November 15, 2021

Mr. Steven Seitz
Director, Federal Insurance Office
U.S. Department of the Treasury
1500 Pennsylvania Ave., NW
Washington, D.C. 20220

Re: Federal Information Office Request for Information on the Insurance Sector and Climate-Related Financial Risks

Dear Director Seitz:

On behalf of Liberty Mutual Insurance (Liberty Mutual)\(^1\), I appreciate the opportunity to provide comments to the Federal Insurance Office’s Request for Information on the Insurance Sector and Climate-Related Financial Risks (“RFI”).\(^2\) Liberty Mutual exists to help people embrace today and confidently pursue tomorrow. This belief is underpinned by our conviction that insurance is a socially responsible product, delivering security to individual consumers and businesses. We assume risk across several industries and support different aspects of economic activity. Our company insures homes, automobiles, and businesses small and large throughout the country and the world through a diverse suite of property and casualty (P&C) products. Through those products, we promise our customers protection from the unexpected including damage from natural catastrophes resulting from climate change.

At the outset, it is important to note that the risks posed by climate change are not new to Liberty Mutual or the P&C insurance sector. As one of the largest P&C carriers in the world, we have extensive experience with the underwriting and investment risks associated with climate change, operate in jurisdictions with extensive climate risk regulations such as the United Kingdom and the European Union, report using the recommendations provided by the Taskforce on Climate-Related Financial Disclosure (TCFD), are the first U.S. P&C insurer to

\(^1\) Liberty Mutual is a U.S. headquartered global P&C insurer. We rank 71\(^{st}\) among Fortune 500 companies (based on 2020 revenue), are the 6\(^{th}\) largest global P&C insurer (based on 2020 gross written premium), and the fourth largest P&C insurer in the United States (based on 2020 direct written premium).

become a signatory to the Principles for Responsible Investment (PRI), and participate in the Partnership for the Carbon Accounting Framework (PCAF) as well as the Taskforce on Nature-related Financial Disclosures (TNFD). In fact, over the past several years, we have engaged in an extensive undertaking to understand how we can best incorporate the risks of climate change into our business. We have established a corporate governance structure around evaluating climate change risks through our Board of Directors, our Executive Leadership team, and through the establishment of an enterprise-wide Climate Council to manage climate-related risks and opportunities. Our enterprise risk management function includes climate scientists who provide expert insights on climate risks on a day-to-day basis. These scientists as well as others have reviewed copious amounts of data and models to understand the areas where such information has utility as well as any limitations. We believe this work is critical for our risk management and the views outlined in this comment letter are informed by our experience and the significant amount of work we have undertaken in this area.

It is also important to acknowledge that P&C insurers like Liberty Mutual are mitigants to the impacts of climate change, but their ability to do so is not boundless. That is why it is critical that the public sector at home and abroad develop a holistic approach to address climate change and its devastating impacts. Such measures could include:

1) Measures that ensure businesses (including insurers) are managing the risks posed by climate change but allow for flexibility in approach given, for example, the limitations in climate science and modeling and the recognition that some jurisdictions’ transitions may take longer than others;
2) an appropriate level of transparent disclosures to policyholders and investors relating to climate change risks that may materially affect a financial entity’s business and are based on TCFD;
3) providing substantial government investment in pre-disaster mitigation to help communities adapt to and manage climate change risks that have already come to fruition or which are inevitable in the future even if the most aggressive emissions goals are met;
4) providing regulatory environments that enable the development of products that can fill protection gaps created by climate change; and
5) enacting direct measures through legislation that will stem climate change and address the existential risks it poses to economic functioning and the planet in recognition that ancillary or indirect measures on insurance markets will not meaningfully address the root causes of climate change or its impacts.

With these principles in mind, Liberty Mutual provides the following comment in response to the questions proposed by the Federal Insurance Office’s Request for Information:

1. Please provide your views on how FIO should assess and implement the action items set forth for FIO in the Executive Order on Climate-related risk.
Given that the Federal Insurance Office (FIO) was established to monitor the insurance sector and its regulation, it may be appropriate for FIO to issue a written report identifying the risks posed by climate change in the insurance sector and potential policy recommendations for the Administration, Congress, state insurance regulators, and the NAIC to consider. In developing its assessment and recommendations, the FIO should consult with federal agencies, state insurance regulators, and the NAIC regarding those entities’ initiatives to address climate-related risks. It should also convene forums (including but not limited to the FACI) with federal administrative agencies, regulators, the NAIC, industry, and consumer groups to discuss the issues identified in the Executive Order.

**FIO’s Initial Climate-Related Priorities**

2. *Please provide your views on FIO’s three climate-related priorities and related activities, particularly with regard to whether there are alternative or additional priorities or activities that FIO should evaluate regarding the impact of climate change on the insurance sector and the sector’s effect on mitigation and adaption efforts.*

Liberty Mutual believes the three priorities that FIO identified are appropriate. However, the “Insurance Markets and Mitigation/Resilience” priority should be treated as two separate priorities, given the importance of pre-disaster and mitigation resilience measures separate and apart from the potential disruption to insurance markets caused by climate change. The U.N. Intergovernmental Panel on Climate Change (IPCC)’s most recent report and others in the scientific community have concluded (1) climate change is already affecting many weather and climate extremes globally; and (2) those trends will continue even if the most aggressive emissions targets are met and global temperature increases are limited to 1.5 degrees Celsius by 2050.3 In light of those conclusions, pre-disaster mitigation is critically important not only to address future risks from climate change but also to mitigate the risks that have already come to fruition. Given FIO’s coordinating role on insurance-related issues for the federal government, we strongly encourage FIO to coordinate with federal agencies and to work expeditiously to identify additional government funding sources that could be used for mitigation for communities, consumers, and businesses. For example, the National Oceanic and Atmospheric Administration (NOAA) is at the cutting edge of assessing climate risks. FIO should partner with them along with other federal agencies such as the Federal Emergency Management Administration (FEMA) to identify communities at particular risk to climate change and help steer federal funds to those areas to make them more resilient to its impacts.

**Climate-Related Data and FIO’s Data Collection and Data Dissemination Authorities**

3. *What specific types of data are needed to measure and effectively assess the insurance sector’s exposure to climate-related financial risks? If data is not currently available,*

---

what are the key challenges in the collection of such climate-related data? In your response, please provide your views on the quality, consistency, comparability, granularity, and reliability of the available or needed data and associated data sources.

Liberty Mutual has done and continues to do extensive work evaluating available climate data sources and modeling as part of our efforts to thoughtfully incorporate climate change into our risk management. While we continue to invest resources in improvements to modeling and data, we have learned that the current availability and quality of data and models particularly for purposes of projecting impacts over longer time horizons is quite limited. For purposes of orientation, there are 3 types of models: 1) catastrophe models, 2) climate models, and 3) investment models. Each brings particular strengths and limitations to the problem of incorporating climate risk into insurance industry risk appetites. In the longer term, effective climate risk management will require incorporating the strengths of each (extreme events from catastrophe models, forward perspective from climate models, and economic risk from investment/transition models). But in the short term, the limitations of each tool must be respected to ensure that the data that they produce is not misused or misinterpreted.

A. Catastrophe Models

Catastrophe models are the tools that insurers have used for the last three decades to handle extreme disasters. Their strength lies in capturing the statistical distribution of historical extreme events, including hurricanes, floods, wildfires, and more, which are the focus of property insurers’ year-to-year profitability as well as long-run solvency.

To effectively extend catastrophe model usage to incorporate climate risk, it is important to understand the fundamentals of how they are built. While they are designed to provide a current view of potential hazard, that current view is constructed using historical statistical distributions of extreme event characteristics. These models can be adjusted in frequency or intensity to incorporate near-term views of future climate risk, but climate assessments further in the future, by necessity, may include ranges of extreme events that are beyond the historical experience that the models currently capture. Therefore, at long-term horizons, an insurer’s best-available tool for capturing economic losses of extreme events is no longer fit for purpose.

B. Climate Models

Climate models are very large data models that represent the climate system and help us understand the evolution of the system over longer time scales. However, climate models are not designed to capture the specific types of risk that are most material to the insurance sector. Climate models: (1) produce results that are the clearest and most robust at long (30 year+) timescales (recognizing they don’t account for policy or technological developments) rather than the near term time horizon that insurers typically focus on for business decisions; (2) capture change on at most a regional scale whereas insurance is looking at impacts at a very local level, ideally down to individual properties; and (3) capture changes in average
conditions more accurately than extreme scenarios at the tail of the risk distribution whereas insurance focuses on changes in extremes.

While climate models can fill some gaps in the catastrophe modeling ecosystem (such as incorporating forward-looking views of risk rather than present day), they are more appropriate for capturing the types of impacts likely to affect the banking sector (such as mean temperature effects that may flow through to economy-scale productivity) rather than the extreme hazards that fundamentally drive insurance markets. Unlike catastrophe models, climate models do not measure financial or economic impact of climate events. These models are typically built by academics and government labs and are open-source data sets. The efficacy of data from climate models are dependent on resolution (degree of geographic specificity) and time horizons, with data quality being lower for high resolution or extreme hazards. Climate models are best at capturing impacts at long time-horizons but can be more complex to interpret at the time periods that are most relevant to insurers (less than 10 years) due to the influence of natural, decadal-scale internal variability.

An important gap in all available physical risk tools is that none measure societal or community impacts. Integrating that lens into these models is imperative if there is to be a better understanding of the impacts climate events will have on our communities. For example, communities may be at risk of physical damage that could threaten their critical infrastructure, bond ratings, or municipal tax bases. However, not all impacts will happen at the same time, and the most important hazards to focus on for the allocation of limited climate adaptation resources is not always clear. Advances in this space between the climate and catastrophe modeling communities will facilitate policy development and resource allocation decisions, and we continue to assist in further refining these types of models.

C. Investment Models

From an asset/investment perspective, insurers face two types of climate-related risks in their investment portfolio: (1) physical risks associated with assets that may themselves be directly impacted by climate change (physical risk); and (2) transition risks associated with assets exposed to risk due to changes in public policy, technology, or investor preferences. In both cases, investors are faced with notable data limitations.

Physical risk modeling of investments is very basic, and heavily constrained by limited information on the location of the asset. For some asset classes (municipal bonds and real estate), physical location can be ascertained, and physical risks quantified, although translating physical damage to the risk of bond defaults, for example, is not a straightforward exercise. For other asset classes, the paucity of information about the physical locations of any particular investment renders limits the utility of the models. For example, Miami faces a very different set of climate risks than Minneapolis, but investors may only know that a company operates in the U.S., and not its precise location.
Likewise, the modeling of transition risk remains simplistic, limited by the current lack of company-specific emissions data because reliance on actual reported emissions data can, at this juncture, be misleading. Two companies may both disclose emissions data, but one may report lower emissions due to differences in sophistication in capturing carbon emissions relative to another company. Until emissions reporting is more standardized, emissions-based transition risk modeling will not produce meaningful or actionable outputs. Transition risk models also tend to use broad sectoral assumptions with little differentiation between individual companies. For example, an insurer may hold assets in a company in a sector deemed high risk by the model even where the company has successfully mitigated their actual carbon risk (e.g., a company in an energy intensive sector that has or has a credible plan to transition to more renewable energy sources). In such cases, by failing to correctly identify the actual climate risk or to give credit for effective mitigation measures, the model’s outputs may lead to policy outcomes that are different than intended.

4. **What are the key factors for the insurance sector in developing standardized, comparable, and consistent climate-related financial risk disclosures?** In your response, please discuss whether a global approach for disclosure standards needs to be adopted domestically for insurers. Please also address the advantages and disadvantages of current proposals to standardize such disclosures, such as those set forth by the Taskforce on Climate-Related Financial Disclosures or the NAIC’s Insurer Climate Risk Disclosure Data Survey.

As a threshold matter, in implementing any new requirements, policymakers and regulators should be clear about the rationale for specific disclosure requirements and how such requirements are linked to their regulatory authorities and objectives. As regulators domestically and internationally press for more specific climate disclosures, they should seek to promote consistency across sectors and jurisdictions as standardization will improve data quality. Liberty Mutual produced its first TCFD report in 2020 and given TCFD’s broad adoption, we believe that disclosure framework provides a solid foundation if regulators decide to require disclosures for the insurance sector. However, we caution against requiring quantitative climate risk reporting until there is improvement in the area of climate data and modeling.

5. **Please provide your views on how FIO’s data collection and dissemination authorities should be used by FIO to research, monitor, assess, and publicize climate-related financial risk and other areas of the insurance markets that are affected by climate change.**

---


5 As described in Liberty Mutual’s response to question 17, Liberty mutual also recently joined PCAF and will participate in its newly established Insured Emissions Working Group. The work of PCAF will help improve TCFD reporting on emissions.
Analysis of climate change risks and the impacts extend well-beyond the insurance sector, so it is important that any role FIO plays is limited to its remit and informs the broader federal and state government response. FIO should serve a supporting role by providing insurance expertise to other federal agencies by acting as a facilitator between the insurance sector and the federal government, and by working closely with state insurance regulators and the NAIC on information collection.

With respect to data collection specifically, it is not appropriate for the FIO, given its monitoring role and lack of insurance regulatory authority, to collect company-specific proprietary data that is being collected by state insurance regulators individually or collectively through the NAIC, or otherwise could be. Given that states and the NAIC already collect information and have separate climate-related workstreams already in process, FIO should in the first instance rely on the copious amounts of data that already exists including public sources and existing regulatory sources (as appropriate). To the extent, FIO believes it has legitimate need for additional data and can justify that need, it should coordinate with the NAIC and states on the collection of any data that may be required for FIO’s purposes. This will streamline the process, reduce regulatory burdens, and ensure state insurance regulators and FIO are operating within the bounds of their respective remit. Further, given FIO’s authorities and its charge to examine the impact of climate change on the sector as a whole, any data FIO obtains from regulators and the NAIC should be aggregated.

6. **What are the likely advantages and disadvantages of a verified open-source centralized database for climate-related information on the insurance sector? Please include in your response the types of information, if any, that may be most useful to disseminate through such a database and the key elements in the development and design of such a database.**

There are two types of information at issue: 1) climate information *generated by* the insurance sector, and 2) climate analytics *used by* the insurance sector. With respect to climate information *generated by* the insurance sector, unless it is contemplated to be merely a catalog of existing publicly disclosed information, it is not clear how a verified open-source centralized database for climate-related information would be helpful given what is currently collected and disclosed through TCFD, the NAIC climate survey as well as what is being contemplated for future disclosures to regulators.

As described above, of greater concern is the lack of credible, decision-useful climate-related data and modeling to assess both physical and transition risks that can be *used by* the insurance sector and financial sector more broadly. The academic sector, private sector, and government research are seeking to fill those gaps, but the existing science and data do not support many of the specific types of risk assessment approaches being contemplated by some regulators. Importantly, a significant private sector ecosystem of climate data analytics providers has developed, but with widely varying levels of expertise and public accountability.
While many climate models are already public, they have significant limitations as they are not designed to answer questions necessary for insurer risk management or the insurance business. Models that could be more useful for insurers, such as those designed to model certain extreme events, simply do not exist at the scale needed for the insurance market today. While the industry continues to invest in research to enhance such models and data, the government should also invest significantly in the development of these types of data sources. Liberty Mutual’s October 2021 joint workshop with NOAA on climate risk analytics focused on highlighting known data gaps in the financial sector regarding climate risk and fostering public-private partnerships in research in this space. Investment in “climate-conditioned” public catastrophe models, which would be built-off of climate model output rather than historical event distributions, would pay dividends both within the insurance sector, as well as among a broader range of end-users, such as city planners, who currently do not have access to catastrophe models due to their high cost.

**Insurance Supervision and Regulation**

7. **How should FIO identify and assess climate-related issues or gaps in the supervision and regulation of insurers, including their potential impact on financial stability?** In your response, please address insurance supervision and regulations concerning: (a) Prudential concerns, (b) market conduct regarding insurance products and services, and (c) consumer protection. In addition, please discuss how FIO should assess the effectiveness of U.S. state insurance regulatory and supervisory policies in addressing and managing the climate-related financial risks with regard to the threat they may pose to U.S. financial stability, including identifying (1) the major channels through which climate-related physical, transition, and/or liability risks may impact the stability of the U.S. insurance market, and (2) the degree to which insurers’ business models could be affected by each category of risk and the relevant time horizons for such effects.

At the outset, it is important to again note that climate-related risks are not new to insurers or their regulators. P&C insurers have long evaluated climate-related risks in their underwriting and regulators have long monitored how companies are managing such risks. Moreover, the NAIC has already taken steps to consider enhancements to the regulatory framework through the establishment of a Special Committee on Climate Risk and Resilience. That group has five workstreams including workstreams relating to disclosure and solvency. Before evaluating insurance supervision and regulation in this space, it would be prudent to wait to see how that work develops. Furthermore, many regulatory tools already exist that can be used as a foundation for any enhancements including, but not limited to, capital requirements, reserving requirements, Own Risk Solvency Assessments, TCFD filings, and the NAIC climate survey. As changes are considered, it would also be beneficial to move towards more consistent regulatory approaches across jurisdictions, particularly as they relate to the identification of credible data inputs and models. This will serve to support communication and cooperation.
among regulators as well as reduce regulatory burdens to companies. The NAIC could serve as a useful forum in this regard.

**Modeling**

Currently, there are primarily two approaches that are frequently discussed for managing financial risks related to climate change: 1) stress tests and 2) scenario models. Stress tests assume certain adverse events and yield outputs relating to specific areas such as capital or liquidity because they focus on specific events (irrespective of the time horizon). They tend to provide businesses and supervisors useful information with which to manage the possibility of such events coming to fruition. Many P&C insurers incorporate some elements of climate risk in their stress testing for business purposes and provide the stress testing information to regulators for supervisory purposes.

Separate and apart from stress testing, some regulators have begun exploring scenario modeling. Scenario modeling is a distinctly different exercise than stress testing. It requires reasonable assumptions or judgments to be made not only about the potential for certain climate-related risks to come to fruition (e.g., temperature change, sea-level rise, frequency of natural catastrophes) but also predictions about future macroeconomic impacts on countries and regions, microeconomic impacts within sectors and businesses, and even behavioral reactions of consumers. The longer the time horizon, the more difficult it is to make such predictions and to do so within any reasonable level of precision, which limits the efficacy of this approach, particularly to the extent it is quantitative.

We understand that there may be some theoretical attraction to utilizing longer-term quantitative scenario modeling for the purposes of evaluating the impacts of climate change on an insurer’s business. Indeed, we also found it theoretically attractive for our own risk management purposes and devoted considerable resources to explore and evaluate existing data sources and modeling that would allow us to engage in such exercises. Unfortunately, through our own work, we also discovered the current state of long-term quantitative modeling simply does not yield outputs that would have utility for a business or supervisory perspective. The data simply does not exist to make reasonably informed judgements on climate impacts or economic impacts that far in the future.

Given the deficiencies in what climate and economic models produce for the risks that are most material to insurers, such as extreme events, mandating use of these types of models today would not yield reliable information or risk insights that would be informative or actionable by regulators. Indeed, given the limitations of these models, acting on their outputs could potentially lead to counterproductive behaviors that would materially increase the risk profile of a firm rather than changes that reduce a company’s exposure to climate-related risks. For these reasons, we do not believe it is appropriate for regulators to mandate specific scenario models or fashion requirements based on outputs of such models. Instead, supervisory expectations should be more flexible as the time horizons become longer and the
data and modeling are more limited and less precise. This flexibility will allow explicit modeling where confidence is high, and sensitivity testing to explore risks where scientific confidence is low.

This is not to say that longer-term quantitative climate models will have nothing to offer risk management strategies in the insurance space in the future. However, significant investments of time and research still are needed to translate broad trends in climate risk to actionable and risk-relevant metrics for insurers to have utility from a regulatory or risk management perspective. To the extent regulators seek to understand the efficacy of models, the nature of modeling assumptions, or the scope of available information for such models, more collaborative approaches should be utilized rather than prescriptive regulatory requirements.

Disclosure

As described previously, Liberty Mutual has embraced the Task Force for Climate-Related Financial Disclosures (TCFD) as a foundational framework for climate-related disclosures. However, in evaluating enhancements, policymakers and regulators should factor in the current limits in availability and quality of data (e.g., the lack of emissions reporting by other entities limits the ability of insurers to measure transition risk limited). Regulators should also be clear about the rationale for a particular disclosure element, how it is useful, and show restraint in requesting disclosure elements that are not relevant to regulatory objectives. For example, policy decisions aimed at influencing fossil fuel exploration or production, or regulating greenhouse gas emissions are more properly in the province of regulators that have those authorities within their statutory remit. Disclosures with respect to insurer underwriting or investment in carbon intensive sectors should be designed to reflect the actual physical or transition risks posed to the insurer, not aimed at driving or influencing conduct more appropriately the subject of direct regulation of those sectors.

Evaluating Financial Stability Risks

With respect to financial stability, P&C insurers are not significant contributors to climate change and act as a mitigant by providing protection to consumers and businesses against perils that can be associated with climate change. For P&C insurers, transition and physical risks arising from climate change on the asset side of its balance sheet can be managed over time given the nature of P&C insurer investments. On the liability side, there is the possibility of a P&C insurer taking on too much exposure to or mispricing the risks through its underwriting. That’s why Liberty Mutual has robust risk management practices to manage underwriting risks (as well as other risks) and takes great pains to ensure that it is pricing its products in an actuarially sound manner. Moreover, the duration for most P&C policies is short-term, typically lasting one year. At the same time, as explained above, there are also a myriad of regulatory tools that already exist that require P&C insurers to consider risks related to climate change. Some may require tweaks and, even then, as explained above, others may require more useful
data and modeling tools. But the state insurance regulatory regime already has the foundational framework to address these type of solvency risks.

The more concerning risk is the attendant effect of regulators and companies like Liberty Mutual seeking to responsibly manage solvency risks—as climate change increases the frequency and severity of natural catastrophes, certain communities particularly exposed to natural catastrophes could potentially face-hardening markets, premium increases, and even a lack of availability of certain insurance products. To address this, there needs to be a commitment by policymakers to curb climate change directly through: (1) national targeted climate change specific legislation; and (2) a substantial increase of funding for mitigation and resilience. Government coverage mandates or back-door indirect measures through regulation designed for other purposes (such as insurance financial solvency regulation) are inappropriate responses to this existential threat. Indeed, such measures could have consequences that are equally problematic including but not limited to insurance companies being unable to cover other types of risks, insurance company insolvencies, and, if the pressure to transfer risk is too great, a greater need for more government insurance programs that will undoubtedly increase the national debt and put taxpayer money at risk.

8. **Please identify the key structural issues that could inhibit the ability of insurance supervisors to assess and manage climate-related financial risk in the insurance sector (e.g., accounting frameworks, other standards). What barriers could inhibit the integration of climate-related financial risks into insurance regulation?**

The types of regulatory tools being contemplated (e.g., stress tests, scenario models, disclosures) to manage climate-related financial risks can be largely developed in a coordinated fashion by the states and implemented in a consistent manner through the NAIC. However, such efforts will be hampered by the lack of credible, verifiable climate data and modeling, particularly as it relates to longer-term time horizons. Absent such information, it will be difficult, if not impossible, for companies and regulators to design tools for longer-term time horizons that will be informative from a supervisory or risk management perspective. For our part, Liberty Mutual welcomes the opportunity to work with regulators and others to identify information gaps, improve the overall quality of climate data and modeling tools, including risk scenarios, and contribute to potential enhancements to existing insurance supervisory frameworks to address the risks posed by climate change.

9. **What approaches used by other jurisdictions or multi-national organizations should FIO evaluate that would help inform it about existing supervisory and regulatory issues and gaps concerning climate-related financial risks? Please describe these approaches, including their advantages and disadvantages, as well as available data sources on these approaches.**

We are currently unaware of any other jurisdiction’s approach related to climate-related financial risk that would be appropriate for the United States. We are aware the European
Union (EU) has taken several steps in terms of disclosure regulations, taxonomy regulation and reporting, green bond and other measures related to climate change risks and the United Kingdom (UK) has taken similar actions (some of these measures directly impact our EU and UK operations). However, unlike the US, the EU and the UK have passed significant legislative mandates committing to specific reductions of emissions and specific commitments on transitioning to a green economy. Consequently, by necessity, their regulatory approaches must be aligned with their broader legislative mandates for compliance to be achieved. While Liberty Mutual is supportive of the U.S. adopting holistic solutions to the risks posed by climate change and believes regulators need to have comfort that companies are prudently managing such risks, we would caution against putting the cart before the horse and incorporating approaches utilized in other jurisdictions until there is a greater understanding of the nature and extent of the legislative commitments that may be made. Even then, Liberty Mutual believes the approaches undertaken by the EU and the UK reflect political decisions relevant to their markets that would not necessarily work for the United States.

**Insurance Markets and Mitigation Resilience**

10. *What factors should FIO consider when identifying and assessing the potential for major disruptions of insurance coverage in U.S. markets that are particularly vulnerable to climate change impacts?*

As a preliminary matter, it is important that when FIO seeks to assess the potential for major insurance disruptions that it recognizes there are potentially competing availability/affordability and solvency concerns. As a result, as indicated previously, Liberty Mutual believes a more holistic society-wide solution to climate-change is critical to forestall its eventual impacts. Efforts to address climate-change indirectly through insurance sector-centric solutions or insurance regulatory mandates are unlikely to significantly affect such impacts and could undermine the financial stability of the sector.

In terms of an assessment framework for identifying disruptions, it would seem reasonable in the first instance to identify those insurance markets with an outsized exposure to climate-related perils. Then identify where coverage is truly unavailable (i.e., not sold at all). As part of that analysis, FIO should not only examine the admitted market but also include the non-admitted and residual markets. It is also worth examining whether any actions by government actors such as, for example, actions that may excessively constrict an insurers’ ability to dynamically incorporate changing hazards in underwriting and pricing, may affect insurance availability.

Finally, it is important to treat the affordability of such products separate and apart from their availability. Pricing is driven by a myriad of factors including competition in P&C markets (which are typically highly competitive), the risk of loss, insurer solvency considerations, and state rate review. Even then, affordability is also driven by individual factors beyond pricing.
11. What markets are currently facing major disruptions due to climate change impacts? What markets are likely to be at risk for major disruptions due to climate change impacts in the future? When discussing markets at risk for future disruption, please estimate the likely time horizons (e.g., 5, 10, 20, or more years) when these disruptions may occur.

Disruptions can be difficult to predict and quantify. They are the likeliest to happen with risks that insurers can predict their severity and frequency with a high degree of confidence. For example, disruptions on the coasts due to sea-level rise are one of the most obvious. The risk of market dislocation is also high when a risk’s predictability is very low. A predicted large risk coming to fruition may be acceptable to an insurer, but surprise risks are not. For example, the dislocation in the wildfire markets in California is not due to outsized risks—the biggest wildfires have been on the scale of a mid-sized Florida hurricane. This dislocation is strongly influenced by a lack of robust models that can predict the wildfire events with precision. Models are now improving, but surprise hazards may lead to risks being underpriced, which could lead to dislocations until conditions are better understood.

12. Climate change is currently exacerbating economic losses caused by weather-related disasters and is projected to cause further damage in the future. Please provide information on the actions that insurers have taken in response to the threat of increased economic losses from climate-related disasters, including how insurers are incorporating mitigation and resilience considerations into their business operations, as well as what other strategies or solutions that insurers or U.S. regulators may want to explore that would help insurers mitigate the impact of climate change and build resilience.

P&C insurers can offer resilience/risk mitigation strategies to insureds to address climate change and can partner with communities, the federal government, and our fellow carriers to encourage improvements to local building codes. The National Institute of Building Sciences has found that adopting model building codes saves $11 per $1 invested and that mitigating infrastructure saves $4 per $1 invested. Unfortunately, though, these services are generally more accepted by larger commercial insureds who can take on the additional costs often associated with climate risk mitigation. For personal lines products, especially homeowners, the additional costs for resilience measures are often a deterrent to adoption and the cost associated with mitigation measures for an individual home or small business may be prohibitive absent governmental support. Consequently, the public sector should enhance building codes and increase investment in mitigation and resilience measures (such as tax incentives or grants to homeowners in at-risk communities). Such an investment will make homes and businesses safer and more able to withstand the impacts from climate change, will

---

reduce federal and state government post-disaster outlays, and, through broad adoption, likely reduce a policyholder's risk profile.

13. To what extent, if any, are models (whether internal proprietary models, open-source models, or third-party vendor models) used in the underwriting process to consider the impact of climate change? How do these models affect pricing of insurance products and business decisions (e.g., level of catastrophe exposure, utilization of reinsurance)? What are the best practices for model validation?

The P&C industry has decades of experience in leveraging catastrophe models to accurately capture the impact of climate-driven hazards like hurricanes, floods, and wildfires on the full stack of the insurance value chain, from individual account underwriting to portfolio risk management to reinsurance purchases. Liberty Mutual validates these models using a team with scientific and engineering expertise to assess the hazard, vulnerability, and financial portions of the model, and ensure that it appropriately reflects the loss potential of Liberty Mutual's unique business mix.

These experts are also responsible for developing climate-related adjustments and scenarios, and ensuring that this risk is incorporated into the broader business. Liberty Mutual views it as critical to its mission to invest in developing both internal expertise on climate translation, (i.e., highlighting and assessing the impacts of climate risk to the operations of the business), as well as external partnerships that may inform a more sophisticated view of climate risk in the future.

However, it is worth noting that some data analysis tools and models have been developed in response to a perceived need for tools to align with regulatory requests or expectations. We would caution against viewing any particular data analytic tool as a panacea just because it appears to provide answers to questions that policymakers or regulators would like answered. It is important that companies, policymakers, and regulators alike use a critical lens in evaluating the use of any particular analytic tool for business or regulatory purposes.

14. How should FIO assess the availability and affordability of insurance coverage in U.S. markets that are particularly vulnerable to climate change impacts? In your response, please discuss how to balance maintaining insurer solvency with the need to address the availability and affordability of insurance products responsive to perils associated with climate-related risks, particularly for traditionally underserved communities and consumers, minorities, and low and moderate-income persons.

---

7 For more discussion of what is currently a reasonable level of analytical confidence from a climate model in relation to what has been produced by providers of analytics, See, Fiedler et al., Business Risk and the Emergence of Climate Analytics, 11 Nature Climate Change 87-94 (February 2021).
As described previously in our response to question 10, FIO should identify those areas at increased risk of perils related to climate change and then evaluate availability by assessing whether coverage is being sold in admitted, non-admitted, and residual markets. As the RFI acknowledges, affordability considerations must be balanced against solvency concerns and therefore, affordability analysis should be conducted separately from the availability analysis. As previously noted, pricing is driven by a myriad of factors and affordability is also driven by individual factors beyond pricing.

In terms of traditionally underserved communities, consumers, and low- and moderate-income persons that may be in areas with significant exposure to the impacts of climate change, community-based investments in resilience and/or appropriately calibrated or means-tested government intervention in the forms of subsidies (so as not to mask the true cost of the underlying risk), or other types of government programs may be necessary to mitigate the impacts on these communities in the short term. In the long-term, as stated previously, Liberty Mutual Insurance continues to believe that society-wide solutions to address the causes and impacts of climate change are necessary to address the challenges these communities face.

15. In what areas have public-private partnerships or collaborations among state or local governments been effective in developing responses to climate change that may be taken by the insurance sector or insurance regulators? How can FIO evaluate the potential long-term or permanent effects on the insurance sector of such public-private partnerships or state and local collaborations to address climate-related risks? How should FIO consider state insurance regulatory efforts on consumer education related to climate risks?

There are some intriguing international models that are specifically targeted toward filling known climate protection gaps. In this regard, parametric insurance programs are often designed to address climate-related perils that are often underinsured (such as flood risk and in the Caribbean Catastrophe Risk Insurance Facility) and are frequently being used to cover losses beyond strict property losses.

For example, under the terms of the insurance policy protecting the Mesoamerican Reef in Quintana Roo, Mexico provided a rapid payout to rebuild the reef in the aftermath of Hurricane Delta in 2020. This quick response allowed for the protection of the long-term ecosystem services provided by this reef to both the local population in storm surge reduction as well as to the local tourism industry, whose hotels benefit from the attraction of the local environment. Since damage to a reef does not directly impact a building, it would be difficult to capture under traditional insurance coverages, despite its importance to the local community. In the U.S., parametric insurance products have, to date, been limited but offer an opportunity to help local governments and communities receive fast payouts on climate-inflected disaster.
Another initiative that has been effective is the BuildStrong coalition, which was formed to formulate and pursue policy initiatives to increase pre-disaster mitigation and encourage better adaptation to the changing environment. The BuildStrong Coalition is a group of firefighters, architects, insurers, emergency managers, contractors, code officials, and manufacturers that all share in the goal of increasing our nation’s resiliency to harmful weather events.

After working for nearly a decade to advance policies designed to increase resilience and investment in pre-disaster mitigation, which resulted in the enactment of Disaster Recovery Reform Act (DRRA) and the creation of the Building Resilient Infrastructure Communities (BRIC) Program, the BuildStrong Coalition is actively working on developing the next major disaster reform bill, known as the Resilient America Act, which includes provisions designed to protect homes, communities, and infrastructure in the face of climate risk.

**Insurance Sector Engagement**

16. *Please provide your views on additional ways that FIO should engage with the insurance sector on climate-related issues.*

FIO has an important role to play as an office that houses insurance expertise in the Treasury Department. FIO can and should engage regularly with the insurance industry on climate related issues both through the Federal Advisory Committee on Insurance and in other public forums. FIO should regularly provide public updates to the sector on its specific climate-related work and that of the Treasury Department and the federal government more broadly. Finally, it should regularly consult with the NAIC and states on their work in the regulatory sphere to inform the Treasury Department and other federal agencies (as appropriate). As part of those consultations, as referenced above, it may be appropriate for the FIO to obtain information from the states/NAIC, but it should limit its request to public data or aggregated non-public data (subject to appropriate confidentiality restrictions).

17. *How should FIO assess the efforts of insurers, through their underwriting activities, investment holdings, and business operations to meet the United States’ climate goals, including reaching net-zero emissions by 2050? For example, what steps should the insurance sector be taking to help improve transparency, comparability, and assessment of Scope 1, Scope 2, and, to the extent possible, Scope 3 GHG activities?*

Addressing the United States climate goals should be the product of holistic approaches and collaboration by the public and private sectors. U.S. goals will not be effectively met by legislation or regulation targeted solely at the financial services sector. State insurance regulators as the primary regulators of the insurance sector and the SEC as a market regulator have the primary responsibilities to create the relevant disclosure regimes to inform...
supervisory objectives, and to provide transparency to investors and policyholders of insurance company commitments to address climate risks. Though FIO does not have authority to establish such a disclosure regime, it can certainly consult with the NAIC, States, and SEC and FIO can assess the efforts of insurers to meet the U.S. climate goals by reviewing public disclosures such as any SEC disclosures, TCFD and NAIC climate data survey submissions.

For our part, Liberty Mutual believes that reducing its impact on the climate reflects our values as a company. Liberty Mutual Insurance established its first Office of Sustainability and appointed its first Chief Sustainability Office in December 2019. Since then, we have taken concrete steps to reduce our climate footprint. In 2019, the company also committed to no longer accept underwriting risk for companies where more than 25 percent of their exposure arises from the extraction and/or production of energy from thermal coal, no longer make new investments in debt or equity securities of companies that generate more than 25 percent of revenues from thermal coal mining or utility companies that generate more than 25 percent of their electricity production from thermal coal, and phase out coverage and investments for existing risks that exceed this threshold by 2023. In late 2020, Liberty formalized its Energy Transition Investment Strategy and formed a dedicated Energy Transition & Infrastructure (ET&I) team. Additionally, in December 2020, Liberty formalized its commitment to integrating environmental, social, and governance (ESG) considerations into the investment process by becoming the first U.S. P&C insurer to sign on to the United Nations-backed Principles for Responsible Investment. In early 2021, Liberty also launched a climate stress assessment of its investment portfolio. More recently, in September 2021, Liberty announced its commitment to a 50% reduction in reduction of Scope 1 and 2 global greenhouse gas (GHG) emissions from 2019 levels by 2030. The company recently joined the Partnership for Carbon Accounting Financials (PCAF) and will participate in its newly established Insured Emissions Working Group, which includes PCAF insurance signatories, founding Net Zero Insurance Alliance members and other re/insurers. The Working Group is developing a carbon accounting methodology for emissions in insurance portfolios.

Finally, we would note that a lot of work remains to accurately measure Scope 3 emissions. If not done correctly, the reporting of such measurements could lead to inappropriate results and incentives.

18. What role or actions might states take to encourage the insurance sector’s transition to a low emissions environment and an adaptive and resilient economy? In your response, please discuss whether efforts by states to encourage the development of new insurance products, to promote sustainable investment and underwriting activities, and to address protection gaps created by climate-related financial risks might facilitate this transition.
Generally, any new state insurance regulatory measures relating to the insurance sector’s transition to a low emissions economy should be inextricably linked to the insurance regulatory regime’s objectives of policyholder protection and maintaining competitive insurance markets. For example, requirements relating to investment holdings that are not linked to the regulatory objective of maintaining insurer solvency would be inappropriate and outside the scope of insurance regulation. Similarly, state initiatives to close protection gaps are welcome, but only to the extent they do not involve insurance mandates or otherwise undermine insurance company solvency and the ability for companies to meet their policyholder obligations. To that end, states should focus on creating regulatory environments (including regulatory sandboxes) that encourage the development of innovative products that may reduce coverage gaps due to climate change. Finally, like the federal government, states should increase investment in mitigation programs that will help fortify businesses and homes. Liberty Mutual appreciates the work the NAIC and states have done to date in these areas and looks forward to continuing to work with them as those efforts progress.

**Conclusion**

We appreciate the federal government’s commitment to address the risks and impacts of climate change and we look forward to collaborating with the Federal Insurance Office and the Treasury Department more broadly as they implement the President’s Executive Order and analyzes climate-related financial risks in the insurance sector. Thank you for the opportunity to respond to this RFI and we would be happy to engage with you further regarding our views presented in this letter.

Very truly yours,

Edmund C. Kenealy