

# REDESIGNED STATE CLIMATE RISK DISCLOSURE SURVEY

## SURVEY QUESTIONS

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To provide clear direction for achieving a robust, insurance-sector specific TCFD report, narrative and closed ended questions follow, grouped into the TCFD's four topics: governance, strategy, risk management and metrics and targets.

The statements listed next to numbers and letters are directly taken from the TCFD Framework and should be fully addressed in the insurer's response. As discussed in detail above, insurers should consider including the bulleted items in their response to the TCFD statement above it. For additional guidance on sector specific content to consider including, refer to the [Implementation Recommendation Report](#).

**Closed ended questions directly correspond to the narrative, allowing for explanation and qualification of the yes/no answers.**

**Closed ended questions are voluntary for reporting year 2021.**

### Governance – narrative

*1. Disclose the insurer's governance around climate-related risks and opportunities.*

*In disclosing the insurer's governance around climate-related risks and opportunities insurers should consider including the following:*

- Identify and include any publicly stated goals on climate-related risks and opportunities.
- Describe where climate-related disclosure is handled within the insurer's structure, e.g., at a group level, entity level, or a combination. If handled at the group level, describe what activities are undertaken at the company level.
- A. *Describe the board and/or committee responsible for the oversight of climate-related risks and opportunities.*

*In describing the position on the board and/or committee responsible for the oversight of managing the climate-related financial risks, insurers should consider including the following:*

- Describe the position on the board and/or committee responsible for the oversight of managing the climate-related financial risks.
- B. *Describe management's role in assessing and managing climate-related risks and opportunities.*

**Governance – closed ended questions answered in addition to the narrative [These questions are not required].**

- Does the insurer have publicly stated goals on climate-related risks and opportunities? (Y/N)
- Does your board have a member, members, a committee, or committees responsible for the oversight of managing the climate-related financial risk? (Y/N)

- Does management have a role in assessing climate-related risks and opportunities? (Y/N)
- Does management have a role in managing climate-related risks and opportunities? (Y/N)

Massachusetts Mutual Life Insurance Company's ("MassMutual") focus on mutuality and longevity goes hand in hand with our commitment to sustainability. As a mutual company, we do business with the long-term interests of our customers and policyowners in mind. Our work to minimize the environmental impact of our operations, tackle barriers that prevent equal access to opportunity, and other efforts such as those mentioned in this survey response are detailed in our 2021 Sustainability Report(1) and reflect our commitment to do right by our policyowners, customers, employees, and communities.

Climate change-related risks and associated disclosures are handled by MassMutual for the parent company and subsidiaries C.M. Life and MassMutual Ascend (formerly Great American Life Insurance Company)(2). Climate-related risks are integrated into MassMutual's overall risk framework and processes, which include regular reporting to our Executive Leadership Team and Board of Directors. At the Board and executive levels, oversight and management of climate-related risks and opportunities are embedded in MassMutual's overall ESG governance structure and accountabilities.

The Board of Directors provides oversight of MassMutual's ESG strategy, including our strategy related to climate change, and receives updates at least twice annually. Furthermore, MassMutual has an ESG Executive Steering Committee, which oversees ESG and climate strategy at the executive level. The Committee, chaired by the Chief Risk Officer, meets three times annually and is comprised of the full Executive Leadership Team, including the CEO.

MassMutual's Global Sustainability Office develops and deploys MassMutual's ESG strategy, including our approach for addressing climate-related risks and opportunities. The Office is led by the Head of Sustainability and works closely with functional leaders and business units to drive integration. There are also cross-functional working groups that support integration of ESG principles into business unit-level strategies, policies, and procedures, and lead execution of key ESG initiatives. These groups are comprised of functional and business unit leaders.

(1) Available at

<https://www.massmutual.com/global/media/shared/doc/sustainability/2021sustainabilityreport.pdf>

(2) Other subsidiaries of MassMutual did not meet the filing threshold.

## Strategy – narrative

2. *Disclose the actual and potential impacts of climate-related risks and opportunities on the insurer's businesses, strategy, and financial planning where such information is material.*

*In disclosing the actual and potential impacts of climate-related risks and opportunities on the insurer's businesses, strategy and financial planning, insurers should consider including the following:*

- Describe the steps the insurer has taken to engage key constituencies on the topic of climate risk and resiliency.\*<sup>i</sup>
- Describe the insurer's plan to assess, reduce, or mitigate its greenhouse gas emissions in its operations or organizations.\*
  - A. *Describe the climate-related risks and opportunities the insurer has identified over the short, medium, and long term.*

*In describing the climate-related risks and opportunities the insurer has identified over the short,*

*medium, and longer term, insurers should consider including the following:*

- Define short, medium, and long-term, if different than 1-5years as short term, 5-10years as medium term, and 10-30years as long term.

*B. Describe the impact of climate-related risks and opportunities on the insurer's business, strategy, and financial planning.*

*In describing the impact of climate-related risks and opportunities on the insurer's business, strategy, and financial planning, insurers should consider including the following:*

- Discuss if and how the insurer provides products or services to support the transition to a low carbon economy or helps customers adapt to climate-related risk.
- Discuss if and how the insurer makes investments to support the transition to a low carbon economy.

*C. Describe the resilience of the insurer's strategy, taking into consideration different climate-related scenarios, including a 2 degree Celsius or lower scenario.*

**Strategy - closed ended questions answered in addition to the narrative [These questions are not required].**

- Has the insurer taken steps to engage key constituencies on the topic of climate risk and resiliency? (Y/N) \*
- Does the insurer provide products or services to support the transition to a low carbon economy or help customers adapt to climate risk? (Y/N)
- Does the insurer make investments to support the transition to a low carbon economy? (Y/N)
- Does the insurer have a plan to assess, reduce or mitigate its greenhouse gas emissions in its operations or organizations? (Y/N)\*

We believe that the most important strategic implications of climate change for MassMutual, including C.M. Life and MassMutual Ascend, are associated with our General Investment Account (GIA). We are conducting scenario analyses to identify and assess our potential climate-related risks and opportunities. Based on this effort, we are developing actionable guidance for integrating the insights from these analyses into our strategy and management processes. This includes integrating ESG factors across our business, which is essential to mitigating risk and identifying and capturing new opportunities, including those associated with climate change.

In 2021, we announced a commitment to transition our investment portfolio to net zero greenhouse gas (GHG) emissions by 2050. We recognize the urgent challenge climate change presents and we are actively leveraging our role in capital markets to help advance a decarbonized economy.

Our efforts include investing in Low Carbon, a U.K.-based asset manager that invests in large scale, renewable energy projects. MassMutual made a significant equity investment in Low Carbon, which intends to target 20 gigawatts of renewable energy capacity by 2030. The deal, announced in November 2021, marks MassMutual's first European renewable energy strategic partnership as we seek to transition our investment portfolio to net zero by 2050.

Also in 2021, we announced a commitment to achieve net zero GHG emissions in MassMutual's operations by 2030. To develop a clear picture of our current state and progress, as well as to build the foundation to fulfill our net zero commitment, we conducted an inventory of our operational GHG emissions for 2019-2021. As part of our net zero roadmap, we are continuing to identify and implement initiatives to drive progress. Our efforts are focused on our Scope 1 and Scope 2 emissions, as well as Scope 3 operational emissions associated with our value chain.

## **Risk Management – narrative**

### *3. Disclose how the insurer identifies, assesses, and manages climate-related risks.*

*In disclosing how the insurer identifies, assesses, and manages climate-related risks, insurers should consider including the following:*

- Describe how the insurer considers the impact of climate related risks on its underwriting portfolio, and how the company is managing its underwriting exposure with respect to physical, transition and liability risk.\*
- Describe any steps the insurer has taken to encourage policyholders to manage their potential physical and transition climate related risks, if applicable.\*
- Describe how the insurer has considered the impact of climate-related risks on its investment portfolio, including what investment classes have been considered.\*

#### *A. Describe the insurers' processes for identifying and assessing climate-related risks.*

*In describing the insurers' processes for identifying and assessing climate-related risks, insurers should consider including the following:*

- Discuss whether the process includes an assessment of financial implications and how frequently the process is completed.\*

#### *B. Describe the insurer's processes for managing climate-related risks.*

#### *C. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the insurer's overall risk management.*

*In describing how processes for identifying, assessing, and managing climate-related risks are integrated into the insurer's overall risk management, insurers should consider including the following:*

- Discuss whether climate-related risks are addressed through the insurer's general enterprise-risk management process or a separate process and how frequently the process is completed.
- Discuss the climate scenarios utilized by the insurer to analyze its underwriting risks, including which risk factors the scenarios consider, what types of scenarios are used, and what timeframes are considered.
- Discuss the climate scenarios utilized by the insurer to analyze risks on its investments, including which risk factors are utilized, what types of scenarios are used, and what timeframes are considered.

## **Risk Management – closed ended questions answered in addition to the narrative [These questions are not required]**

- Does the insurer have a process for identifying climate-related risks? (Y/N)
  - If yes, are climate-related risks addressed through the insurer's general

enterprise-risk management process? (Y/N)

- Does the insurer have a process for assessing climate-related risks? (Y/N)
  - If yes, does the process include an assessment of financial implications? (Y/N)
- Does the insurer have a process for managing climate-related risks? (Y/N)
- Has the insurer considered the impact of climate-related risks on its underwriting portfolio? (Y/N/Not Applicable)\*
- Has the insurer taken steps to encourage policyholders to manage their potential climate-related risks? (Y/N)\*
- Has the insurer considered the impact of climate-related risks on its investment portfolio? (Y/N)\*
- Has the insurer utilized climate scenarios to analyze their underwriting risk? (Y/N)
- Has the insurer utilized climate scenarios to analyze their investment risk? (Y/N)

As part of our robust risk assessment process, MassMutual monitors a broad range of strategic, financial, and operational risks, including those related to sustainability and climate change. Within our Enterprise Risk Management (ERM) function, we have dedicated resources with responsibility for monitoring climate-related risks. In addition, our Climate Risk Working Group, which is comprised of representatives from our ERM, Global Sustainability, and Investment teams, leads and coordinates our process for identifying and assessing climate-related risks and opportunities across our business. Climate risks are integrated into our overall risk framework and processes, which include regular reporting to our Executive Leadership Team and Board of Directors.

As a life insurance and financial products company, MassMutual's most significant exposure to climate-related risks is associated with our GIA, although climate risks could potentially affect our physical operations as well. In order to develop a more detailed understanding of the potential risks we face, we launched a process in 2021 following the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). MassMutual greatly appreciates the work of many regulators and the NAIC in collaborating with industry stakeholders and aligning the NAIC's Climate Risk Disclosure Survey with the TCFD.

Our process, following TCFD recommendations, concentrates on identifying and assessing the climate-related risks and opportunities we may face under different climate change scenarios. As part of this effort, we are taking areas where climate risk is already being managed and putting them into a more structured framework, while filling gaps where these risks need more focus. Our initial scenario analysis work is targeted at understanding the transition risk in our public corporate bond portfolio given available information. The findings from this initial analysis are being used to more deeply integrate climate risk into our existing enterprise risk management processes, generate actionable strategy insights, and improve our roadmap for achieving net zero GHG emissions.

We continue to expand our climate risk capabilities and align our processes with the recommendations of the TCFD. This includes both broadening the coverage of our scenario analysis work to more asset classes within the GIA and further adapting insights into investment guidance. Our efforts to better understand climate risk and opportunity, and to continually apply these insights to our investment strategy, reflect MassMutual's commitment to our customers and policyowners by ensuring our future strength across a wide range of possible scenarios.

## Metrics and Targets – narrative

4. *Disclose the metrics and targets used to assess and manage relevant collateralized risks and opportunities where such information is material.*

*In disclosing the metrics and targets used to assess and manage relevant collateralized risks and opportunities where such information is material, insurers should consider including the following:*

Discuss how the insurer uses catastrophe modeling to manage the climate-related risks to your business. Please specify for which climate-related risks the insurer uses catastrophe models to assess, if any.

- A. *Disclose the metrics used by the insurer to assess climate-related risks and opportunities in line with its strategy and risk management process.*

*In disclosing the metrics used by the insurer to assess climate-related risks and opportunities in line with its strategy and risk management process, insurers should consider including the following:*

- In describing the metrics used by the insurer to assess and monitor climate risks, consider the amount of exposure to business lines, sectors, and geographies vulnerable to climate-related physical risks [answer in absolute amounts and percentages if possible], alignment with climate scenarios, [1 in 100 years probable maximum loss, Climate VaR, carbon intensity], and the amount of financed or underwritten carbon emissions)
- B. *Disclose Scope 1, Scope 2, and if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.*
- C. *Describe the targets used by the insurer to manage climate-related risks and opportunities and performance against targets.*

## Metrics and Targets – closed ended questions answered in addition to the narrative [These questions are not required].

- Does the insurer use catastrophe modeling to manage your climate-related risks? (Y/N)
- Does the insurer use metrics to assess and monitor climate-related risks? (Y/N)
- Does the insurer have targets to manage climate-related risks and opportunities? (Y/N)
- Does the insurer have targets to manage climate-related performance? (Y/N)

In 2021, MassMutual committed to achieve net zero GHG emissions in our operations by 2030 and to transition our investment portfolio to net zero emissions by 2050. We disclose GHG emissions, including Scope 1, Scope 2, and Scope 3 (business travel) in our 2021 Sustainability Report(1). We are aware that the majority of our Scope 3 emissions will come from our investment portfolio. Since announcing our commitment to achieving net zero emissions in our portfolio by 2050, we have made significant progress toward the development of our financed emissions inventory, which will serve as the foundation for achieving net zero by 2050.

We are taking a thoughtful and rigorous approach to calculating financed emissions to serve as the basis not only for meeting our goals and targets, but also for driving emissions reductions in the economy. Our multiyear roadmap — along with a near-term action plan that includes a clear timeline, deliverables, and ownership — lays out our strategy for fulfilling this ambition. To accomplish this, we will continue to refine and improve our inventory methodology over time as data and best practices evolve. We will also be transparent about our progress through our annual

sustainability report.

Across our ESG investing efforts, we work closely with Barings, MassMutual's wholly owned global asset management subsidiary. This includes assessing investments on ESG scores based on Barings' proprietary scoring methodology across asset classes, enabling better understanding of portfolio risks and decision-making around desired ESG outcomes across our GIA.

Within our physical operations, we are working to reduce emissions by increasing operational efficiency and investing in new technology, as well as by considering carbon management practices as part of our vendor selection criteria. We are also measuring and tracking our progress toward our targets.

(1) Available at:

<https://www.massmutual.com/global/media/shared/doc/sustainability/2021sustainabilityreport.pdf>