NF3, PFCs and biogenic emissions are not material for the Company's emissions.

Scope 2 market-based emission utilize the environmental attribute of Renewable Energy Credits (RECs) from wind and solar generation. That accounting for these align with the GHG Protocol Scope 2 Guidance. These attributes were specific to US based operations of the Company and hold a Green-e certification.

<sup>4</sup>Scope 3, Category 5 - Emissions from Waste Generated in Operations for U.S. owned and operated facilities

<sup>5</sup>Scope 3, Category 6 - Business Travel for commercial air and ground travel. Employee mileage reimbursement for U.S. and Canada based employees. Based on data availability from 3rd party providers, reported emissions for this category represents over 85% of the global employee population.

## Scope 1 Emissions

Scope 1 emissions include the direct greenhouse emissions from the combustion of fuels and fugitive emissions that are owned or controlled by the company and include:

Emissions Source	Liberty Mutual Boundary Description
Stationary Combustion	Combustion of fuels from stationary sources such as natural gas for boilers and diesel fuel for generators occurring at owned and occupied facilities.
Mobile Combustion	Combustion of fuels from mobile sources primarily used for transportation for owned or operated assets.
Fugitive Emissions	Release of emissions from cooling systems (e.g. refrigerant leaks) from owned and occupied facilities.

## Scope 2 Emissions

Scope 2 emissions account for indirect GHG emissions from the consumption of purchased electricity, steam, heating, or cooling. We calculate these emissions using both:

- The location-based method, reflecting the average emissions intensity of the grids where electricity, steam, heating or cooling consumption occurs.
- The market-based method, which incorporates the specific generation of electricity, steam, heating and cooling through procurement decisions such as energy bundled with contractual instruments or contractual instruments on their own.

Emissions Source	Liberty Mutual Boundary Description
Purchased Electricity	Purchased electricity for all owned and leased facilities.
Heat / Steam	District heat and steam is not consumed or purchased within Liberty Mutual's organizational boundaries.
Cooling	District cooling is not consumed or purchased within Liberty Mutual's organizational boundaries.

## Scope 3 Emissions

The GHG Protocol Corporate Standard defines Scope 3 emissions as an optional reporting category of 15 indirect upstream and downstream value chain activities. Scope 3 emissions are a result of the activities of the Company, but occur from sources not owned or controlled by the Company. Liberty Mutual reports on two categories of Scope 3 emissions at the parent company level.

Scope 3 Category	Liberty Mutual Boundary Description
Category 5: Waste generated in operations	Emissions associated with the disposal and treatment of waste, recycling and compost. Due to limitations of data availability from service providers, please see corresponding footnote describing the operational boundary.
Category 6: Business Travel	Emissions associated with the transportation of employees for business-related travel paid for by the Company. The Company calculates the emissions from commercial and chartered air travel, car rentals, personal car travel and rail travel.

## Base Year (unreviewed)

In fiscal 2021, Liberty Mutual set a 50% emission reduction target for Scope 1 and location-based Scope 2 emissions by 2030, from a 2019 baseline. Base year emissions data is unverified, but was deemed meaningful to company targets. Emissions data is assessed against data from base year to track and communicate progress. Third party verification of emissions is specific to the year and specific scopes of verification and does not apply to base year emissions or progress to company targets.

Base Year Emissions	2019
Total Scope 1 & location-based Scope 2 emissions (mt CO2e)	122,594
Scope 1 emissions (mt CO2e)	37,040
Scope 2 emissions (mt CO2e) location-based (LB)	85,554
Scope 2 emissions (mt CO2e) market-based (MB)	88,515

Base year emissions are subject to recalculation should a material change be identified, including changes in calculation methodology, changes due to data accuracy and structural changes including, but not limited to mergers, acquisitions, and divestments. Liberty Mutual has determined that adjustments will be made to the base year and prior periods for changes which impact results by +/- 5% of the total Scope 1 and 2 emissions in the base year.

In fiscal 2022, Liberty Mutual updated the base year emissions and prior periods to include its acquisitions of State Auto Group and AmGeneral Insurance Berhad.

# Calculation Method, Emission Factors and Global Warming Potentials

## Calculation Method

Liberty Mutual leverages several industry standard practices for calculating emissions depending on the scope and category of emissions and data availability. These approaches include, but are not limited to, supplier-specific approach, spend-based approach, average-data approach, distance-based approach, fuel-based approach, and hybrid-approach.

For Scope 1 and Scope 2 activities where actual data is not available or cannot be obtained in a timely manner, Liberty Mutual estimates consumption using other available data, such as historical data at the site or regional intensity factors (average consumption per square area) at similar sites within the same region. To calculate Scope 1 and Scope 2 (LBM & MBM) GHG emissions, Liberty Mutual multiplies activity-level consumption data by the GHG emissions factors indicated in the section titled "Emission Factors and Global Warming Potentials".

Emissions Scope	Calculation Method
Scope 1	Liberty Mutual takes a fuel-based approach using actual and estimated consumption data and applies the corresponding emission factor.
Scope 2 (Location-Based)	Liberty Mutual takes actual and estimated energy consumption and applies a location-based emission factor based on average energy generation factors for defined geographic locations.
Scope 2 (Market-Based)	Liberty Mutual takes actual and estimated energy consumption and, in accordance with the GHG Protocol, applies an emission factor from contractual agreements, supplier-specific factor, residual-mix factor, or grid-average factor.
Scope 3, Category 5	Liberty Mutual takes a waste-type specific method using either weight or volume provided by third party providers. Volume data is then converted using volume-to-weight conversion factors.
Scope 3, Category 6	Liberty Mutual takes a spend-based, distance-based or fuel-based depending on the available data.

## Emission Factors and Global Warming Potentials

Liberty Mutual uses emission factors from recognized sources, such as the U.S. Environmental Protection Agency (EPA) or the International Energy Agency (IEA), to convert activity data into GHG emissions.

Emissions Scope	Emissions Factor Set	Global Warming Potentials
Scope 1	<ul style="list-style-type: none"> <li>Climate Registry, 2024 Gen Reporting Protocol – USA Transport</li> <li>Brazilian GHG Protocol, 2023 Factores de Emissao</li> <li>Secretariat of Natural Resources and Environment (Mexico), 2023 Mobile Combustion Sources, 2023 Stationary Combustion Sources</li> <li>Australian Government National Greenhouse Account Factors, 2024 NGER &amp; NGA</li> <li>Department for Environment, Food and Rural Affairs (DEFRA), 2024 Guideline to DEFRA</li> <li>Environment Canada - 2024 National Inventory Report</li> </ul>	IPCC 6th Assessment Reports
Scope 2 (Location-Based)	<ul style="list-style-type: none"> <li>US EPA eGrid, 2024 (2022 data)</li> <li>International Energy Agency (IEA), 2024 (2022 data) Emissions from Fuel Combustion,</li> <li>Environment Canada, 2024 (2022 data) National Inventory Report</li> <li>Australian Government National Greenhouse Account Factors, 2024</li> </ul>	
Scope 2 (Market-Based)	<ul style="list-style-type: none"> <li>Various Supplier-Specific Factors determined by contractual instrument, the Edison Electric Institute (EEI), or direct communication with the supplier</li> <li>RE-DISS Residual European Mix, 2023</li> <li>Australian Government National Greenhouse Account Factors, 2024 NGER &amp; NGA</li> <li>Environment Canada – 2024 National Inventory Report</li> <li>International Energy Agency (IEA), 2024</li> <li>US EPA eGRID, 2024</li> </ul>	
Scope 3, Category 5	<ul style="list-style-type: none"> <li>US EPA EF Hub, 2024 Update v2</li> </ul>	
Scope 3, Category 6	<ul style="list-style-type: none"> <li>Climate Registry, 2024 Gen Reporting Protocol – USA Transport</li> <li>Brazilian GHG Protocol, 2023 Factores de Emissao</li> <li>Secretariat of Natural Resources and Environment (Mexico), 2023 Mobile Combustion Sources, 2023 Stationary Combustion Sources</li> <li>Australian Government National Greenhouse Account Factors, 2024 NGER &amp; NGA</li> <li>Department for Environment, Food and Rural Affairs (DEFRA), 2024 Guideline to DEFRA</li> </ul>	