



Liberty
Specialty Markets

2024 ClimateWise Report: LMAL and LMIE

Liberty Managing Agency Limited (LMAL) &
Liberty Mutual Insurance Europe SE (LMIE) entities

Welcome

As one of the largest global property and casualty insurers, Liberty Mutual recognises the vital role insurance plays in a resilient economic system. Our products and services empower people and businesses to feel secure by mitigating the risks they face.

We exist to help people embrace today and confidently pursue tomorrow



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Welcome to our 2024 ClimateWise report for Liberty Managing Agency Limited (LMAL) & Liberty Mutual Insurance Europe (LMIE) entities. As we enter our fifth year of ClimateWise membership, we take pride in being part of this unique global partnership of organisations from across the insurance value chain seeking to collaborate around climate-related research and disclosure. ClimateWise, part of the Cambridge Institute for Sustainability Leadership (CISL), is a forum for the exchange of ideas around the management of climate- and nature-related risk and opportunity, as well as broader social issues. Liberty's Head of Sustainability for Global Risk Solutions (GRS) sits on the ClimateWise Managing Committee, and we enjoy active participation across a number of initiatives and programmes as part of the ClimateWise partnership.

This publication forms our annual voluntary report as part of our ClimateWise membership. This year's reporting window is an exciting moment, as the Principles against which the membership report have been significantly updated to keep pace with the rapidly evolving sustainability regulatory landscape:

Principle 1	Principle 2	Principle 3	Principle 4
Steering Transition	Engaging Stakeholders	Enabling Transition	Disclosing Effectively

We are pleased to report on the significant efforts we are making across our value chain to advance climate-related research, risk understanding and risk management, including through formal sustainability governance structures, our Sustainable Underwriting Framework, our key areas of climate research and partnership, and the integration of climate risk into the business.

Alongside this report, you may be interested in some of our key Liberty Mutual Group sustainability reports. Please find our [TCFD Report and our Purpose and Impact Report](#) on our website. We welcome your thoughts, questions and feedback. Share them at Sustainability@LibertyMutual.com.



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About this report

This report is published by two Liberty Mutual entities: (i) Liberty Mutual Insurance Europe SE (LMIE) and (ii) Liberty Managing Agency Limited (LMAL). These entities sit within Liberty Mutual's Global Risk Solutions (GRS) division, as shown in Figure 1 below. LMAL and LMIE set and execute their own business and climate change strategies, operating within LMG's enterprise-wide business strategy, including its sustainability strategy and aspirations.



Organisational Structure

Liberty Mutual Group (LMG) is a diversified global insurer and one of the largest Property and Casualty (P&C) insurers in the US. Through its subsidiaries and affiliated legal entities, it offers a wide range of property and casualty insurance products and services to individuals and businesses alike. LMG operations are split into a management structure and a legal entity structure. The management structure operates via three strategic business units ('SBU's), each led by a segment president: US Retail Markets (USRM), Global Risk Solutions (GRS) and Liberty Mutual Investments (LMI).

Global Risk Solutions serves the specialty (re)insurance and risk management needs of businesses across the globe, formed of four business functions, being Liberty International Insurance (LII), Liberty Mutual Reinsurance (LMRe), North America and Global Surety (together the "Business Functions").

Liberty International Insurance goes to market under two main brands: Liberty Specialty Markets for its commercial and specialty business, and Liberty Insurance for its Asia retail business.

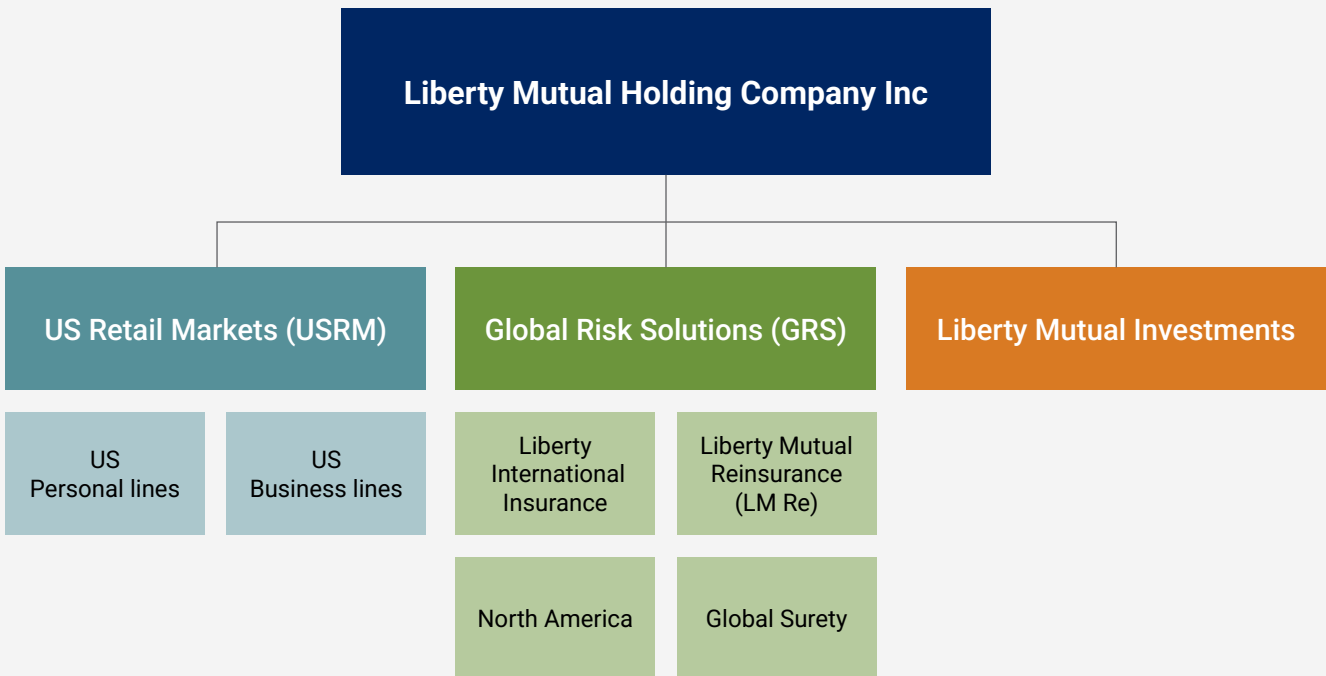


Figure 1: Liberty Mutual's global structure



Governance of Sustainability Topics

Liberty Mutual Group and its legal entities, including LMAL and LMIE, are acutely aware of the risks posed by climate change and the opportunities of a transition to a low-carbon economy. We continue to enhance our governance structure to support communication, collaboration and effective decision-making, ensuring that climate-related financial risks and opportunities are understood by our Board of Directors and across every level of our business.

Board and oversight at a Group level

At Liberty Mutual, the Board of Directors oversees the ongoing development of our enterprise-wide business strategy and the management and implementation of our climate strategy, with specific responsibilities for oversight, implementation and operationalisation delegated to the Risk Committee and Governance and Sustainability Committee. Our governance structure is in the below Figures 2 and 4.



Figure 2: Liberty Mutual’s governance structure for climate-related risks and opportunities (source: TCFD report)

As detailed in our TCFD report, the Liberty Mutual Board of Directors is responsible for the oversight of our enterprise-wide sustainability strategy, with specific responsibilities for oversight, implementation and operationalisation delegated to the Risk Committee and Governance and Sustainability Committee. A full breakdown of our Board of Directors and its committees can be found on our [corporate website](#). At a Group level, our climate-related management structure includes the Executive Leadership Team, ESG Executive Committee, Office of Sustainability, Climate Council, Enterprise Risk Management (ERM) Executive Committee, ERM Operating Committee and corporate ERM function, further detailed below. The GRS Chief Risk Officer sits in the ESG Executive Committee and GRS Head of Sustainability sits on the LMG Climate Council.

Governance and Sustainability Committee

The Governance and Sustainability Committee (G&S Committee) meets at least four times annually and provides strategic oversight and performance evaluation of our sustainability practices and priorities, including climate-related topics. As part of its duties, the Committee considers current and emerging sustainability trends and makes recommendations to the Board of Directors for approval as appropriate. It oversees corporate governance disclosures, including the annual Purpose & Impact Report and Corporate Governance Annual Disclosure. The G&S Committee includes membership from the Risk, Investment, Audit and Compensation Committees of the Board of Directors, allowing for representation and interconnectivity across the Board.

In 2023, the G&S Committee received updates on Liberty Mutual’s climate strategy, the Climate Activation Program (CAP), and the company’s progress toward our commitment to reduce Scope 1 and 2 greenhouse gas (GHG) emissions by 50% from a 2019 baseline by 2030, alongside other climate-related metrics and targets.

Board Risk Committee

The Board Risk Committee (BRC) also has an important role in climate-related oversight. The BRC is responsible for overseeing and reasonably assuring that Liberty Mutual maintains adequate policies, controls and practices within our enterprise risk management (ERM) framework to continuously identify, measure, manage and mitigate critical risks. In 2023, the BRC conducted quarterly reviews of risk indicators and received updates in ERM key risks, including those related to climate, meeting four times throughout the year.

Figure 3: Sustainability governance components at a Liberty Mutual Group level (source: TCFD report)



Liberty Global Risk Solutions Climate and ESG Governance Structure

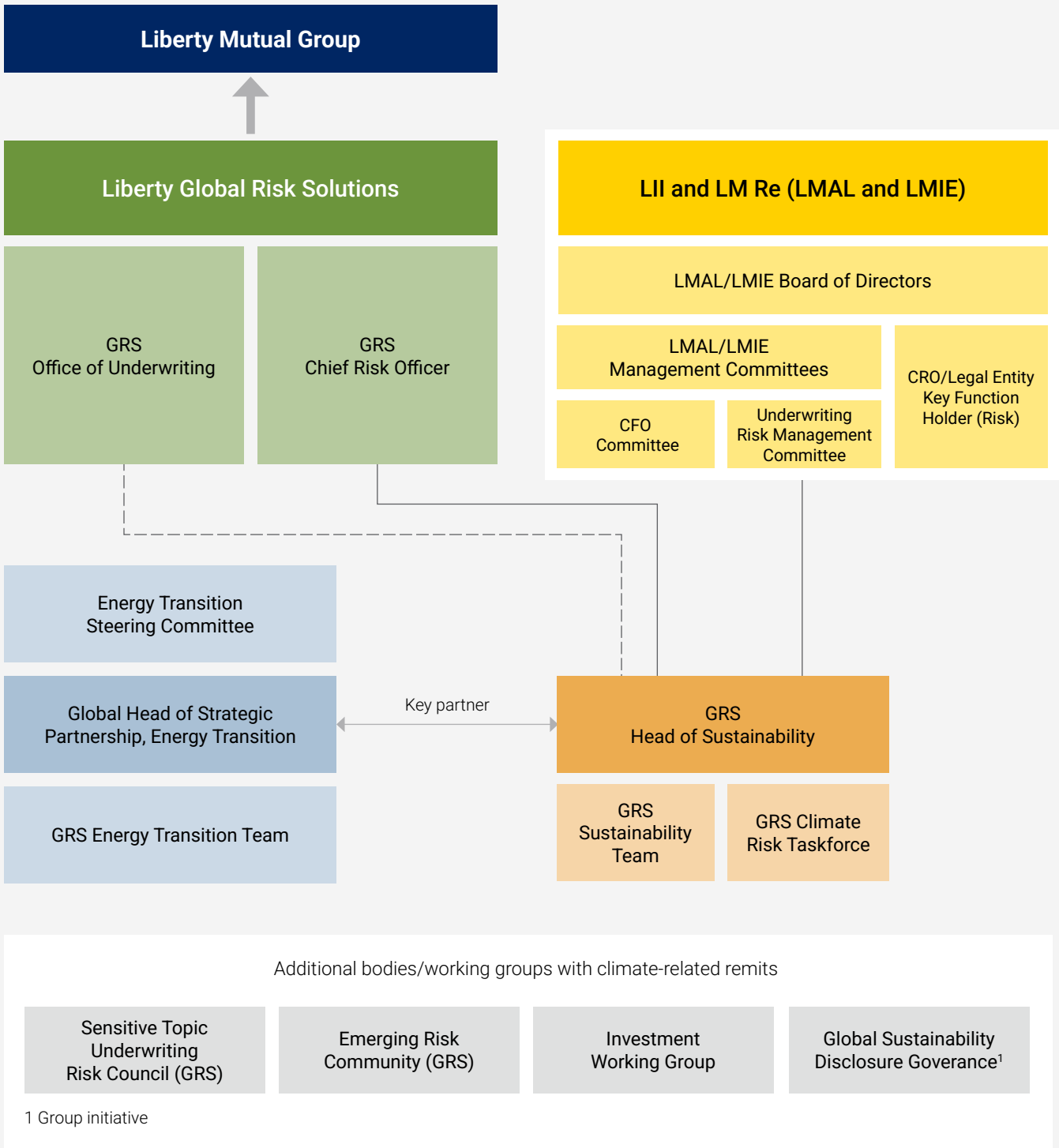


Figure 4: Liberty GRS Sustainability Governance Structure



1. LMAL and LMIE Boards

LMAL and LMIE Board and Oversight

We know that providing the Boards with sufficient information on climate change and its risks is critical to ensure awareness and to enable adequate challenges to the status quo. We have worked over the prior year to ensure that the legal entity Boards of LMAL and LMIE (“the Boards”) have more in-depth oversight and technical understanding of climate change and sustainability activity taking place across functions within LMG.

As such, climate change is a standing item on the agendas of LMAL and LMIE’s board meetings since 2021, and the boards continue to ensure climate change is considered within their business strategies. Board members are being offered climate relevant risk training, an extension of our Climate Activation Program later this year.

With climate change (as part of sustainability) incorporated as standing agenda item, each Board has at least one opportunity per quarter for the full Board to have oversight of the incorporation of sustainability considerations into business strategy. This includes a focus on climate risks and opportunities, ensuring Liberty progresses and further enhances its approach to identifying, measuring, managing, monitoring and reporting sustainability-related issues.

We have named responsible Board executives for all climate change financial risks and opportunities and executive sponsor for responsible business (LII General Counsel).

2. LMAL/LMIE Risk Management Committee

The Risk Management Committees of LMAL and LMIE (the RMCs) are directly responsible for overseeing all risks, including climate risks, and reporting these to the Boards, - with information provided by the other committees, internal bodies (e.g. Climate Risk Taskforce) and the Risk Management and Sustainability teams.

3. Committees and Taskforces

- **CFO Committee**

The CFO Committee is responsible for managing climate risks and opportunities relevant to LMAL and LMIE’s invested assets, whilst direct climate risk exposures from LMAL and LMIE’s underwriting activities are managed by the Risk team and the Sustainability team.

- **LMAL and LMIE Management Committees**

The Management Committees (ManCos) carry out the day-to-day activities of the Company within the strategic context set by the Board and those powers delegated to it. It is a forum for review and challenge with a focus on business planning, identifying and effectively remediating issues and continuous process improvement.





- **Underwriting Risk Management Committee**

The UWRMC is a Legal Entity management-level committee which monitors insurance climate risk appetites and Key Risk Indicators (KRIs). The CROs of LMIE and LMAL are members of the UWRMC.

- **Entity Chief Risk Officers (CROs)**

The CROs of LMIE and LMAL are responsible for ensuring that financial risks from climate change are effectively managed. CROs, along with the GRS Head of Sustainability, provide regular updates on climate risk to the RMCs and the Boards.

4. GRS Sustainability

GRS Sustainability Team's responsibilities

Amongst the GRS Sustainability Team's responsibilities is facilitating necessary action on climate risk process, including assessing climate risks in conjunction with other functional teams and coordinating with other risk specialists to execute on areas like stress and scenario testing and other activity that feeds into risk assessments and reporting, as relevant, while also supporting LMAL/LMIE wide training, and the consistency of assessment across first line teams.

Since the appointment of a GRS Head of Sustainability in 2023, the GRS Sustainability team has recruited three additional team members now supporting the GRS Head of Sustainability globally across sustainability reporting, strategy, education and engagement, including a cross-cutting focus on climate risk. The team supporting the GRS Head of Sustainability now consists of two Sustainability Directors and two Senior Sustainability Managers.

5. Climate Risk Taskforce

The Climate Risk Taskforce facilitates a concerted approach to the timely and responsible management of climate risks. Chaired by GRS Head of Sustainability, it is made up of all relevant partners to deliver on climate risk's integration into the business – including legal entity Chief Risk Officers, enterprise risk management, emerging and strategy risk teams, and more. The Climate Risk Taskforce continues to drive the enhancement of climate risk management capabilities and includes membership from many of the committees detailed above as well as LMG functions, where needed (e.g. Enterprise Risk Management). The GRS Head of Sustainability also has a dual reporting line into the President of Insurance Solutions in the GRS Office of Underwriting, to which the Energy Transition Team (detailed further below) also reports.

The Climate Risk Taskforce evaluates and monitors the impacts of climate risks, and supports the Board and the Risk Management Committee (RMC) to manage climate risks and opportunities. We undertake an annual climate change risk assessment of potential risk through the lens of three climate pathways (orderly, disorderly and no action) and maintain a dashboard resulting from that assessment. Risk owners assess how different portfolios, plans and policies are likely to respond to these scenarios.

6. Energy Transition Risk Team

Liberty has an Energy Transition Risk (ETR) team in GRS' Office of Underwriting, reporting into the President of Insurance Solutions who oversees not only ETR but Cyber and Alternative Risk Solutions, and Sustainability has a dual reporting line. Energy Transition Risk pulls together the global strategy and global partnerships to coordinate across business units to achieve our vision. Sustainability and Energy Transition Risk regularly connect and work together on projects that affect climate and the energy transition.



7. Additional bodies with sustainability and climate-related responsibilities

- **Sensitive Topics Underwriting Risk Council**

The Sensitive Topics Underwriting Risk Council was established in GRS to manage sustainability-related areas of elevated reputational and/or commercial risk. It manages, monitors, and develops action(s) around key sustainability, reputational, and GRS-wide commercial risk areas (i.e. sensitive topics); serves as 'on-call' subject matter experts in the referral process; and stewards sustainability business integration efforts via portfolio steering, underwriting levers, and product and service mix.

- **Emerging Risk Community**

The GRS Emerging Risk Community is an information and ideas sharing platform established to facilitate a GRS-wide approach to the timely and responsible management of known and future emerging risks, enabling people at all levels to better understand future threats to growth, identify opportunities and make more informed business decisions.

- **Investment Working Group**

The Investment Working Group ensures an understanding of the various environmental investment risks and their correlations. The CROs of LMAL and LMIE are members.

- **Global Sustainability Disclosure Governance (GSDG) team**

Liberty takes the accuracy and robustness of all reporting extremely seriously. In order to ensure that sustainability reporting carried out by LMG and its entities is consistent and accurate, we have formed a new governance framework: the Global Sustainability Disclosure Governance (GSDG) team. The GSDG is a multidisciplinary team responsible to execute a program which fosters collaboration, reviews all sustainability disclosures, and supports relevant stakeholders with sustainability related deliverables.





Identification, assessment and management of climate risk

LMG's processes for identifying and assessing climate-related risks

As a property and casualty insurance company, analysing, preparing for and responding to risk is at the heart of what we do every day. Our business serves to help our policyholders understand and mitigate material risks, including climate-related risk. Climate change is a cross-cutting risk impacting different areas of an organisation's risk profile. As such, in assessing how climate-related risks affect the seven key risk categories, Liberty Mutual is aligned to the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) and considers physical and transition risks as the two main drivers of financial impact for climate-related risk. While climate-related physical and transition risks may affect multiple of these categories and key risks, CAT Underwriting – specifically covering natural catastrophes – presents the greatest potential severity for realised financial loss within a calendar year.

For more information on our global approach to climate-related risk, please see the [Liberty Mutual Group 2023 TCFD report](#).

Liberty's approach to Climate Risk covers the following three categories:

Physical Risk:

Physical risks resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns.

Examples

- Acute: Increased severity of extreme weather events
- Chronic: Long term shifts like sea level rise or chronic heat waves

Transition Risk:

Transitioning to a lower-carbon economy may entail policy and legal, technological and market changes to address mitigation and adaptation requirements related to climate change.

Examples

- Policy: Litigation risk, policies related to carbon pricing or energy efficiency
- Technology: Emerging technologies like renewable energy, battery storage and carbon capture
- Market changes: Shifts in supply chain and demand for certain commodities, products and services

Litigation Risk:

We view Climate-related litigation as being, at least in part, driven by climate-related transition and physical risks.

Third-party, climate-related litigation may be categorised by disputes related to:

- Alleged contribution, causation and/or failure to mitigate climate change
- Alleged physical consequences of climate change and/or failure to adapt to those consequences
- Alleged breaches of laws, regulations and/or legal duties associated with climate change





Managing risks through catastrophe models

We conduct assessments to evaluate the vulnerability of our portfolios, geographic locations, business divisions and product segments to natural disasters like hurricanes, earthquakes and severe weather phenomena. To manage the potential adverse impact of catastrophes, whether natural or man-made, on our underwriting and financial results, we employ a strategy that incorporates diverse modelling techniques, stringent underwriting controls and strategic reinsurance placements. This involves analysis of historical hazard data, detailed stochastic modelling information, and monitoring of assets and operations vulnerable to such events.

To manage climate-related physical risks, we implement disaster response plans and transfer risk through insurance and reinsurance. Our primary tool for assessing the potential financial impact of natural catastrophe-related risks is catastrophe modelling. We use the latest catastrophe loss simulation models from reputable third-party specialists such as Verisk Extreme Event Solutions formerly known as AIR, in addition to internally developed modelling and analysis tools, supplementing them regularly with up-to-date scientific information on severe weather perils and our own loss experience.

For the acute risks that are captured in catastrophe models, we apply a flexible toolbox of strategies depending on the level of confidence in forward-looking impacts on the peril. Where confidence is highest, such as sea level rise, we run forward-looking scenarios. For example, a project examining the effects of sea level rise on storm surge in our portfolios used NOAA (National Oceanic and Atmospheric Administration)'s Intermediate Sea Level scenario to project coastal flood risk out to 2035 and 2050. However, for many of our hazards, uncertainty is higher within scenarios or time frames prior to 2050. In those cases, such as hurricane frequency, we leverage alternative approaches, such as reverse stress testing, that allow us to identify and monitor a wide range of impacts to our book of business, rather than relying on a single point estimate or range from a scenario.

Catastrophe loss simulation models play a crucial role in our underwriting process, aiding in the development of risk selection guidelines and contributing to the establishment of pricing differentials for individual risks and program rate structures. We integrate the output from these models into our ongoing risk management efforts, ensuring an effective management approach for our natural catastrophe exposure portfolio. Our model evaluation and research process includes analysis on whether the catastrophe model reflects the current climate, including climate change that has occurred to date. We have a current-climate view of risk for the following climate-impacted peril/regions: US Hurricane, US Severe Thunderstorm, Europe Windstorm, Europe Severe Thunderstorm, Central Europe Flood, Australia Cyclone, and Japan Typhoon. This list expands annually as we undergo our regular model evaluation process. As part of our ERM program, we can conduct stress testing to facilitate understanding of the capital or liquidity impacts of various deterministic stress scenarios or combinations thereof, ensuring that our current portfolio adheres to established tolerances.

At Liberty Mutual, we establish both gross and net tolerances for natural catastrophe risk, managing both direct underwriting exposure and group-wide retention of risk. Occurrence tolerances help manage exposure concentration related to a single large event, while aggregate tolerances manage the potential exposure to an accumulation of losses from various events throughout the year. Utilising measures such as Probable Maximum Loss (PML) and Conditional Tail Expectation (CTE), which are Value-at-Risk (VaR) and Tail Value-at-Risk (TVaR) measures, respectively, we assess and model our natural catastrophe exposures. These assessments are conducted semi-annually, with modelled losses evaluated relative to respective tolerances. We monitor and evaluate the limits for specific exposures, such as regional-level exposures, and, when necessary, develop mitigation plans to align with tolerance levels and address adverse trends.



Managing risk through integrating climate-related issues in the underwriting process

Insurance protects and prepares for the unexpected through keen risk awareness and mitigation. At Liberty Mutual, we've been entrusted to insure the most complex assets on the globe, and the most influential enterprises sustaining local communities. We are embedding sustainability, including climate issues, into our decision-making processes and underwriting strategy to ensure that we remain a stable, adaptive insurer, always risk aware and looking ahead. Being proactive will keep us ahead of the evolving risk landscape, supports developing a robust portfolio with improved business performance, and better positions us to help our customers de-risk their business and build resilience.

Through our commercial insurance business, including LMAL and LMIE, we:

- Apply a sustainable underwriting risk framework (see page 16 for details), a consistent set of material environmental, social and governance considerations relevant across our portfolio, including climate. This year we bolstered this framework with insights from a line of business specific materiality assessment and built tools to bring relevant insights to our underwriters so that they can better assess risks and opportunities.
- Manage a set of enhanced and expanded sensitive topics that warrant additional guidance where we perceive elevated reputational, commercial and regulatory risks, including those linked to climate-related factors. For further information on the governance of sustainability-related topics, please see the first section of this report.

Managing risk through our emerging risk framework

The GRS Emerging Risk Framework is the cornerstone of GRS' dedication to anticipating and identifying emerging threats, deploying strategic measures to mitigate risks, and adapting to the fast-moving, challenging environment of the insurance industry. Emerging risks that crystallise which are not recognised and managed have the potential to provide a considerable downside risk to an organisation, however emerging risks can also provide considerable opportunity if they are recognised, analysed, and acted upon.

LMIE and LMAL identify “Sustainability, including Climate Change” as a key emerging risk for the business.

The LMIE and LMAL Own Risk Solvency Assessment (ORSA) 2023 reports provide detail on the identification, assessment and management of this emerging risk.

The GRS Emerging Risks Framework aims to enable GRS to timely identify and purposefully respond to newly emerging or changing risks that could significantly impact GRS' business operations or financial results. We executive on this through:

- Promoting emerging risk awareness and employing effective risk identification methodologies
- Developing consistent approach to risk assessment across GRS
- Determining and deploying appropriate risk response actions
- Clear and enhanced stakeholder engagement and accountability



Emerging risks are often evolving, uncertain and not well understood. This can be due to a lack of knowledge about causal or functional relationships between new risk sources and their environment or to the insufficient application of available knowledge to the case in question. GRS' definition of emerging risk is:

"A potentially significant new, or evolving threat and/or vulnerability that has not been influential or important in the past but has the potential to impact the financial, operational, or strategic goals of Liberty in the future."

The GRS Emerging Risk Framework assesses risk severity, likelihood, time horizons (from less than one year to more than five), and stability. Our GRS-wide sustainability strategy reflects LMAL and LMIE's commitment to its environmental, social and governance factors related to both internal and external stakeholders, including customers, employees, investors, regulators and the communities where we work and live. It also outlines how sustainability factors are incorporated into decision-making processes to mitigate risk, supported by governance structures to discuss, escalate and respond effectively.

Integrating sustainability-related risks into our risk register

In line with EIOPA requirements, Liberty has carried out work to identify and assess emerging and sustainability risks, which include climate and environmental risk, and to integrate them into referenced policies. The Risk and Sustainability teams undertook the following steps to establish the foundations for incorporating sustainability risks into the risk management process:

1. Identification – identified the firm's most material Sustainability 'ESG' risks through considering top topics/risks highlighted from the following sources: the LMG ESG materiality assessment results; the UNEP Principles for Sustainable Insurance; and the GRS Sustainable Underwriting Framework. The final list of risks broadly aligns with those identified by LMG.

2. Definition/Impact – Once the risk titles were identified, clear definitions were created and the potential impacts outlined.

3. Integration – Consideration was then given to the interrelation with the existing risk register and whether existing risks could incorporate the material Sustainability 'ESG' risks or whether new risks required creation. Whilst several risks were identified as cross-cutting, it was determined that a standalone 'Sustainability Strategy Risk' should be created.

4. Assessment – Key risk indicators (KRIs) (both inward and outward scoping) have been outlined for each material Sustainability 'ESG' risk and will form the basis of sustainability specific discussions with risk owners as part of the Risk and Control Self-Assessment process ("RCSA").

As a result, ESG risks include the material dimensions from our sustainable underwriting framework as well as more specific governance dimensions and an overarching risk relating to the execution of our sustainability strategy.

Integrating sustainability risk into Group-level risk management

Through Liberty Mutual's Enterprise Risk Management (ERM) teams and the Climate Council, we consider the impact of climate-related risk at both the enterprise level and within individual business units.

Liberty Mutual's ERM approach emphasises the identification and quantification of material exposures, effective communication and management of these exposures throughout the company, and the development and implementation of strategies to mitigate identified risks when deemed necessary. Strong governance ensures reliable communication with the highest levels of management for identifying, assessing and managing climate-related risks.



The 2023 Climate Change Materiality Assessment

Throughout 2023, we led a climate change underwriting engagement with nominated underwriters representing a class of business/division that had been previously identified to have a material climate change risk. This engagement supported the introduction of an enhanced climate change materiality assessment methodology including: an assessment scenario, three distinct time horizons and an inherent and residual materiality rating.

Climate risk exposure by line of business

Application of the materiality assessment against current insurance portfolios highlights the following:

Physical Risk: London Market Reinsurance, Treaty Property and US property are the three main classes of business most exposed to Physical Risk on a residual basis due to their nature of being location-based liabilities across Property, Construction, Agriculture Reinsurance and Treaty Property lines. Casualty classes recorded as inherently moderate risk given climate change induced physical risk events could increase accident and bodily injury-related risks and environmental liability.

Transition Risk: Energy and Construction are the two main classes of business most exposed to transition risk given the constantly evolving regulatory landscape for these sectors, coupled with evolving market conditions and high pace of technological change. Other classes such as manufacturing and utilities vary based on geography and time scale.

Litigation Risk: Financial, D&O and Casualty High Excess are the three main classes of business most exposed to litigation risk on a residual basis as a consequence of exposure from Direct Causal, Indirect Causal and Greenwashing claims. As legal precedent grows, this risk is reported as very high in the medium and long terms.

We are starting to develop focuses on nature and biodiversity themes. Our work to develop our sustainable underwriting framework has included a line of business assessment against the biodiversity and nature dimension of our framework, highlighting low, medium or high impact.





Supplementary climate change scenario analysis: Entity Level climate risk work

In addition to the climate risk assessment done at the group level (as detailed in the most recent Liberty TCFD report) European entities supplement that work with climate analyses tailored to UK/EU climate risks and the relevant regulatory frameworks as detailed below. The business also considers extreme but plausible scenarios to test the viability of its business model against specific climate change risk scenarios. The climate change scenario analysis considers physical, transition and litigation risk impacts under different pathways ('orderly', 'disorderly' and 'no action') across GRS, consistent with the approach used to assess climate change risk materiality. Below we detail our approach for the LMAL entity, as illustrative of our processes across other entities including LMIE.

Physical Risk Scenarios

A risk assessment was conducted by LMAL using the climate pathways of the Bank of England Climate Biennial Exploratory Scenario ("CBES") stress testing exercise. These pathways, with alignment to the provided physical risk variables that had been incorporated into alternative climate change event sets of the vendor catastrophe model AIR, for selected perils. The initial 2021 assessment has been refreshed and as at the 1/7/2023 portfolio, this methodology has been re-applied.

The Exposure Management Climate Change Framework applies a robust assessment approach utilising available models and scientific research, with prioritisation to the most material perils. This has initially focused on the two material European perils of European Windstorm and European Flood. Indicative results from this assessment are included within the scenario output.

The physical scenario focused on enhancing LMAL's view on Central European Flood in comparison to last year's ORSA. The exposure management team made some simplifications to the calculations. The scope of the climate change analysis represents almost 75% of weather-related tail risk. For European windstorms, the impact is negligible as there are no clear climate signals in the time horizons presented.

Approach to identifying and assessing physical risks (Excerpt from the Group TCFD report)

Approach to identifying and assessing physical risk

As a property and casualty insurer, identifying and assessing extreme physical risks are core functions for Liberty Mutual. We take a data-driven approach, and ensure our data is aligned with the latest and most robust research available. We follow a four-pillar strategy to enable continuous progress toward capturing and quantifying climate risk to our organisation:

Prioritise by science and materiality

Climate change impacts introduce a range of risks that directly affect property. To assess these risks, we use a prioritisation framework that is guided by underlying science and accounts for potential repercussions for our book of business. Liberty Mutual's high-priority perils are hurricanes, floods and wildfires. Beyond these, we monitor scientific literature regarding other perils, like tornadoes, hail, extra tropical storms and winter storms, to prepare to act should they attain a higher level of combined risk and impact.



Litigation Risk Scenarios

LMAL's climate litigation assessment was based on the outcomes of a climate change litigation workshop held in 2022 with a survey exercise being conducted, across Underwriters and Claims staff of directly underwritten Casualty and FinPro classes. This process considered the hypothetical rulings included within the CBES exercise, with updates for latest legal trends. Since the 2023 ORSA submission, a review was undertaken extending the exposure in scope for each scenario and also adjustments to underwriter expert judgement on damage factors. These revisions have resulted in higher damage factors in comparison to the previous exercise.

The litigation scenarios developed internally focused on key jurisdictions and key industries of US, Australia, UK, and EU (which to date cover c. 90% of climate litigation cases across the industry). For the EU, the most material jurisdictions were Germany, France, and Netherlands. The scenario specifications focus on downside risks of new legal precedents emerging which result in additional legal costs for defending claims based on hypothetical rulings included within the CBES exercise, with updates for latest legal trends.

Transition Risk Scenarios

LMAL's climate transition assessment has matured since the 2023 ORSA. As part of an LMG-wide initiative, a model approach has been piloted across LMAL's business to assess the impacts as the economy shifts from a carbon intensive economy to one of lower emissions. The approach is applied to LMAL's book of business by mapping the policies to scientific data, where the policies have been identified as being exposed to first order transition risk. The results help identify the classes of business that require further work to identify LMAL's exposed to transition risk.

Our Risk Management strategy considers six of the seven industry climate pathways from the Network for Greening the Financial System (NGFS), a widely recognised suite of climate pathways considering the social, economic and political impacts of transitional climate change. The approach of utilising the NGFS scenarios is the same approach that is taken at the LMG enterprise level.

The quantification of climate change risks continues to be a key goal in LMAL's business strategy. As methodologies develop and more data becomes available, the models will enhance and update. The results of these tests continue to inform our underwriting and investment strategies.

Navigating an evolving regulatory and legislative environment

LMIE and LMAL carry out monthly horizon scanning activities to understand the current and incoming future sustainability regulatory activities taking places in the relevant jurisdictions for the business. The horizon scanning process gives us a view of the types of topics being regulated in each jurisdiction (examples of tags include: Green Finance, Taxonomy, Climate Risk, Stress Testing, Greenwashing), the official source regulatory guidelines, likely timelines for impact and reporting due date, a RAG rating for potential Liberty impact, and the Liberty region(s)/entities primarily impacted.



Enabling the Transition: Underwriting

Embedding sustainability into our business

Sustainable underwriting policies and procedures

At Liberty Mutual, we've always known insurance is a force for social good. It protects and prepares for the unexpected through keen risk awareness and mitigation. That's why we've been entrusted to insure the most complex assets on the globe, and the most influential enterprises sustaining local communities. As businesses evolve, navigate uncertainty and assess new threats, they need a stable, adaptive insurer that is always looking ahead. We are embedding sustainability into our decision-making process and underwriting strategy with care and deliberation, mindful of shifting landscapes and motivated by meaningful impact. By leaning into these sustainability challenges, we become more risk aware. Being proactive will keep us ahead of the evolving risk landscape, supports developing a robust portfolio with improved business performance, and better positions us to help our customers de-risk their business and build resilience. With sustainability as an additional business lens, we can continue to manage risks today while helping customers navigate the opportunities that accelerate a more sustainable future.

To achieve our strategic sustainability priorities, Liberty GRS has focused on setting out a sustainable underwriting framework and underwriting guidelines:

1. Sustainable Underwriting Risk Framework

We have developed a Sustainable Underwriting Risk Framework, a consistent set of material environmental, social, and governance considerations relevant across our portfolio. Liberty GRS developed a set of ESG factors based on inputs from over 100 underwriters. These factors are rooted in the UN Principles for Sustainable Insurance and SASB materiality maps. The dimensions range from emissions and climate to human rights to business ethics, transparency and corruption. As part of this framework, we have developed a comprehensive set of indicators underwriters can use to understand 'what good looks like' and 'red flags' for risks that sit within or adjacent to the dimensions identified.

The framework covers:



Environmental

1. Emissions and climate
2. Waste and water/land pollution
3. Biodiversity and nature
4. Resource and life cycle management



Social

5. Consumer/citizen welfare and advocacy
6. Employee welfare (safety, DEI, engagement)
7. Human Rights



Governance

8. Business ethics, transparency, corruption
9. Regulatory and risk management



2. Sensitive Topic Underwriting Guidelines

We have developed and launched a set of ‘sensitive topic’ (revised and new) underwriting guidelines, that identify and respond to risk areas, including sustainability, that warrant additional guidance, management and due diligence where we perceive elevated commercial and/or reputational risk:

- **Commercial Risk** – There are certain areas and topics where we will apply a consistent guideline across all commercial and specialty business due to the nature of the exposure and our underwriting appetite.
- **Reputational Risk** – Managing potential reputational risks is central to our strategic objective of being the most trusted insurance brand. We operate according to high standards of governance and behaviour and doing business with partners who do not share similar standards creates potential reputational risk for us.

In the last reporting year, Liberty launched its Sensitive Topic Underwriting Guidelines framework, which builds on previous underwriting guidance, including on topics such as thermal coal (our policy has been in place since 2019). Underwriters apply these guidelines in day-to-day underwriting. Three were pre-existing policies which were revised, and four were newly developed and launched. Underwriters evaluate risk through the

framework considerations and apply sensitive topic guidelines for a more consistent and forward-looking assessment of risk, prompting deeper conversations with our customers, and ultimately more informed risk-taking. With this approach, we recognise that there is no “one size fits all” answer, as the risks associated with these topics can vary according to industry sector, geography, line of business, type of cover, customer characteristics, etc. The guidelines and the subject matters they cover are likely to evolve over time. The current guidelines span thermal coal to protected areas.

Each of the policies in our Sustainable Underwriting Framework and Sensitive Topic Underwriting Guidelines target areas of potential sustainability-related risk, with several of the guidelines addressing risk areas that sit across the ‘E’ (environmental) the ‘S’ (social) and the ‘G’ (governance).

Social factors in our underwriting guidelines

Some of the seven core underwriting guidelines covering priority areas are primarily climate/environment-driven, though have been assessed and developed with essential social factors in mind too. For example, the oil and gas and protected areas guideline embed the social impacts of transition into our risk assessment, as well as ensuring awareness of protected areas of ecological and cultural importance (such as those belonging to indigenous communities).





Our thermal coal underwriting & investment policy

In 2019, Liberty Mutual established a global policy on thermal coal (“coal”) underwriting and investing. We have met the investments goals for this policy and have almost met those related to global underwriting. We recognise that the energy mix and demands for every region and community may look different, including the continued need for traditional energy sources, and we are committed to making sure the climate transition includes everyone.

The LMG Coal Policy applies to LMAL and LMIE. This policy states that Liberty Mutual:

- Does not accept underwriting risk for companies where more than 25 percent of their revenue arises from thermal coal mining.
- Does not accept underwriting risk for companies where more than 25 percent of their production relates to energy generation from thermal coal.
- Does not make direct investments in debt or equity securities of companies that generate more than 25 percent of i) revenues from thermal coal mining or ii) electricity production arising from thermal coal.

LMAL and LMIE also have the following additional restrictions in place in line with Lloyd’s guidelines:

- No new investments will be made in thermal coal-fired power plants, thermal coal mines, oil sands or new Arctic energy exploration activities.
- By the end of 2025, any existing investments in companies with business models which derive at least 30% of their revenues from either thermal coal-fired power plants, thermal coal mines, oil sands or new Arctic energy exploration activities will be sold.

We continue to take a pragmatic approach and believe that as new energy sources are developed at scale, demand for new and expanded traditional energy projects will decline based on market forces and the evolution of public policy.





Enabling the Transition: Investments

Liberty Mutual Investments (LMI) is the group that oversees and manages Liberty's approximately \$100bn investment portfolio with the mission to create capital that allows Liberty Mutual's customers and clients to embrace today and confidently pursue tomorrow. Through the commitment of its people, LMI fosters deep investment expertise, cultivates strategic partnerships, and strengthens Liberty Mutual for the benefit of our stakeholders.

As a mutual company, we have distinct advantages in generating the capital needed to invest with a long-term focus. Rather than distributing capital to shareholders, we grow, retain and compound our capital in the interest of our policyholders, regulators and broader stakeholders over time.

Our investing philosophy is guided by driving strong financial returns, but we will never sacrifice our integrity or our duty to deploy our capital to projects and partnerships that ultimately serve as a force for good. Our dedicated investment teams in Energy Transition & Infrastructure (ET&I) and Impact Investing are helping meet this need for innovation in socially vital areas. These teams have the flexibility to invest across structures and sectors in projects and businesses that lack access to traditional sources of capital.

Integrating the consideration of sustainability risks and opportunities into investment strategies and decision making

Oversight and integration of sustainability considerations in Investments

At a LMG level, the governance structures and committees for sustainability-related topics include specific representation on investments. The ESG Executive Committee is responsible, at a Group level, for setting global standards and guidelines across Liberty Mutual and developing recommendations and plans to address emerging risks and opportunities related to sustainability. The committee includes representation from senior members of strategic business units, including LMI (please see our TCFD report 2023, pg 7 for further details).

The management of sustainability-related risks in investments

The investments team, in conjunction with LMI, continue to monitor the macroeconomic environment, collaborating with horizon-scanning and impact assessments undertaken by the risk team.

This section reflects LMG's strategy for LMI at organisation-wide level, except where explicitly named as an entity-specific LMAL/LMIE initiative or policy. LMAL and LMIE's approach is aligned to LMG in all other areas.

Managing risks in our investments (full details in TCFD report 2023)

LMI integrates sustainability, including climate-related issues, into the investment process to provide investors with an expanded information set to aid investment research, support portfolio returns and lessen volatility over time. Our sustainable integration efforts span both our global fixed income and private investments and utilise internal and external resources to supplement our robust investment process.

Physical risks in our investments (full details in TCFD report 2023)

In assessing climate-related physical risks within Liberty Mutual's investment portfolio, we are working to combine our in-house natural catastrophe modelling expertise with our unique investment perspective and asset management goals. This approach leverages our physical risk modelling expertise from the insurance side of the business to pilot guidance datasets encompassing Liberty Mutual's key perils which can be used to augment traditional data sources that are used within investment portfolio management. By incorporating a more comprehensive understanding of physical risks across our investment portfolio, we have taken an initial step toward ensuring that our investment portfolio is well-positioned for future physical climate impacts.



Liberty Mutual Investments: Investing in disruptive innovation (full details in TCFD report 2023)

Liberty is committed to supporting innovation and alternative solutions through Liberty Mutual Investments (LMI). While our investing philosophy is guided by driving strong financial returns and ensuring that we have adequate capital to protect our policyholders, we are a long-term global investor committed to innovation and **driven by the belief that capital can serve as a force for good**. We believe catalysing innovation and accelerating the deployment of new technologies is crucial to addressing climate change. This is enhanced by our dedicated Energy Transition & Infrastructure (ET&I) team, which has historically emphasised innovative climate-related opportunities (as exemplified through our investment in Nexus PMG). In addition to the more than \$1.23 billion in renewable energy-generation investments across LMI’s fixed income and alternative investments, our ET&I team has invested approximately \$810 million in emerging energy transition opportunities and strategic investments in climate technology. This diversified portfolio underscores our dedication to supporting a broad spectrum of sustainable solutions. Across more than four decades, we have intentionally made significant allocations to venture capital and early-stage investments with notable exposure to clean-tech, deep-tech and other strategies that are focused on solving critical social challenges.

Energy Transition Investments

	2021	2022	2023
Total investments in renewable energy ²	\$1,468 million	\$1,274 million	\$1,231 million
Total investments in energy transition solutions	\$287 million	\$388 million	\$810 million

Figure 5: Energy Transition Investments 2021–2023 (source: TCFD report 2023)

² As at 12/31/2023

Investing in innovative technologies

At LMI, we believe catalysing innovation and accelerating the deployment of new technologies is crucial to addressing climate change. LMI places a significant emphasis on venture capital and early-stage investments within our private assets’ portfolio.

The ET&I team has a strong track record of generating attractive returns across many low carbon technologies. As an example, our capital is supporting the development and construction of some of the world’s largest renewable energy and storage resources.

New sectors – To expand our impact, in 2023 LMI broadened the ET&I mandate to include new sectors. In digital infrastructure, we are bridging the digital divide by providing growth capital to fibre optic new builds in rural and underserved communities. Our capital also supports the circular economy through projects that remove waste byproducts and transform them into valuable energy resources. We are simultaneously investing in onshoring to support the energy transition by financing new manufacturing facilities that support both job growth and expansion of domestic renewable energy value chains.

In addition to the more than \$1.23bn in renewable energy-generation investments across LMI’s fixed income and alternative investments, our ET&I team has invested approximately \$810mn in emerging energy transition opportunities and strategic investments in climate technology.

Nexus PMG – As an example of our expanded approach, in 2023 LMI participated in a \$50mn growth equity round for Nexus PMG, a waste to-value and low-carbon infrastructure leader, accelerating its in-house development platform focused on renewable natural gas and sustainable aviation fuel production.



Strategy, Innovation and Opportunity

Energy Transition: a key area of sustainability-related opportunity

Liberty has identified the global energy transition — an enormous market opportunity by 2030 for commercial insurance — as a key area of priority for the business. We are working to assess and develop this opportunity, leveraging the scenario analyses in our portfolio management strategy to explore geographies and industry sectors with growth potential.

Underwriting for the Energy Transition

Liberty Mutual's GRS business unit provides leading risk advisory services to help customers advance their sustainability journeys, insures and invests in emerging sectors to support 'green' growth and strives to be a partner of choice for our brokers and others working to advance the transition.

We are taking action in three areas:

1. Systemic discovery and mitigation of risk, including resiliency
2. Supporting a low-carbon future
3. Investing in enhanced data and analytics that allow us to better understand risk

As an example, in response to the United States' 45Q income tax credit, which came into effect in 2021 to incentivise the capture of carbon dioxide from qualifying industrial facilities and its disposal in permanent geological storage, Liberty Mutual introduced coverage for site pollution liability and environmental protection through the U.S. Environmental Liability group's Contractors and Environmental Legal Liability product (CELL). We know the energy transition will affect our customers in different regions at a different pace due to policies and infrastructure maturity. However, the energy transition is increasing in speed, and we must be there for our clients as they transition their energy sources and business models. By integrating sustainability considerations into our underwriting, we support our clients in the most effective manner to help them transition and grow as new, innovative opportunities arise.





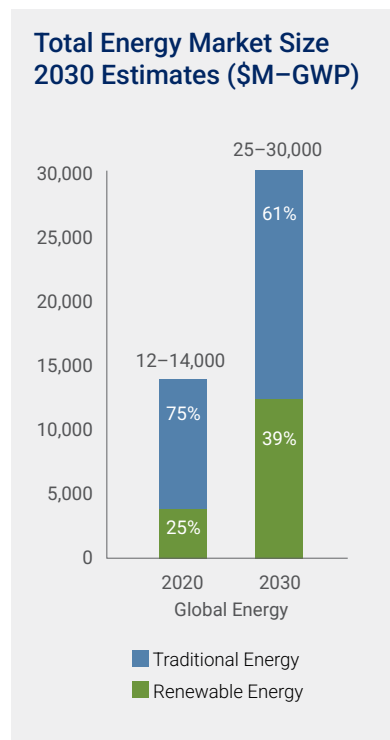
The opportunity: Liberty GRS have an Energy Transition Risk team, strategy and associate Steering Committee.

GRS's energy insurance clients are active in the global energy transition and are looking for insurance support. The Energy Transition is the ongoing decarbonisation of the global energy system in an effort to achieve net zero climate commitments. The transition will impact all segments of the economy, though the energy industry will drive much of the change needed to achieve net zero by 2050. Power and heat generation decarbonisation is the largest opportunity to impact these goals, though this is just the beginning. Other industries, like transportation and construction, will play a significant part as well. The learnings on insurability of emerging technology will help inform the evolving risk landscape being created and impacting other industry sectors across GRS.

With trillions of investments over the next 30 years, the **global energy transition creates a significant P&C insurance market opportunity in renewable energy by 2030 and a massive growth opportunity for Liberty.**

The time to take advantage of this opportunity is now, as much of the transition is driven by the tailwinds of private and public goals to reach net-zero targets by 2050. Policy makers are mobilising capital to support net zero transitions and new energy players to invest billions annually in renewable power through 2030s. As seen with the war in Ukraine, energy independence is a key consideration as the world shifts further into a de-globalisation model. There is a short-term increase in reliance upon coal, but this will be offset in short order with European nations constructing additional renewable energy modules.

The energy transition is not without risks as the world competes for resources and struggles with legacy infrastructure and streamlining bureaucratic processes, though they are not unsurpassable. Enabling infrastructure to ensure reliable power, permitting challenges, regulatory clarity, resource availability, insufficient workforce development, and energy price volatility all restrict momentum.





The future of mobility

Liberty Mutual Mobility Solutions was formed in 2019 to prepare for the future of mobility – how people and goods move. We have invested in building an integrated team that sits across business units and functions to centralise resources, experts and technology, enabling our mission to understand the shifting and emerging risks in the mobility landscape. We address macro-consumer trends in mobility and provide innovative insurance solutions to help mobility companies mitigate evolving risks in the market.

We are witnessing several trends: a shift towards alternative power sources like electric vehicles (EVs); enhanced connectivity through data and technology; expansion of new modes and shared mobility models; and the rise of software-defined vehicles, particularly autonomous vehicles (AVs). Collectively, these trends will enable safer and more sustainable mobility options over the long-term. This creates some key risk management challenges, including managing rising loss costs and price adequacy and accuracy in a rapidly changing vehicle market, harnessing the potential of connected vehicle data while navigating privacy regulations, adapting to the shift from personal vehicle ownership to shared mobility and addressing the complexity of AV technology and its impact on liability and risk.

Liberty Mutual and the insurance sector play a crucial role in the future of mobility by providing thought leadership and financial protection for the various stakeholders involved in the transportation ecosystem to promote safety and sustainability in the industry. Additionally, insurance companies can leverage their data and expertise to inform regulatory frameworks and promote best practices in risk management.

Parametric insurance products

We offer a wide spectrum of parametric solutions. Parametric insurance differs from a traditional indemnity policy in that it covers the insured for the probability of a predefined event happening and provides swift payment upon occurrence of the triggering event.

Parametric Product Launch:

Partnership to provide market-first parametric solution to protect Kenyan coffee farmers from climate risk

Liberty Mutual Re recently launched a partnership with Sprout Inc. and Kenyan insurer Britam to launch a parametric insurance product designed to protect Kenyan coffee growers from financial losses due to drought. The product's inception is rooted in Lloyd's Lab Launchpad Pitch. Providing fast payouts triggered by specific weather events, it's designed to not only protect against climate risks but also to address the specific needs of coffee growers. It incorporates real-time advisory services to assist farmers in adapting their practices based on weather forecasts, thereby enhancing their resilience. We are proud to have been supporters from the beginning, helping to shape the structure of the coverage and the capacity allocation.

Developing our nature and biodiversity approach

At Liberty Mutual, we are identifying the key trends, models and tools available to assess and manage nature related risks and opportunities. LMG have defined a high-level nature and biodiversity approach which includes work to:

1. Assess existing policy frameworks and regulations on the topic
2. Create awareness among internal and external stakeholders
3. Take stock of Liberty's actions regarding nature and analysis of tools and models
4. Collaborate across the business to understand nature-related exposures and priorities

As part of this high level strategy, GRS is partnering with LMG sustainability and ERM teams to further develop our nature approach.



Partnership and Engagement

Liberty Mutual's Climate Transition Center

The Liberty Mutual Climate Transition Center was founded in 2022 to empower insurance professionals, customers, policymakers and decision-makers globally to adapt to and mitigate one of the biggest challenges of our time – climate change. The industry's world-class capabilities of assessing risks and developing solutions to mitigate them will be critical to how the climate transition unfolds.

2023 was a big year for the Climate Transition Center, releasing its first proprietary research papers to advance the collective understanding of climate-related risks, impacts, and resilience and bringing together subject matter experts to advance cross-industry discussion and collaboration. During this year, the Climate Transition Center activities focused on three themes:

- What pragmatic transition planning looks like, evidenced through two published papers, "A case for a systems-level approach to pragmatic transition planning" and "The big shift: Navigating the interconnected complexities of the energy transition."
- The role of the insurance sector (and financial sector at large) in the climate transition, evidenced through a full-day workshop with the Institute of International Finance (IIF) to bring together private and public sector leaders on the energy transition, with presentations from industry peers, the U.S. Department of Energy, the Massachusetts Governor's Office and the Geneva Association.
- The need to advance climate data and tools for greater resiliency, evidenced through a Climate Risk Data 101 video series with our Director for Catastrophe R&D, a climate scientist by training, to inform policymakers, partners and the general public.

Partnering for thought leadership

Liberty Mutual, and the insurance sector more broadly, play a crucial role in sustainability, particularly in the transition to a low-carbon economy. By providing and collaborating on thought leadership and financial protection insights, Liberty continues to advance the collective understanding of climate-related risks, impacts, resilience and transition issues. Examples of this research and thought leadership are outlined below.

Example of the types of research and thought leadership

Please see our recently published whitepaper on [Understanding the Key Challenges and Opportunities in Creating Climate Transition Pathways](#)



Research, thought leadership and industry publications

The Global Head of Strategic Partnerships, Energy Transition, sits on the Geneva Association’s Climate Tech Advisory Committee. The Climate Tech Advisory Committee comprises senior experts from 12 re/insurers (AIG, Allianz, AXA, AXIS Capital, Intact Financial Corporation, Liberty Mutual, Lloyd’s, Manulife, Munich Re, SCOR, Swiss Re, Tokio Marine), alongside risk engineering, investment, and commercial and speciality business line experts; and company CEOs who come together to provide industry-leading thinking on Energy Transition related challenges, deliver research and reporting as well as industry guidance and frameworks such as the ‘Insurability Readiness Framework’.

The Global Head of Strategic Partnerships, Energy Transition is also a named co-author of two following 2024 Geneva Association industry publications:
(i) Bringing Climate Tech to Market: The powerful role of insurance; and
(ii) Climate Tech for Industrial Decarbonisation: What role for insurers?
Liberty’s GRS Head of Sustainability is also consulted on industry research.



In October 2024, we co-hosted the Geneva Association Climate Change and Environment Conference at LMG’s headquarters in Boston.

Figure 6: Examples of insurance industry thought leadership pieces to which Liberty Mutual has contributed recently





Partnering to promote climate resilience for customers and society

Insurers are the world's risk managers, helping people understand and mitigate risks. The core economic purpose of insurance is risk identification, mitigation and transfer. Our industry takes the lead in building tools (such as catastrophe models) to help measure and price exposure to catastrophe events. We are well positioned to help our clients and customers understand these risks, while protecting against future losses and maintaining stability in our operations. Building resiliency is a collaborative effort that requires involvement from the private sector, academia, government officials and individuals. Liberty Mutual partners with academia and the research community, including MIT, on a range of efforts focused heavily on addressing climate and environmental solutions. This collaboration, which includes other companies across a broad range of industries, aims to accelerate the implementation of large-scale, real-world solutions to help meet global climate and sustainability challenges.

For details on additional research and partnership initiatives, please see our Purpose and Impact report:

- Advancing data and discovery
- Supporting adoption of new and alternative solutions
- Investing in disruptive innovation
- Focus on business integration and innovation
- Informing and advocating on adaptive solutions

Engaging our stakeholders

Engaging with our industry and educating stakeholders is key to building awareness of the importance of resilience and collaborating on solutions that will enable long-term sustainability. As one of the largest global property and casualty insurers, Liberty Mutual participates in many trade associations and partners with non-governmental organisations and public-private collaborations around the world. In addition, our ClimateWise membership and report is a unique publication for stakeholders of the LMAL and LMIE entities, providing them with a deeper view of our management of climate and nature in some of our largest commercial and speciality businesses outside of North America.

“ At Liberty Mutual, we consider insurance as a force for social good. It protects and prepares society for the unexpected and helps communities rebuild after tragedy strikes. We can all agree that the world seems to be getting riskier as the pace of change accelerates. GRS assumes risk to provide our clients with financial stability and strengthen their resilience to adverse events, so that they can focus on their business. As risk experts, we also advise our clients on loss prevention to further strengthen their resilience.”

— Crystal Ottaviano,
Liberty GRS Chief Risk Officer



Cross-sector engagement

- **COP28:** We participated in the annual UN Climate Change Conference (COP28) in Dubai to help advance cross-sector collaboration and understanding around the role of insurance in sustainability, climate resilience, industrial decarbonisation and the energy transition. We were proud to sponsor the leading COP28 event for business leaders, through the Climate Innovation Summit and Innovation Zone, and engage in official COP28 cross-sector conversations. We participated in three panels: “Prioritising technologies for rapid decarbonisation,” “Getting the most from your financial partners – de-risking the transition” and “Resiliency in shipping and port infrastructure.”
- **Global Impact Investing Network:** In January of 2023, Liberty Mutual became a member of the Global Impact Investing Network (GIIN). This is the largest global community of investors and service providers engaged in impact investing, dedicated to increasing its scale and effectiveness around the world. Engaging our stakeholders.
- **Geneva Association:** In 2023, Liberty Mutual deepened our participation with the Geneva Association, the leading think tank of the insurance industry. We are part of the Geneva Association’s task force developing insurance readiness frameworks for green hydrogen and carbon capture, utilisation and storage (CCUS), building upon the U.S. Department of Energy’s adoption readiness frameworks. We also participated in the Geneva Association’s 50th Anniversary meeting, moderating a panel on insurance as an enabler to energy transition technology development.

Education and Advocacy

- **BuildStrong Americas:** We continue to partner with the BuildStrong Americas to build knowledge about resilience and the insurance industry. In January of 2024, the Climate Transition Center coordinated a webinar with BuildStrong and FEMA (US Federal Emergency Management Agency) highlighting

the benefits of building code funding to increase resiliency in the built environment. We also partnered with BuildStrong to educate government officials on the importance of incentivising and creating resources for homeowners to upgrade older homes to the latest building codes.

- **LMA’s ESG Academy:** Liberty Mutual helped develop a training with Lloyd’s Market Association (LMA) through LMA’s ESG Academy, with Liberty Mutual active in the LMA Sustainability and Climate Risk Committees. The training was offered to 52 Lloyd’s Managing Agents encompassing thousands of employees and includes a mix of eLearning, virtual and in-person courses designed to equip insurance and reinsurance professionals with a practical grounding in sustainability. Specific topics included ESG risks and opportunities; climate risk scenario analysis; and risk management, underwriting, measurement and disclosure.
- **Sustainable Environment Alliance:** Liberty Mutual’s Sustainable Environment Alliance (SEA), an internal employee group, supports Liberty Mutual’s sustainability efforts by promoting education and positive action to protect the environment in which we live and work. In 2023, the SEA community continued to foster internal learning and create opportunities to centre sustainability in the business. In addition to various internal blogs and events throughout the year, SEA hosted a fireside chat on climate resilience with Francis Hyatt, our Chief Sustainability Officer. To promote environmentally friendly business practices, SEA members piloted digital business cards across various teams, with a positive reception from users and customers.
- **Green Scene:** The Liberty Information Technology (LIT) Green Scene raises awareness of environmental challenges facing our community and promotes sustainable practices within LIT at both an individual and corporate level. Last year LIT hosted a tree planting event, encouraged cycling for UK Bike Week and held a swap shop to divert items from landfills.



Key Partnerships and Initiatives for customer and societal resilience

At Liberty Mutual, we understand that our industry plays a key role in building more resilient individuals, businesses and communities. We promise protection from the unexpected, delivered with care, which has elevated importance in the face of increasing uncertainty. We fulfil this role by distributing risk, mitigating potential losses and offering financial protection so individuals and businesses can embrace the opportunities they have today and confidently plan for the future.

- Energy Allies:** Renowned for actively involving and working alongside communities most impacted by climate change, Energy Allies imagines a future where every person lives in flourishing, resilient homes powered independently by clean energy. At the heart of their strategy lies the innovative Community Advisory Board (CAB), a collective of community members and organisational representatives compensated for their essential role in developing and endorsing local green energy solutions. The first CAB established in Boston ensures that community-led solar projects align with the specific needs of the locality. In partnership with PUSH Buffalo in Buffalo, NY, another CAB was formed under Energy Allies' guidance, with community leadership designing an energy project to create intergenerational wealth for those living in communities most impacted by climate change. The Liberty Mutual Foundation has provided Energy Allies with a \$100,000 grant to support their work towards a community-led energy future.
- Fathom:** Researching sea-level rise: Liberty Mutual's research and development team expanded its forward-looking sea-level rise modelling, in partnership with the flood modelling firm Fathom, to understand how hazards from climate change interact with the built environment. We found that the combination of sea-level rise and extreme weather significantly impacts critical infrastructure, such as levees. We also explored which types of business are most at risk of coastal flooding, as a supplement to Liberty's emerging risks analysis.
- Cyber AcuView:** As a founding and active member of CyberAcuView – a company dedicated to enhancing cyber risk mitigation efforts across the insurance industry – we have contributed to increasing the clarity in Cyber War Language and the launch of the PERILS Index. Liberty Mutual also participates regularly in both the CyberAcuView data consortium and the NetDiligence Claims Study, sharing pertinent data to enhance industry education of key exposure and claim trends
- Insurance Institute for business and Home Safety:** We have an ongoing partnership with the Insurance Institute for Business & Home Safety (IBHS), a nonprofit that re-creates severe weather and studies its impact on infrastructure, with the goal of making buildings more resilient. Liberty Mutual provides guidance and strategic insights that shape IBHS' research, and in turn, we use the results to help our policyholders better understand risks from climate change, for example we are part of ongoing efforts to work toward a set of mitigation actions that will reduce a given property's wildfire risk.

Working with policymakers and industry initiatives

LMIE and LMAL have increased their engagement in industry and public debate on these issues over the past year with active involvement in the following groups:

- We are a member of ClimateWise and our GRS Head of Sustainability sits on the Managing Committee
- International Underwriting Association – members of the Sustainability and Climate Risk Committees
- LSM Active Underwriter is a member of the Board of the Lloyd's Market Association (LMA); our Head of Sustainability also sits on the LMA Sustainability Committee and Climate Risk Committee
- LSM Active Underwriter is a member of the Board of the London Market Group
- GRS President of Underwriting is on the Board of Pool Re
- GRS is a member of the Westminster Energy Forum



LMIE and LMAL also benefit from LMG membership and participation in:

- United Nations Global Compact
- United Nations-supported Principles for Responsible Investment (PRI)
- Institute of International Finance (IIF) Sustainable Finance Policy Expert Group
- Corporate Eco Forum

Employee engagement

The strength of our business relies on the dedication of Liberty Mutual's employees; we strive to create an environment where our employees can learn, grow and thrive. We use a number of mechanisms to deliver and measure employee satisfaction and engagement in sustainability topics, including trainings, Employee Resource Groups, employee opinion surveys, Employee Net Promoter Scores and internal communications programmes.

Communication with colleagues

LMIE and LMAL use a variety of channels to communicate with employees with regards to sustainability.

Formal communications, podcasts and talks are part of this, for example a recent episode of 'Time with Tim' (an interview series hosted by CEO Tim Sweeney featuring different guests from across Liberty Mutual senior leadership). Tim Sweeney and the Chief Sustainability Officer, Francis Hyatt, recently discussed climate.

We also seek to use more informal, internal and regular channels of communication to ensure employees have the opportunity to engage with Sustainability topics and discussions at all levels and in a variety of formats. This includes webinars, speaking at other divisions' team meetings, email communications, blog posts on Liberty's Communities page, lunch and learns, and videos.

The Climate Activation Program ('CAP')

Liberty Mutual views sustainability-related training as not only the opportunity to provide **technical educational information** to colleagues, but also to embed sustainability considerations in employees' day-to-day as part of a **broader mindset and cultural shift**.

Liberty Mutual recognises that education and engaging appropriate stakeholders is a key tool for overseeing risks and establishing a culture aware of climate change issues. The GRS Sustainability team partners with and enables the business, and when it comes to climate change, that means our efforts focus on education, knowledge-building and empowerment.

The Climate Activation Program (CAP) is an internal business initiative to create a common understanding across the organisation of what climate change looks like and the impact it has on our industry, business and customers.

The first stage of the CAP was rolled out in early 2023 to senior leaders across Liberty Mutual providing to them a foundational understanding of climate and Liberty Mutual's climate strategy over several in-person and virtual sessions with experts. We then developed a pilot program for our subject matter experts across GRS focused on climate policy, transition risk and physical risk. Together, these strands helped create a consistent understanding of how a changing climate presents new risks and opportunities for our business and provides examples of how we are well-positioned to make a difference as the world transitions to a low-carbon future.

Subsequent phases of the CAP currently underway involve expanding the scope of the Program to cover a) more colleagues/teams, and b) more technical and line of business-specific content. Training has been delivered for various leadership groups, including in-person training sessions in both Canada and Bermuda, and is now being rolled out across other jurisdictions. We are also working across the GRS Global Product Board lines – property, casualty, credit and financial lines in order to ensure knowledge sharing and consistency in approaches.



Corporate Social Responsibility (CSR) at LMIE and LMAL

Another important and popular programme through which we engage employees is through our Corporate Social Responsibility (CSR) programme of volunteering and giving initiatives.

Our strategic CSR framework is divided into four themes, helping us focus our activities on community-based issues where we can make a difference:



We have two global charity partnerships: Staff voted our two partners in, from a curated group of options of partners whose work is all responding to or impacted by climate change. As a pair, our current partners make important impacts to protect carbon sinks and supporting people in the most challenging circumstances to adapt, respectively.

Case Study:

As part of LSM’s three-year global charity partnership initiative, we decided to align the aims of the business with regards to climate change to our charity choice. There was a staff vote which resulted in the selection of two charities.

Cool Earth backs people in the Amazon, New Guinea and Congo rainforests to protect the forests and fight the climate crisis. The idea is simple and aims at providing money to people living in rainforests to ease to deforestation. Forests need to be kept as carbon-rich as possible to avoid intensifying climate change, and destroying important biodiversity.



Shelter box comes in after the crisis. They provide shelter, essential items and technical assistance to help some of the world’s most vulnerable people recover and rebuild their homes after disaster. The organisation listens and adapts support to the needs of each community, working together with those affected by disaster, alongside our supporters and partners.





We have three London charity partnerships:



THE
FELIX
PROJECT

The Felix Project collects fresh, nutritious food that cannot be sold and delivers this surplus food to charities and schools so they can provide healthy meals to the most vulnerable in our society.



The Brain Tumour Charity is the world's leading brain tumour charity and the largest dedicated funder of research into brain tumours globally



Working UK-wide, Mental Health UK deliver both national and local services that enable and empower people to understand and manage their mental health in a person-centred and empathetic way.

2023 CSR engagement and impact summary

- We supported our 5 key charity partners: CoolEarth, ShelterBox, the Felix Project, Mental Health UK and the Brain Tumour Charity
- We supported a further 93 charities through our staff charity committee, Unsung Heroes Awards, insurance market requests and staff matching.
- We ran 39 activities through our 'Serve with Liberty' volunteering programme with 65% of our London staff participating
- We supported 32 charities across our 10 local offices
- We had 10 'Serve with Liberty' activities in local offices



Operations and Value Chain

Progress towards Liberty Mutual Group carbon reduction targets

We continue to work towards meeting our commitment to reduce Scope 1 and 2 global greenhouse gas (GHG) emissions by 50% by 2030 (from 2019 levels).

In 2023, Liberty Mutual achieved a 4.5% reduction from 2022 levels, resulting in a cumulative 46% reduction from the 2019 baseline, contributing toward a low-carbon future. To fulfil our GHG reduction objectives, we are actively working to reduce our operational carbon footprint. This includes enhancing operational efficiencies, identifying renewable energy opportunities across our real estate portfolio and leveraging key learnings from 2020 to increase emission reduction rates during the return-to-office transition. Furthermore, we are adapting to changing work dynamics, with a continued focus on the reimagining of the workplace as employees globally connect and collaborate in hybrid, in-office or work-from-home formats. This adaptability plays a crucial role in our overall reduction of GHG emissions. Our commitment to sustainability remains steadfast as we work towards a resilient and environmentally responsible future.

Making our buildings more efficient across LMG

We are making our buildings more efficient by focusing on reducing energy consumption and optimising operations:

Building operations

We are making our buildings more efficient by focusing on reducing energy consumption and optimising operations.

London – our offices is BREEAM-certified, complete with life cycle assessment and green energy supply.

Singapore – our team conducted a detailed workplace scenario analysis to optimize and reduce space. As a result, we shifted from a six-story building to a single floorplan.

Figure 8: Efforts to enhance the sustainability and efficiency of our real estate across the group (Source: TCFD 2023 report, pg49)

We are taking action to lessen our environmental footprint by reducing the waste generated across our operations across Liberty Mutual Group, including activities to address waste reduction and recycling (such as printing conservation and landfill diversion), furniture upcycling and reuse, and fleet adjustments.

Scope 1 CO2e emissions (MTCO2e)	
2023	30,162
2022	29,236
2021	29,699
Scope 2 CO2e emissions (MTCO2e) location based	
2023	36,474
2022	40,530
2021	48,358
Scope 2 CO2e emissions (MTCO2e) market based	
2023	31,731
2022	36,791
2021	44,760
Scope 3 CO2e emissions (MTCO2e)	
2023	46,240
2022	29,518
2021	8,638
Total Scope 1&2 CO2e emissions (MTCO2e)	
66,636	

Figure 7: 2021-2023 GHG emissions changes at a LMG level (Source: TCFD 2023 report, pg34)

In 2023, Scope 3 emissions is limited to Category 5 – Waste Generated in Operations for U.S. owned and operated facilities, and Category 6 – Business Travel for global commercial air and ground travel, and employee mileage reimbursement for U.S. and Canada based employees.



UK Carbon Reduction Plan

In 2022, a net zero target by 2050 was developed for UK operations (per UK Carbon Reduction Plan, see below). The commitment furthers our sustainability strategy and also ensures alignment with the UK government’s net zero ambitions.

UK Carbon Reduction Plan 2024: Commitment to achieving Net Zero

We are committed to work towards achieving net zero emissions by 2050 in our UK operations. This includes scope 1 and 2 and the required subset of Scope 3 emissions (category 3.4 Upstream transportation and distribution, category 3.5 Waste generated in operations, category 3.6 Business travel, category 3.7 Employee commuting and category 3.9 Downstream transportation and distribution).

Liberty Mutual, the Company’s ultimate parent organisation, has committed to a 50% absolute reduction of Scope 1 and 2 (location based) emissions by 2030 from 2019 levels. We have committed to 42% absolute reduction target of Scope 1 and 2 (market based) emissions by 2030 from 2023 levels, because of our recent baselining². LSM has also committed to a 90% absolute reduction by 2050 on scope 1 and 2 (market based) emissions from 2023 levels.

For our scope 3 emissions, we commit to reduce absolute Scope 3 GHG emissions 90% absolute reduction by 2050 from a 2023 base year. This target is limited to category 3.5 Waste generated in operations, category 3.6 Business travel and category 3.7 Employee commuting.

² Environmental market-based mechanisms may be used to meet this target

Scope 1, 2, and 3 GHG emissions breakdown for FY23 for UK

UK GHG emissions breakdown for FY23

Scope	GHG Emissions (tCO2e)
Scope 1	251
Scope 2 (Market-Based)	31
Scope 2 (Location-Based)	479
Total Scope 1 & 2 (Market-Based)	282
Total Scope 1 & 2 (Location-Based)	730
Category 5. Waste Generated in Operations	2
Category 6. Business Travel	6,545
Category 7. Employee Commuting	575
Total Scope 3	7,122
Total Scope 1,2 and 3 (Market-Based)	7,404
Total Scope 1,2 and 3 (Location-Based)	7,852

Key messages

Scope 1 and 2

- Scope 1 emissions are associated to the consumption of natural gas at the 20 Fenchurch Street, London office.
- Scope 2 emissions are related to electricity consumption in all offices. Market based emissions in the London 20 Fenchurch Street office are zero as renewable energy has been claimed. Consumption in the rest of the offices is non-renewable

Scope 1 and 2 emissions split by office locations

20 Fenchurch Street (London) is the office with the highest emissions at both market-based, and location-based, due to the consumption of natural gas. It should be noted that electricity in Bristol and Manchester (leased spaces) were estimated.



Monitoring and managing suppliers and partners with a sustainability lens at Group level

Embedding sustainability considerations in our engagement with third-party vendors and organisations

We have worked closely with our procurement colleagues to enhance our supply chain resiliency; we have made progress in assessing our suppliers' sustainability practices. We also aim to diversify our supply chain, both to support our commitment to inclusivity and to create greater resiliency in the event of any disruptions.

As a global company that serves customers of different cultures and backgrounds, Liberty Mutual is committed to actively supporting and engaging an inclusive supply base. We understand that having a supply chain that includes minority-, women-, LGBT-, disabled-, and veteran-owned businesses will promote innovative thinking and yield stronger business results. We value the energy and perspective of these dynamic suppliers and welcome the opportunity to be a part of their story and ultimate success.

Responsible Sourcing and Assessing Suppliers

Our responsible sourcing initiatives embody a comprehensive strategy, using data and information to procure goods and services ethically and sustainably. We are committed to fostering a supply chain that reflects clients' and customers' resilience and diversity.

This year, we partnered with EcoVadis to assess and improve the sustainability of our supply chain. EcoVadis is a globally recognised assessment platform that rates businesses' sustainability in four key categories:

- Environmental impact
- Labor & Human Rights standards
- Ethics
- Sustainable Procurement Practices

EcoVadis provides suppliers with an actionable scorecard we can use to select and continually assess suppliers. The primary goal of our first year is engagement of our top suppliers on the EcoVadis platform. Ultimately, we would like to increase engagement for all our strategic suppliers, embed them in the vendor management process and provide data during sourcing events and during our risk assessment process.





Liberty Mutual Supplier Code of Conduct

We have created a Supplier Code of Conduct to reinforce our values and share expectations of our suppliers. Our core Values include putting people first and acting responsibly. We expect our Suppliers to demonstrate their commitment to ethical, socially responsible and compliant business practices by:

- Engaging with integrity and ethical business practices
- Avoiding actions that would improperly influence our employees' objectivity and decisions
- Complying with fair trade, antitrust, competition, anti-corruption, anti-bribery laws
- Letting us know if any of these conflicts happen

Supplier development and inclusion

At the end 2023, we launched our Elevate Supplier Development Program to provide small and/or diverse-owned businesses with a custom Business Health Assessment that evaluates their business strategy, organisational talent, market and customer strategy, financial management and compliance capability. The program also provides access to symposiums, the Annual Responsible Sourcing and Supplier Diversity Summit and procurement subject matter experts. We look forward to investing in these businesses and building strong partnerships to promote innovative thinking and economic development.

We deepened our commitment to helping local, small and diverse businesses thrive by providing resources to enable growth. In our Boston headquarters, we hosted two pop-up events with more than 20 local businesses to facilitate direct engagement with our employees. Participating shop owners shared feedback on how eager our employees were to connect and support local businesses. Our Employee Resource Groups (ERGs) and networks also leverage our supplier diversity team to identify diverse-owned businesses for their events and initiatives. This year, our Pride ERG looked to our supplier diversity team for a vendor to provide shirts for our Pride events, parades and other activations.

Monitoring and managing suppliers and partners with a sustainability lens at an entity level

Supplier Due Diligence relating to 'E' 'S' and 'G' factors

LMIE and LMAL specifically conducts due diligence regarding the structure, operations and background of its material third parties. We have developed an ESG Supplier Due Diligence Questionnaire as one means of gathering information. Our personnel also contact representatives of supplier companies with certain additional questions, as relevant.





Principle 4: Disclosing Effectively

Throughout this report, we have referred to how we measure and monitor sustainability-related impacts on our business, where relevant.

Liberty takes the accuracy and robustness of all reporting extremely seriously. In order to ensure that sustainability reporting carried out by LMG and its entities is consistent and accurate, we have formed a new governance framework: the Global Sustainability Disclosure Governance (GSDG) team.

The GSDG is a multidisciplinary team responsible to execute a program which:

- Fosters collaboration among related committees, teams, and stakeholders for the alignment of sustainability disclosures
- Reviews disclosures through the process of intake, formal coordination, document review, comments, response to the submitter, and collection and retention of final documentation
- Integrates feedback obtained from related committees, teams, and stakeholders to enhance the processes and tools of the program and further develop Liberty's sustainability strategy
- Holds regular cadence Needs Assessment Meetings to understand each market's sustainability disclosure requirements, establishes clarity in roles and responsibilities, and determines if the existing Sustainability material can be used or if regional information is necessary. GSDG will provide ad hoc consulting as needed
- Creates and provides reporting to relevant stakeholders, including other sustainability related teams with jurisdiction over ESG issues such as executive leadership and committees

We commit to submitting our complete ClimateWise report and commit to publicly disclosing an annual ClimateWise report in autumn, reporting on the prior financial year.

LMG and its entities, including LMIE and LMAL, take the accuracy, transparency and accessibility of our sustainability-related reporting very seriously. As outlined throughout this report, we have robust frameworks, governance and processes in place to ensure that all sustainability-related reporting issued by Liberty is comprehensive, technically accurate, and written in a prudent manner.

As is the case across climate and sustainability-related disclosures involving forward-looking statements, modelling, scenario analysis and stress testing, this report is subject to a wide range of key assumptions and limitations.

Cautionary Statement

This report has been prepared solely for informational purposes from sources understood by Liberty Mutual Group (the Company) to be reliable at the time of publication. The Company does not guarantee the accuracy, completeness, timeliness or availability of the contents of this report. The Company is not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the contents of this report. In no event shall the Company be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the contents of this report even if advised of the possibility of such damages.

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This report contains forward-looking statements intended to enhance the reader's ability to assess the Company's future financial and business performance. Forward-looking statements include, but are not limited to, statements that represent the Company's beliefs concerning future operations, strategies, financial results, or other developments and contain words and phrases such as "may," "expects," "should," "could," "believes," "anticipates," "estimates," "intends" or similar expressions. Because these forward-looking statements are based on estimates and assumptions that are subject to significant business, environmental, economic and competitive uncertainties, many of which are beyond the Company's control or are subject to change, actual results could be materially different.

The Company's forward-looking statements speak only as of the date of this report or as of the date they are made and should be regarded solely as the Company's current plans, estimates and beliefs. The Company assumes no obligation to update these forward-looking statements or the contents of this report following publication in any form or format. For a discussion of the Company's financial information, visit the Company's Investor Relations website at www.libertymutualgroup.com/investors.

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Except where noted, the information covered in this report highlights our performance and initiatives in fiscal year 2023. The inclusion of information in this report should not be construed as a characterisation regarding the materiality or financial impact (or potential impact) of that information.

Unless the context otherwise requires, references in this report to "Liberty Mutual," "Liberty Mutual Group," the "Company," "we," "us," and "our" are to Liberty Mutual Holding Company, Inc. together with its direct and indirect subsidiaries.

These key assumptions surrounding scenario analysis and stress testing include:

- These tests are intended to be high-level indicators of the business' exposure to adverse scenarios. They are based on simplified assumptions and the actual impact of similar events may be different.
- The tests do not allow for management actions that the Board may take following a shock event. For example, the Board may look to reduce expenses, suspend distributions, exit unprofitable business classes, or raise further capital.
- The tests do not allow for changes in capital requirement following a shock. This is because typically the PTOI loss is a much more material driver of solvency coverage than any subsequent change in capital requirement. The change in SCR ratio after a shock is due to a reduction in own-funds following the PTOI loss.
- Stress and scenario analysis related to emerging risks such as climate change, geopolitical tensions or the consequences of conflict between China/Taiwan are considered in section 2 of the ORSA, including illustrative quantification where possible and appropriate.
- The macro-economic stresses are aligned to those prepared as part of the business planning process in Q3. They are not directly comparable to the tests carried out as part of the 2023 ORSA process. For example, they focus on underwriting risk and exclude investment risk, noting that in many cases, it is possible to hold assets to maturity and avoid any investment loss. The combination of underwriting and investment loss is stressed through the multi-factor scenario.
- Catastrophe events are shown in addition to a "typical" catastrophe experience allowed for as part of the business planning process.



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