



Travelers Task Force on Climate-related Financial Disclosures Report 2021



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Severe weather events over the last two decades have underscored the unpredictability of climate trends, and changing climate conditions have added to the frequency and severity of natural disasters and created additional uncertainty as to future trends and exposures. Climate studies by government agencies, academic institutions, catastrophe modeling organizations and other groups indicate that we are experiencing, and are expected to continue to experience over time, an increase in the frequency and/or intensity of hurricanes, heavy precipitation events, flash flooding, sea level rise, droughts, heat waves and wildfires. As an insurance company with property and casualty operations, The Travelers Companies, Inc. (together with its consolidated subsidiaries, Travelers or the Company) is committed to understanding the short-, mid- and long-term implications of these trends on its business, its customers and the communities in which it does business. Additionally, in furtherance of managing our carbon footprint, in April 2021 we announced our commitment to become carbon neutral across our owned operations by 2030.

Climate is core to our business. Accordingly, we continually monitor, assess and respond to the risks and opportunities posed by changing climate conditions to provide products and services that both help our customers mitigate associated risks and are priced to meet our long-term financial objectives. We also regularly consider new insurance products and services that could be useful to our customers in addressing climate-related risks.

Moreover, Travelers is committed to a long-term sustainable approach to protecting the environment. We continually look for cost-effective ways to minimize our operational impact on the environment, which can also reduce our operating expenses, without compromising on our promise to customers and employees. Through our broad range of services, programs and public policies, we take a thoughtful approach to both being an environmentally responsible company and meeting our overall business objectives.

In light of the importance of climate to our business, this report discusses our comprehensive approach to managing changing climate conditions consistent with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).^[1] Before turning to that discussion, it is critical to note that as important as climate is to our business, our analyses indicate that other factors, such as demographic changes in high risk areas, are expected to have a meaningfully greater impact on the domestic property casualty insurance industry than changing climate conditions, as discussed in further detail below.

[1] The inclusion of information in this report should not be construed as a characterization regarding the materiality or financial impact (or potential impact) of that information. For additional information regarding Travelers, please see our current and periodic reports with the Securities and Exchange Commission, including our [Annual Report on Form 10-K](#) and Quarterly Reports on Form 10-Q.

Background

The Current Energy Supply Landscape

Our approach to managing changing climate conditions cannot be considered or understood without an appreciation of the larger context within which it exists – that is, the current state of play with respect to energy in the United States.

Today, conventional energy continues to constitute a significant majority of the overall energy mix in the United States. According to the U.S. Energy Information Administration, in 2020, approximately 60% of the U.S. energy generated at utility-scale electricity generation facilities came from fossil fuels, while only 20% was generated from renewable energy sources.^[1] Many experts, including the International Renewable Energy Agency (IRENA) and the World Energy Council, believe that a substantial change in the energy mix will come primarily from the ongoing and promising research and development investments of incumbent energy producers, disruption by new entrants into the industry, the deployment of scientific innovations, and relevant and effective government action. The International Energy Agency's 2021 report titled "Net Zero by 2050: A Roadmap for the Global Energy Sector" also notes the need for continued investment in existing sources of oil production in its Net-Zero Emissions by 2050 Scenario (NZE). In the meantime, we believe it is critical to continue to support the energy industry as it works to migrate to renewable energy sources and/or develop other innovative solutions designed to assist in the energy transition. Especially in light of the fact that energy companies are particularly well-placed to develop and deploy technologies critical to the achievement of net-zero emissions, we believe that, through the provision of insurance coverage, the insurance industry has an important role to play in facilitating the energy industry's transition.

Additionally – and importantly – we believe that failure to support the energy industry with insurance coverage will not result in a decrease in demand for fossil fuels. Rather, it will only result in other entities, such as private firms, offering insurance to satisfy the existing demand for fossil fuels and/or in fossil fuel companies self-insuring their operations.

While fossil fuels likely will remain a key source of our country's energy for the foreseeable future, renewable energy has been expanding and will only continue to develop and become more accessible and affordable. We are hopeful that the drive for innovation cultivated by the free markets will play a key role in solving the climate problem. Through our Global Renewable Energy Practice, we are prepared to continue to support renewable energy companies in the United States and internationally as they continue to develop and scale up their businesses. In addition, we are helping to support the energy transition through our billions of dollars in investments in "green bonds," which help fund renewable energy and other environmentally sustainable projects.

Components of the Energy Sector

The energy sector is one of many industries to which Travelers offers its insurance products and services. In order to evaluate the insurance support that Travelers provides to the energy sector, it is first important to understand the various aspects of the energy sector value chain, as reflected in the following graphic.

[1] Independent Statistics & Analysis, U.S. Energy Information Administration, "Electricity Explained: Electricity in the United States" (The rest of the U.S. energy generated at utility-scale electricity generation facilities came from nuclear energy).

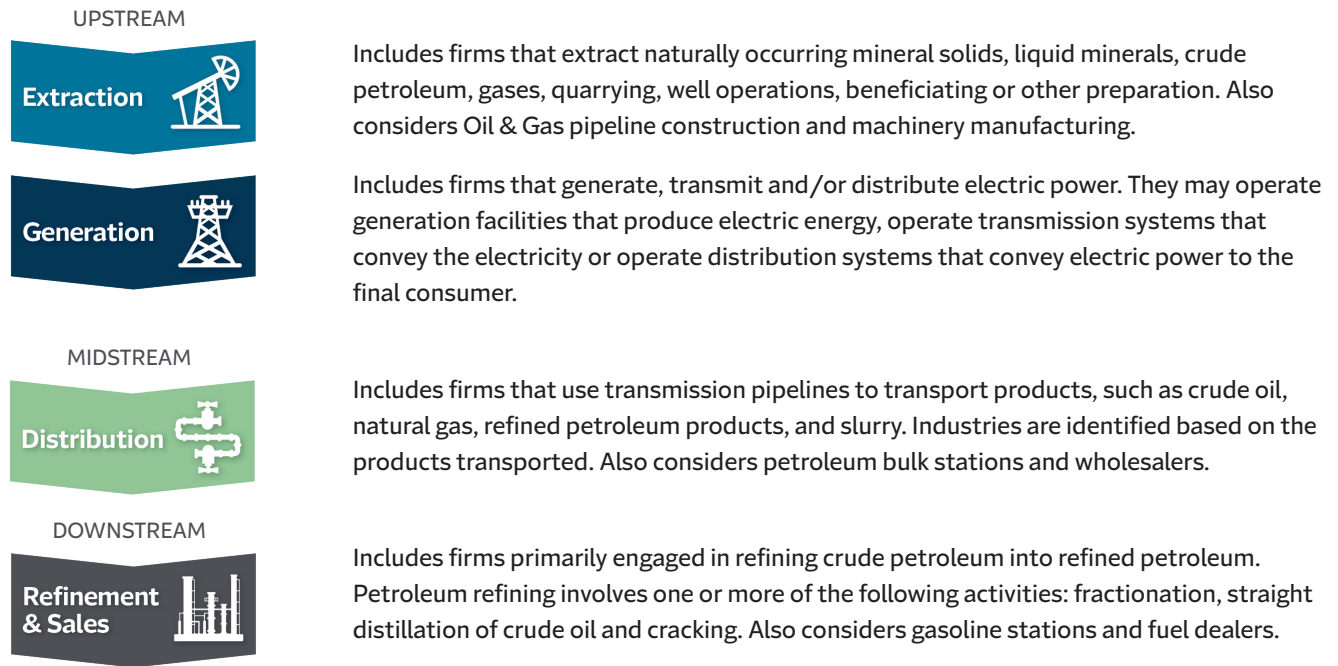


Figure 1.

In addition, we consider the energy industry to be divided among three market segments, as reflected in the following graphic:

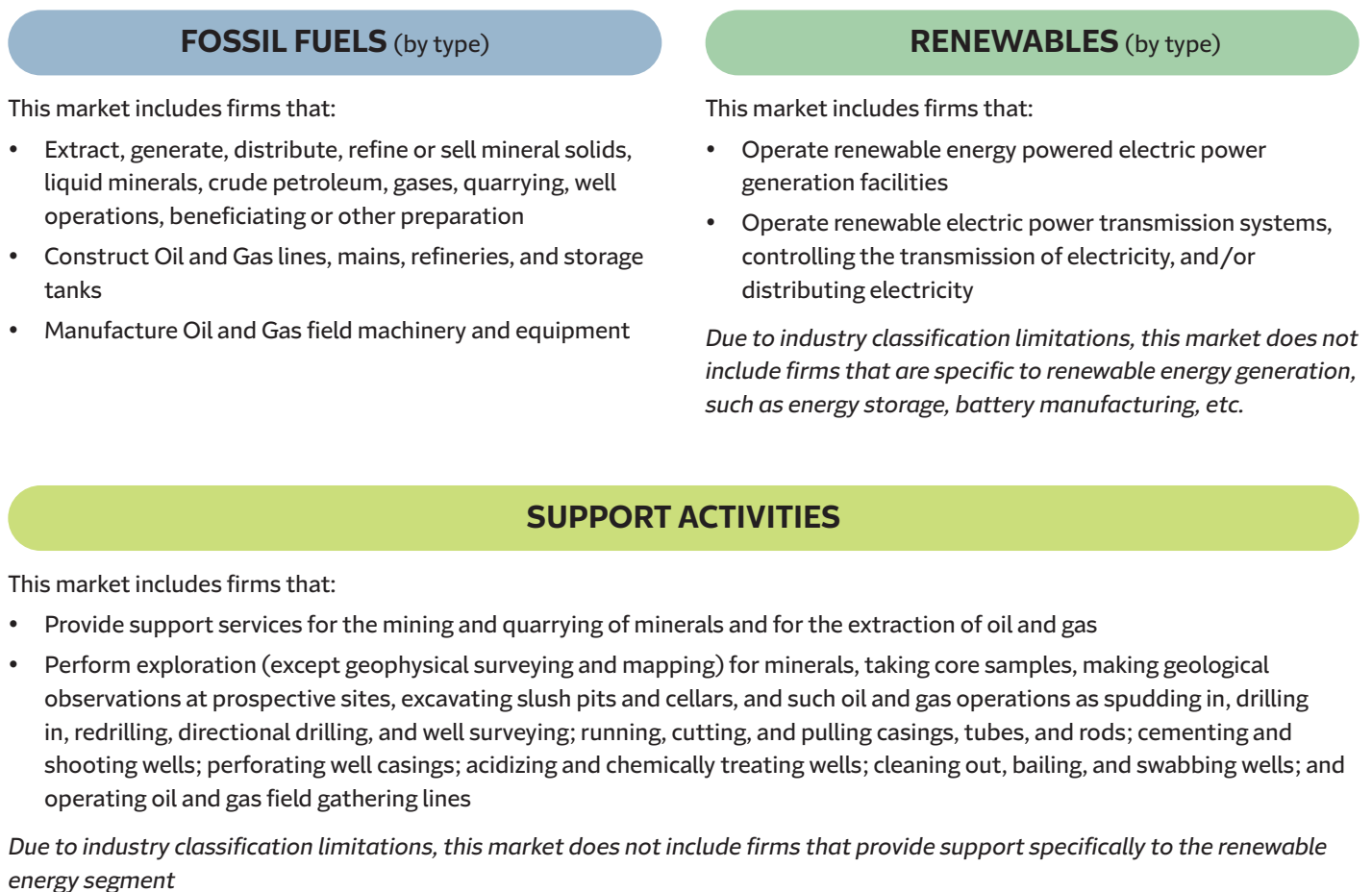


Figure 2.

With all of this in mind, our climate strategy, discussed in further detail below, is designed to mitigate climate risk in our underwriting and investment portfolios, while supporting societal progress and economic prosperity for all and doing our part to assist in the transition to a lower carbon economy. It is against this background that we share how we manage climate risk on both sides of our balance sheet and identify and avail ourselves of climate-related opportunities in the energy market.

Governance

Board Oversight

Travelers Board of Directors and its Risk Committee consider changing climate conditions as part of, and integral to, overseeing the Company's business and operations. The Board of Directors plays an important role in overseeing our Enterprise Risk Management (ERM) practices and strategies, including our company's evaluation of potential risks relating to changing climate conditions. The Risk Committee of the Board, composed of independent directors, is responsible for oversight of the strategies, processes and controls relating to risks in our business operations, including insurance underwriting and claims, reinsurance, catastrophe exposure and the impact of changing climate conditions. The Committee assists the Board in overseeing the operational activities of the Company and the identification and review of risks that could have a material impact on Travelers, including risks related to changing climate conditions. The Risk Committee meets on a quarterly basis with the Chief Risk Officer, Chief Underwriting Officer, Senior Vice President for Catastrophe Risk Management and members of the Enterprise Risk Committee and, as appropriate, other members of senior management to discuss risks that could have a material impact on Travelers, including risks related to changing climate conditions.

These discussions include, for example, information regarding historical loss experience, loss trend projections, lessons learned from recent catastrophe events, underwriting practices and market share analyses. Among other things, these discussions focus on Travelers' underwriting risk management approach in light of catastrophe volatility, the potential impact of climate-related perils to Travelers and its customers, and strategies for mitigating climate-related risks. These discussions inform, among other things, the Company's financial plan, risk appetite and underwriting approach. The Risk Committee, in turn, reports to the full Board with regard to its discussions.

While the Board Risk Committee oversees the implementation, execution and performance of Travelers' ERM program and reviews the strategies, processes and controls pertaining to Travelers' insurance operations, the Board has allocated and delegated risk oversight responsibility to various committees of the Board. Accordingly, all committees of the Board share responsibility for the oversight of strategic objectives, risk management and the sustainability of our business.

Senior Management

In addition to the Risk Committee, our management-level enterprise risk and underwriting risk committees are key elements of our ERM structure and help establish and reinforce our strong culture of risk management, including with respect to changing climate conditions. A senior executive team, which includes the Chief Risk Officer and the Chief Underwriting Officer, oversees the ERM process.

We also have other business-level risk committees that meet multiple times a year with senior management to discuss potential risks to Travelers related to the environment and changing climate conditions. These committees include the Enterprise Risk Committee, the Enterprise Catastrophe Committee, the Emerging Issues Committee, and the Climate, Energy and the Environment Committee (CEEC). As described in further detail under [Risk Management](#), the CEEC coordinates and supports climate-related initiatives and strategies across Travelers and is a venue to share information and leverage expertise.

Our Chief Sustainability Officer leads Travelers’ environmental, social and governance (ESG) efforts across the organization, chairs the Company’s multidisciplinary ESG Committee and is a member of the Company’s Disclosure Committee. Our Chief Sustainability Officer also works with our ERM department to ensure that identification and assessment of ESG risks are appropriately integrated into our ERM program.

The diagram below illustrates the comprehensive approach we take to overseeing and managing risk, including climate-related risk.

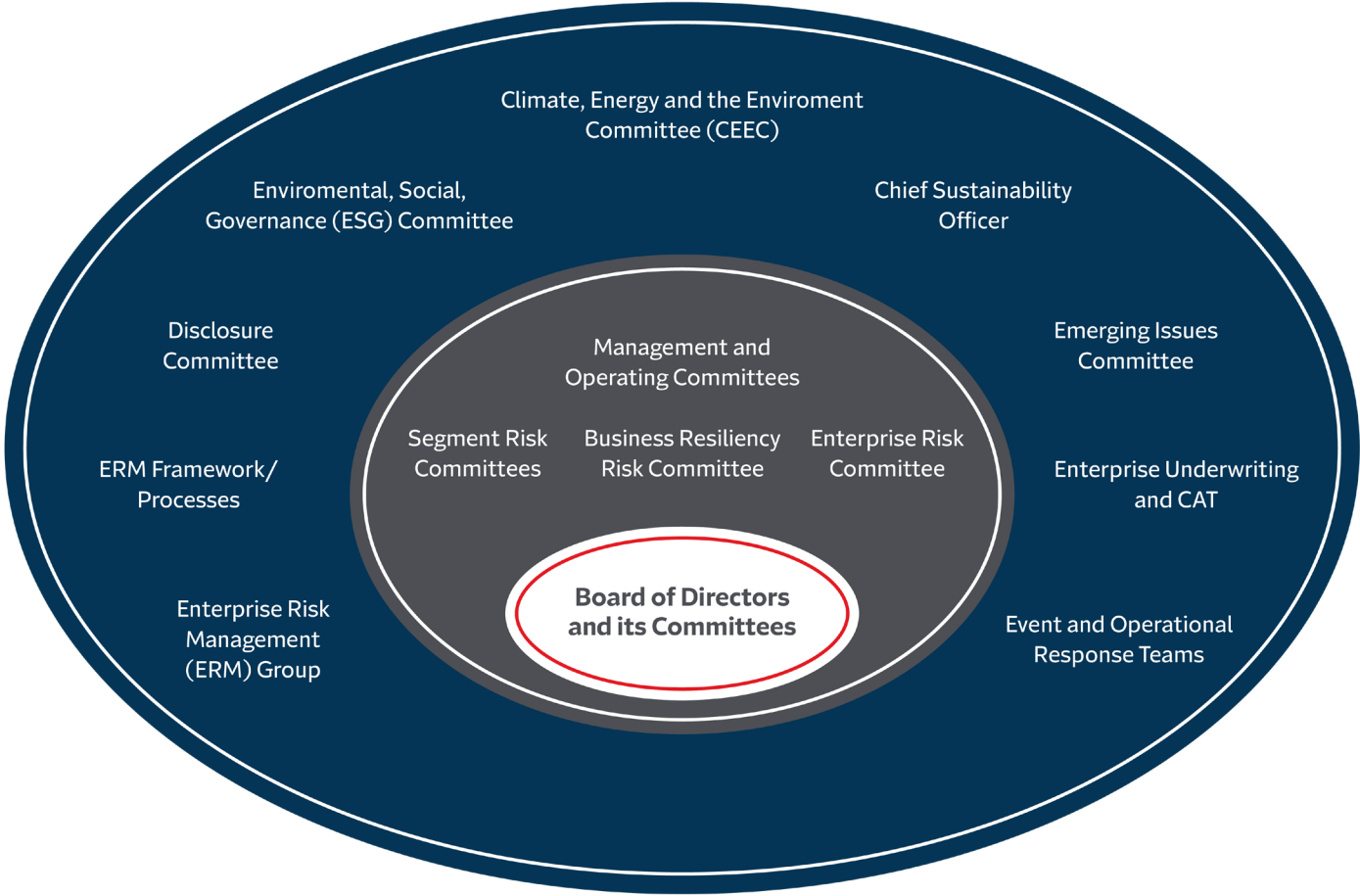


Figure 3.

Strategy

Identified Climate-related Risks and Opportunities

Travelers considers climate risks and opportunities across a range of time horizons:

| TIME HORIZON | CONSIDERATIONS | CLIMATE RISKS (TRANSITION OR PHYSICAL) | CLIMATE OPPORTUNITIES |
|----------------------------------|--|--|---|
| Short-term: 1–3 years | Aligns with the average length of a Travelers policy and the timeframe for which we perform detailed business plans. | <ul style="list-style-type: none"> • Mandates on, and regulation of, existing products and services (transition) | <ul style="list-style-type: none"> • Increased revenue through demand for “green” building/LEED certification designations • Increased revenue through demand for energy efficient, renewable and/or clean technology |
| Medium-term: 3–5 years | Aligns with our development and execution of business strategies that impact directional planning and market-related adjustments based on ongoing or changing conditions. | <ul style="list-style-type: none"> • Changing emissions-reporting obligations (transition) | <ul style="list-style-type: none"> • Development of new products or services for renewable energy businesses through R&D and innovation • Increased sales of Travelers automobile and property insurance products with new technologies |
| Long-term: 5–50 years | Aligns with longer-term change (e.g., climate-related risk, energy consumption / energy sources) that present risks and opportunities that extend beyond the short- and medium-term. | <ul style="list-style-type: none"> • Changes in frequency and severity of catastrophe losses and uncertainty surrounding weather volatility and climate-related risk (physical) | <ul style="list-style-type: none"> • Mitigation of risks over time • for customers who utilize our Risk Control services |

Climate Risks

The following are examples of specific climate-related risks Travelers has identified for each time horizon. The geographic distribution of our business subjects us to catastrophe exposures primarily in the United States and Canada, which include, but are not limited to: hurricanes from Maine through Texas; severe thunderstorms throughout the United States; earthquakes in California, the New Madrid region and the Pacific Northwest region of North America; and wildfires, particularly in western states and Canada. The inclusion of these examples should not be construed as a characterization regarding the probability, materiality or financial impact (or potential impact) of these risks. For a discussion of risks that Travelers has determined could be material, please see our “Risk Factors” disclosure in [Annual Report on Form 10-K](#).

1. Mandates on, and regulation of, existing products and services (short-term transition)

Increased regulation adopted in response to potential changes in climate conditions may impact the Company and its customers. For example, from time to time, states pass legislation and regulators take action that could have the effect of limiting the ability of insurers to manage catastrophe risk, such as legislation prohibiting insurers from reducing exposures or withdrawing from catastrophe-prone areas or mandating that insurers participate in residual markets. Participation in residual market mechanisms has, at times, resulted in and could, in the future, result in significant losses or assessments to insurers, including Travelers.

Increased insurance regulation in response to disasters or catastrophes may also include imposing moratoriums on policy cancellation or nonrenewal for nonpayment of premium; establishing further claim handling requirements or procedures; imposing additional claim data reporting requirements; establishing mediation programs for resolution of disputed claims; and modifying adjuster licensing procedures for independent and public adjusters. Travelers' exposure to catastrophes both by peril and by geographic region is monitored on a regular basis. When appropriate, this exposure analysis can lead to changes in the underwriting strategy for a given peril/location.

Travelers also may establish new or additional procedures and processes and may need to adjust staffing levels or its use of contracted services to help ensure that it remains compliant with additional regulatory standards imposed on insurers in the event of a future disaster or catastrophe. The cost of managing compliance with additional regulatory standards could vary and would be impacted by the number and types of additional standards imposed on insurers, including following a future disaster or catastrophe. Additionally, following catastrophes, there are sometimes legislative and administrative initiatives and court decisions that seek to: (i) expand insurance coverage for catastrophe claims beyond the original intent of the policies, (ii) retroactively mandate coverage for losses that our insurance policies were neither intended nor priced to cover or (iii) prevent the enforcement of the policy terms, including the application of deductibles. Costs associated with these risks vary depending on the specific action taken and are often hard to predict, but they could be significant.

In addition, climate-related regulation could increase our customers' costs of doing business. For example, insureds faced with carbon management regulatory requirements may have less available capital for investment in loss prevention and safety features, which may, over time, increase loss exposures. Increased regulation may also result in reduced economic activity, which would decrease the amount of insurable assets and businesses.

2. Changing emissions-reporting obligations (medium-term transition)

Continued uncertainty amid legal challenges over the future of the Environmental Protection Agency (EPA) regulations regarding air and water may give rise to more environmental regulation at the state level. This, in turn, may result in differing sets of standards in each state, which could make insurance risk more difficult to underwrite and price, particularly as air and water travel beyond state boundaries. For example, in June 2019, the EPA repealed the August 2015 Clean Power Plan (CPP) because the CPP exceeded the EPA's statutory authority under the Clean Air Act. In conjunction with its repeal of the CPP, the EPA issued a final Affordable Clean Energy (ACE) rule to regulate greenhouse gas (GHG) emissions, specifically CO₂ emissions, from existing coal-fired electric steam generating units (EGUs) as defined by the EPA. Legal challenges were filed against the EPA's actions in the U.S. Court of Appeals for the District of Columbia Circuit, and although the court struck down the ACE rule, the CPP has not been reinstated, leaving no current federal regulations in place for carbon dioxide emissions from existing power plants. The court did affirm the EPA's authority to set emission-reduction targets in its quantitative guidelines while acknowledging that states retain the choice of how to meet those guidelines through standards of performance tailored to their various energy sources. Oral arguments were heard in February 2022, by the U.S. Supreme Court related to the District of Columbia Circuit Court's decision to strike down the ACE rule. Depending on the final outcome of the legal proceedings and any related impact on the EPA's scope of authority to establish federal emissions guidelines (or on states' ability to choose how to meet such guidelines), new rules proposed by the EPA to regulate power plant emissions could potentially: (i) facilitate more environmental regulation at the state level to regulate existing power plant GHG emissions, (ii) impact the demand for renewable energy at the state level or (iii) disrupt the current balance between federal and state regulatory authority to regulate GHG emissions in ways not yet understood. Over time, this may result in lower demand for Travelers insurance products and services related to renewable energy in the United States.

3. Changes in frequency and severity of catastrophe losses and uncertainty surrounding weather volatility and climate-related risk (long-term physical)

Travelers is subject to catastrophe exposures in each of the geographies where it writes business and to varying peak catastrophe perils in different countries and regions.

Severe weather events over the last two decades underscore the unpredictability of climate trends, and changing climate conditions have added to the frequency and severity of natural disasters and created additional uncertainty as to future trends and exposures. The insurance industry has experienced increased catastrophe losses due to a number of potential factors, including, in addition to weather/ climate variability, aging infrastructure, more people living in high-risk areas, population growth in areas with weaker enforcement of building codes, urban expansion, an increase in the number of amenities included in, and average size of, a home and increased inflation, including as a result of post-event demand surge. For example, the frequency and severity of tornado and hail storms in the United States have been more volatile during this time period. In addition, climate studies by government agencies, academic institutions, catastrophe modeling organizations and other groups indicate that we are experiencing, and are expected to continue to experience over time, an increase in the frequency and/or intensity of hurricanes, heavy precipitation events, flash flooding, sea level rise, droughts, heat waves and wildfires.

Moreover, the Company's catastrophe models may be less reliable due to the increased unpredictability in frequency and severity of severe weather events, emerging trends in climate conditions, regulatory responses to catastrophe events not being appropriately reflected in the models and other factors. Also, as discussed in our Annual Report on Form 10-K, we could experience more than one severe catastrophe event in any given period.

Climate Opportunities

The following are examples of specific climate-related opportunities Travelers has identified for each time horizon. The inclusion of these examples should not be construed as a characterization regarding materiality or financial impact (or potential impact) of these opportunities.

1. Increased revenue through demand for “green” building/LEED certification designations (short-term)

State and local regulatory requirements such as OneNYC (GBEE – Greener, Greater Buildings Plan) drive renovation work that could lead to increased construction activity, potentially creating opportunities to grow our book of business in impacted states such as the Top 10 States for LEED: Illinois, Washington, Massachusetts, Colorado, Virginia, California, Maryland, Oregon, Utah and Nevada, as well as the District of Columbia. Travelers consults with industry advocates for better building standards that are designed to increase the survivability of commercial and residential structures.

Travelers' specialized Construction casualty and surety teams, which also have expertise in “green” construction, provide highly skilled underwriting; customized INDUSTRYEdge® products for specific industries (such as our [INDUSTRYEdge® for Electrical Contractors](#) and [INDUSTRYEdge® for General Contractors](#)); and tailored programs and services to help reduce contractors' cost of risk, including risk associated with “green” construction products. INDUSTRYEdge is our fully integrated business risk solution that combines underwriting, risk control and claim services tailored to a range of different industries and businesses, helping customers to mitigate their risks and reduce costs arising out of losses. A complete list of our INDUSTRYEdge product solutions for the construction industry is available on our [website](#).

2. Increased revenue through demand for energy efficient, renewable and/or clean technology (short-term)

Environmental legislation and regulation on the state and local levels, such as those pertaining to solar energy or other sustainable building-related requirements or incentives, could lead to an increase in demand for Travelers products that respond to customer needs resulting from such regulation.

For example, in 2021, New Mexico updated its Sustainable Building Tax Credit program, continuing its long history as a leader in green building policy. New Mexico HB 15 was signed into law by Gov. Lujan Grisham on April 6, 2021. The updates not only expand the benefits of tax credits to affordable housing and to LEED Zero certifications, but they also extend New Mexico’s Sustainable Building Tax Credit program through 2030 and increase the total tax credit cap to \$7.15 million, up from the previous \$5 million cap set in 2015. Growth in the renewable energy and clean technology industry segments, as a result of regulatory mandates or incentives or otherwise, could result in increased sales of specialized insurance and surety products that address renewable energy-associated risks (e.g., Travelers SolarPak®) and a potential increase in Business Insurance and Bond & Specialty Insurance net written premiums.

3. Development of new products or services for renewable energy businesses through R&D and innovation (medium-term)

The Renewable Portfolio Standard (RPS) has been enacted in 29 states and the District of Columbia, and Clean Energy Standards have been adopted by three states. These standards are part of the renewable energy and alternative energy frameworks established by the U.S. Department of Energy and individual states. In addition, eight states have renewable portfolio goals and two states have clean energy goals that are expected to increase the need for renewable energy products and services. These standards and goals and the related increased demand for renewable energy products and services provide the opportunity to develop new insurance products tailored to changes in related markets. Our dedicated Global Renewable Energy Practice, which provides solutions for renewable energy businesses, enables Travelers to evaluate and pursue the opportunities presented by the expanding renewable energy industry, as discussed in further detail under [Capturing Climate Opportunities and Supporting the Growth of Renewable Energy Businesses](#).

4. Increased sales of Travelers automobile insurance products with new technologies (medium-term)

Auto emissions regulations throughout the United States may lead to an increase in demand, production and availability of hybrid and electric vehicles (EVs), which could lead to increased sales of Travelers automobile insurance products for hybrid and electric autos.

In December 2021, several U.S. cities (including Atlanta, Dallas, New York City and Los Angeles) along with three U.S. states (California, New York and Washington) joined with a number of automotive manufacturers, foreign governments (including Canada, Ireland and the United Kingdom) and other groups to sign the “COP26 declaration: zero emission cars and vans,” pledging to work toward reaching 100% zero emission new car and van sales in leading markets by 2035 or earlier. The projected substantial increase in the number of EVs and charging stations could lead to an increase in demand for Travelers products over time.

5. Mitigation of risks over time for customers who utilize our Risk Control services (long-term)

Travelers Risk Control employs a network of safety and loss prevention professionals who provide assessment and consulting services to our customers and our Business Insurance domestic and international operations. Our network of more than 500 Risk Control consultants and our self-service website for Business Insurance customers provide a comprehensive framework and numerous planning resources, including individualized planning, to help businesses of all types plan for natural disasters, with a focus on safety and preserving business operations.

Climate trends, which manifest over long periods of time, provide a long-term opportunity for the Travelers Risk Control department to offer and develop services to help current and potential customers mitigate the risks associated with changing climate conditions. For example, to help mitigate and minimize property losses caused by weather-related events, Travelers Risk Control has developed a comprehensive framework of technical planning resources to assist customers with conducting business impact analyses to prioritize and implement risk management action plans and physical improvements. Risk Control monitors events and claim trends and partners with associations such as the Insurance Institute for Business & Home Safety (IBHS) to assess innovative building products and new technologies to minimize wind, hail, flood and wildfire exposures. This deep domain expertise allows us to help customers improve their resiliency over time.

In addition, our Risk Control professionals provide guidance about associated risks to our customers who have incorporated “green” products or systems to help reduce carbon emissions and/or increase environmental sustainability. These products and systems include, for example, solar panels on residential and commercial rooftops, lithium-ion batteries used to store solar energy and vegetative roofs on commercial buildings.

Travelers Risk Control maintains technical committee memberships on the National Fire Protection Association (NFPA), the Underwriters Laboratories (UL) Standards Technical Panels, the Fire Protection Research Foundation's Property Insurance Research Group, the Organization of Scientific Area Committees for Forensic Science (OSAC) and other associations to help us research and evaluate the reliability and fire safety of "green" products and systems to determine how these products and systems impact fire, structural and safety exposures. This knowledge is used to continually update our views and empowers our Risk Control professionals to help our customers mitigate the risks associated with changing climate conditions and "green" trends, with a goal of improving outcomes while strengthening customer relationships.

Impact of Climate-related Risks and Opportunities on Travelers' Business and Strategy

Changing climate conditions are expected to evolve over decades, and we believe Travelers is well positioned to respond to these trends. Our approach to climate-related risks and opportunities is multifaceted, and we believe it allows us to mitigate our exposure to climate-related risk and provide products and services that both help our customers mitigate those risks and meet our long-term financial objectives. Our approach includes underwriting and pricing to manage transition and physical risks, as well as monitoring "green" trends and offering products and tailoring pricing to respond to climate-related opportunities. We also incorporate climate considerations into our investment decisions. Other aspects of our comprehensive climate strategy include: advocating for and supporting community resiliency; mitigation and disaster preparedness efforts; and reducing the environmental impact of our own operations, including through our emissions reduction goals.

The below graphic summarizes Travelers' comprehensive climate strategy:

Comprehensive Climate Strategy

Our climate strategy centers on making sound business decisions and engaging in public policy advocacy to help proactively address climate risk while also mitigating the impact of changing climate conditions

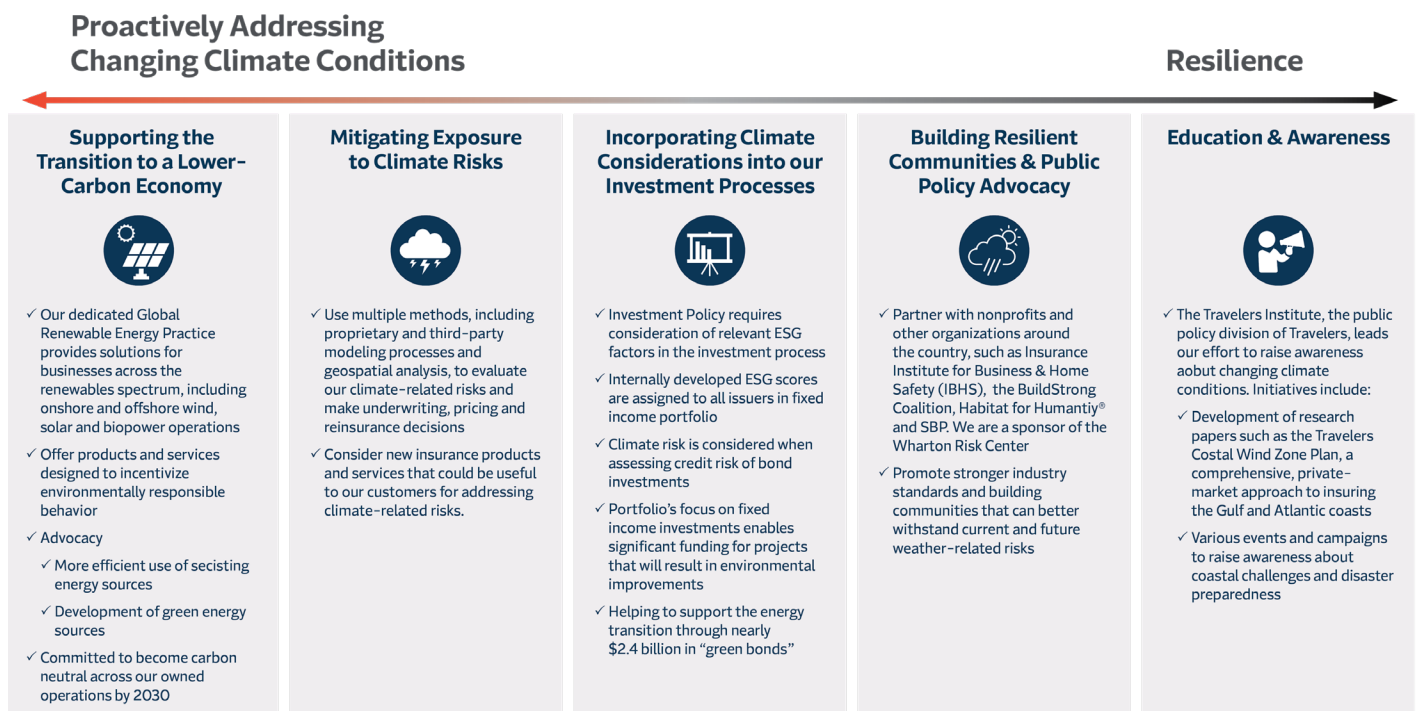


Figure 4.

Underwriting Portfolio Overview

To better understand the Company’s exposure to climate risk, we believe it is important to first have a view of the composition of our underwriting portfolio. (See Travelers Underwriting Exposure to the Energy Sector in the Metrics and Targets section of this report for additional details on our Energy Sector-specific underwriting).

In 2021, our net written premiums exceeded \$32 billion. We engage broadly across nine major lines of insurance through our three business segments: Business Insurance; Personal Insurance; and Bond & Specialty Insurance. Our portfolio is balanced across these three lines of business and further diversified by geography and customer size and type.

Our 2021 premiums were generated through more than 10 million policies issued to more than seven million individual and commercial customers. With respect to our commercial business, we offer insurance products and services to a broad array of sectors across the economy. **Individuals and small and mid-sized businesses comprise more than 95% of our customers.**

2021 NET WRITTEN PREMIUMS

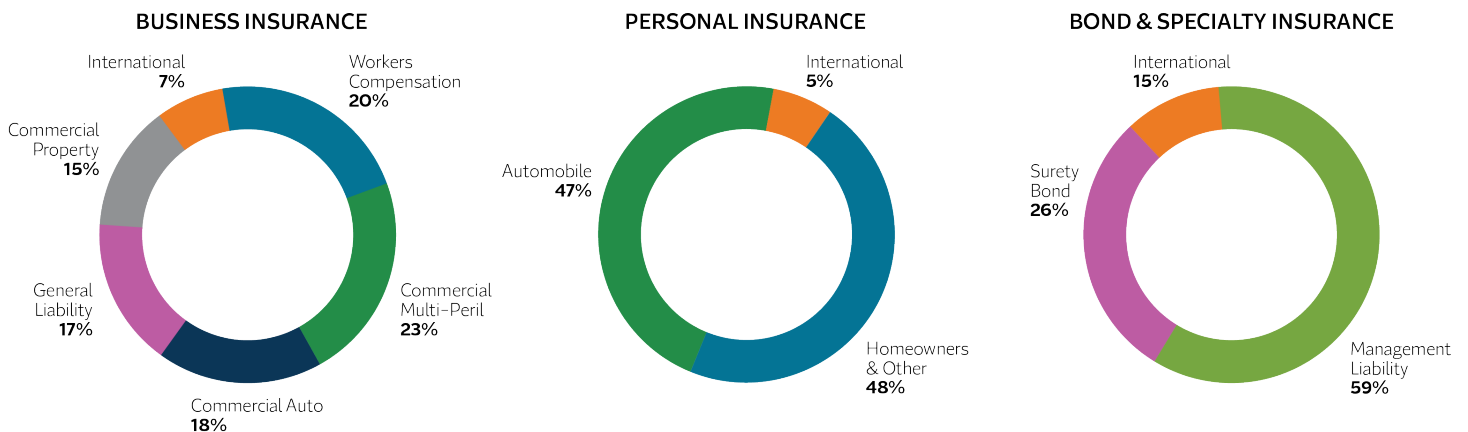
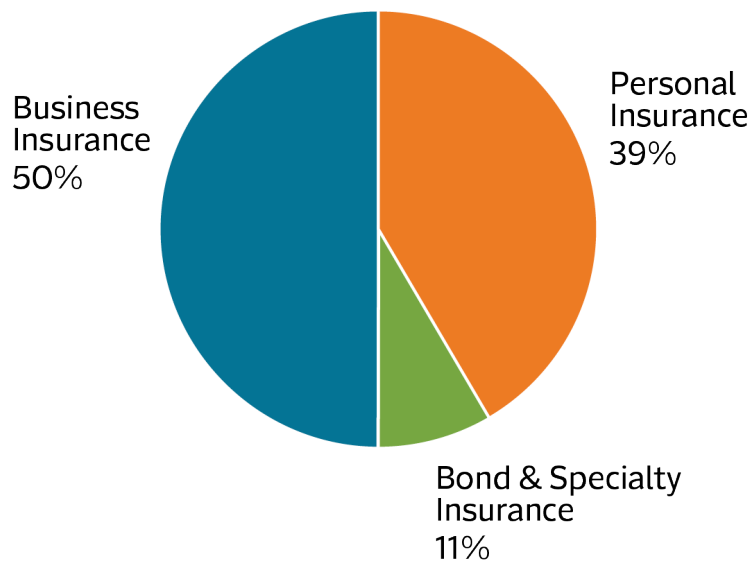


Figure 5.

Climate Scenario Analysis With Respect to the Hurricane Peril

Travelers is proud to be a leader in its industry in conducting scenario analysis with respect to identifying the incremental climate impact on physical risk, above typical weather conditions. This analysis has provided the Company with additional visibility into the potential impacts of climate on our business.

Weather perils are each unique and thus, customized scenario analysis must be performed on a peril-by-peril basis. Hurricane wind is a significant driver of risk-based capital requirements, making it a good initial candidate for scenario analysis. Travelers has retained a leading catastrophe modeling firm to evaluate the effects of changing climate conditions on the U.S. hurricane peril for two future emission scenarios and for several time horizons (i.e., 2030, 2050 and 2100). This analysis included the Company’s in-force portfolio as well as an industry view. An April 2021 paper (“Most plausible 2005–2040 emissions scenarios project less than 2.5 degrees C of warming by 2100” by Pielke et al.) compared emission scenarios against the last 15 years of historical data and concluded that scenarios aligned with +2°C and +3°C are the most likely outcomes.^[1] For our analysis, we chose emission scenarios Representative Concentration Pathway (RCP) 4.5 (< 2.5°C by 2100) and RCP 6.0 (< 3.0°C by 2100), consistent with the latest data, including the aforementioned research findings.

Scenario analysis requires considerable time, scientific expertise and prioritization of peril attributes. In particular, scientific expertise is required to evaluate the multitude of potential hurricane characteristics (e.g., frequency, intensity, size, track, speed, inland decay) and identify those most relevant and important to identifying the incremental climate impact on the insurance industry. After conducting considerable data analysis and scientific literature review, including guidance from the 2020 World Meteorological Organization (WMO) task team report on Tropical Cyclones and Climate Change, we incorporated in our analysis the combined effect of hurricane frequency by intensity category, size and track changes. These storm characteristics were selected both because they have the potential to be impactful to Travelers and because there is considerable scientific literature to support a consensus and range of uncertainty, which are essential for scenario analysis. Confidence in the direction and magnitude of change, as well as confidence in the uncertainty around the consensus mean, are critical to drawing meaningful conclusions from the analysis.

Figure 6 demonstrates the incremental climate impacts on the range of potential average annual loss (AAL) and 100-year return period for the two emission scenarios (RCP 4.5 and RCP 6.0) at three snapshots in time.

[1] Pielke, Roger, Jr, et al. “Most Plausible 2005–2040 Emissions Scenarios Project Less Than 2.5 Degrees C of Warming by 2100.” SocArXiv, 23 Mar. 2021. Web.

The results suggest high confidence with respect to the direction of change (increase) but high uncertainty regarding the magnitude of change. Based on this scenario analysis, given our company’s risk profile, our underwriting strategy and the fact that changing climate conditions will occur over decades, we do not expect the climate impacts with respect to the hurricane peril to have a material impact to our AAL and return period loss estimates. While we anticipate the hurricane risk to be manageable over time, this scenario analysis provides insight into the range of potential future risk, allowing us to be forward-looking in our planning and strategy.

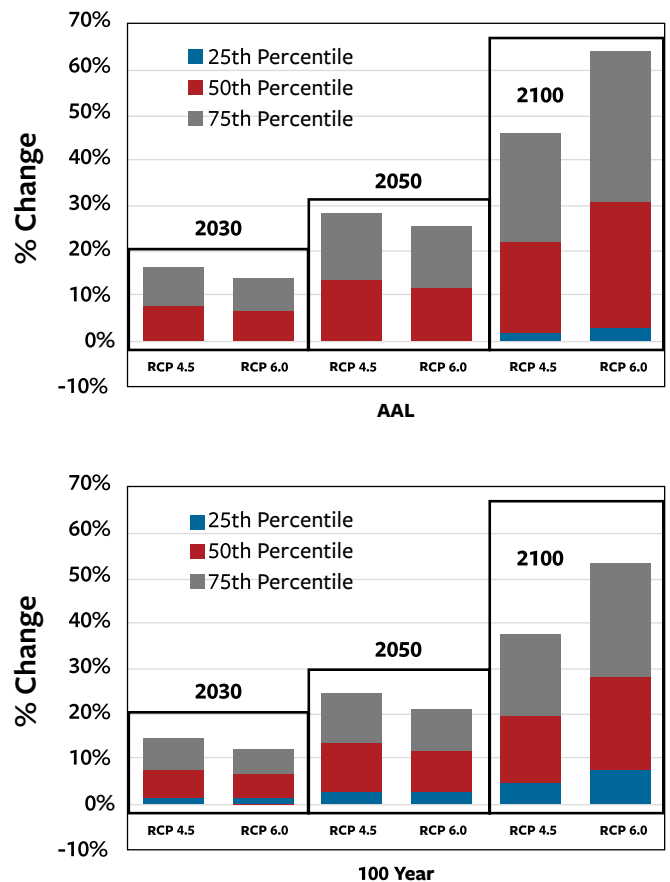


Figure 6. U.S. Hurricane scenario analysis results (AAL and 100-year return period) for the Travelers in-force portfolio using 2Q 2020 vintage exposure (Source: Risk Management Solutions; contracted analysis)

Forward looking climate information, statements and/or projections are inherently uncertain. The assumptions on the magnitude of climate impact on physical risk carry significant degrees of uncertainty due to a multitude of factors, including but not limited to, peril, region, understanding of climate science and Earth system dynamics, climate model projections, time horizon, greenhouse gas emission scenarios, national emission pledges and targets, population growth, technology and innovation, mitigation and resiliency efforts including adaptation, and regulatory changes.

Going forward, we expect to continue to invest in climate research, adding resources and capabilities to further support climate analytical studies, and engaging with catastrophe modeling firms to develop additional climate-conditioned evaluation tools.

Impact of Non-Weather Trends on the Risks We Write

While we are taking a thoughtful and comprehensive approach to evaluating climate risk in our underwriting decisions, we also remain mindful of non-weather-related trends that have a significant impact on the risks we write. These trends are likely to have a significantly greater impact on catastrophe risk aggregation over the short, medium and long-term time horizons than physical risk changes. Risk factors that may increase catastrophe risk over time include aging infrastructure, population growth in high-risk areas (see figure 7) or in areas with weaker enforcement of building codes, urban expansion, an increase in the average size of a home (an increase of over 50% since the 1970s), increased inflation and post-event demand surge. Conversely, factors that may decrease catastrophe risk over time include increased adoption of building code standards and climate change adaptation (e.g., sea walls, levees, urban sewer capacity).

Figure 7 demonstrates the significant population growth since 1990 in states at a high risk for hurricanes and wildfires. Some of these high-risk states are experiencing population growth well above the regional average. These demographic changes have resulted, for example, in larger populations located in coastal areas that historically have been subject to severe storms and related storm surge, thus expanding our potential for losses from hurricanes.

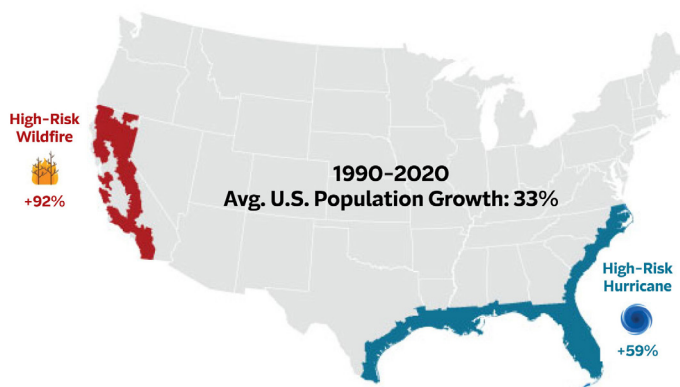


Figure 7. 1990–2020 population growth in high-risk areas for hurricane and wildfire (Source: US Census Bureau).

The risks associated with changing climate conditions will be with us for the foreseeable future. While we can't predict what the next weather-related catastrophe will be or where it will occur, we believe that the steps we take to ensure that our portfolio of risk properly contemplates the potential for loss position us to continue to deliver industry leading returns in the face of changing climate conditions.

Capturing Climate Opportunities and Supporting the Growth of Renewable Energy Businesses

As renewable energy businesses continue to innovate and expand, Travelers is playing a critical role in supporting the transition over time to a lower-carbon economy, both in the United States and internationally – specifically, through our insurance products and services designed for these innovative companies. Travelers has been in the renewable energy space for almost 30 years and is positioned to benefit from the increased economic activity in this space by insuring more renewable energy projects globally.

Travelers offers a range of tailored insurance solutions that cover the entire life span of renewable energy businesses that invest in, develop, operate and maintain commercial and utility-scale operations – from research and development and manufacturing to permanent operations, as well as onshore and offshore wind, solar and biopower operations. Our Global Renewable Energy Practice is designed to facilitate innovation and the growth of renewable energy businesses and support the energy transition. Our Global Renewable Energy Practice also helps Travelers capture a greater share of the expanding renewable energy industry domestically and internationally, as trends toward renewable and clean energy sources continue to accelerate.

For example, our WindPak® and SolarPak® products respond to unique coverage issues for the wind and solar industries based in the United States. We have also expanded our international footprint for onshore and offshore wind and solar operations throughout Asia, Europe, the United Kingdom, Mexico and Canada with our unique coverages written through Travelers Lloyd's Syndicate 5000.

We continue to aggressively pursue the renewable energy sector, such as by providing coverages globally for commercial and residential solar installations and onshore and offshore wind farms, including the first U.S. offshore wind farm project, Block Island Wind Farm. Over the past three years, our Global Renewable Energy Practice grew at a compound annual growth rate of 43%, with revenue up over 104% since 2020. We also offer specialized coverage, as well as discounts where permissible, to incentivize environmentally responsible behavior – specifically, to encourage adoption of FORTIFIED Home™ construction, green buildings and hybrid/electric vehicles.

Examples of our current product offerings include the following:

- **Green Building Coverages.** A suite of green building coverages that respond to the unique coverage issues of “green” buildings and provide for the additional costs to help policyholders repair, replace or rebuild with “green” materials after a loss.
- **Green Home Discount.** A discount of up to 5% for homes that are LEED (Leadership in Energy and Environmental Design) certified.
- **Wind Mitigation Discount.** In many states, our newest homeowners program offers a discount of up to 18% on hurricane premium for homes built to the IBHS FORTIFIED Gold™ standard. In Alabama, depending on the location, the discount can be up to 55% on hurricane premium for this designation. Additional discounts for wind mitigation may be available by state.
- **Hybrid/Electric Vehicle Discount.** A discount for hybrid or electric vehicles.
- **Hybrid Boat Discount.** A discount of up to 10% for hull and liability coverages on hybrid boats and yachts – available in certain states and subject to individual eligibility.
- **Electric Boat Discount.** A discount of up to 10% for electric boats run by motors instead of engines – available in certain states and subject to individual eligibility.

In addition, as discussed in further detail below, we are helping to support the energy transition through our billions of dollars of investments in “green bonds.”

Incorporating Climate Considerations Into Our Investment Processes

The primary purpose of our investment portfolio is to enable us to fulfill our promise to our customers and fund the payment of future claims; accordingly, we employ a thoughtful investment philosophy that is focused on appropriate risk-adjusted returns. We approach the impact of climate on our portfolio the way we would approach any other investment risk. As a related matter, insurance companies are subject to significant regulatory investment requirements that place limitations on the types of investments insurers may make, as well as limitations on concentrations of credit and equity risk. These requirements have the primary objective of ensuring that insurers have sufficient liquidity to pay claims as they are presented. As a result, insurers do not have the flexibility that other segments of the financial sector may have with regard to investments and, thus, property casualty insurers tend to have large, fixed-income portfolios.

To better understand our investment portfolio’s exposure to climate risk, we believe it is important to first have a view of the composition of the portfolio. The following tables provide a breakdown of our investment portfolio as of December 31, 2021.

| Fixed Income Portfolio | Amount | % |
|-------------------------------|---------------|------------|
| Municipal | 36,862 | 42% |
| Corporates, ABS, CMBS & Other | 34,528 | 40% |
| Short-Term Securities | 3,836 | 4% |
| U.S. Government & Agencies | 3,562 | 4% |
| Mortgage-Backed Securities | 1,817 | 2% |
| Foreign Governments | 1,041 | 1% |
| Total Fixed Income | 81,646 | 93% |

| Non-Fixed Income Portfolio | Amount | % |
|--|--------------|-----------|
| Private Equities | 2,672 | 3% |
| Real Estate & Real Estate Partnerships | 1,747 | 2% |
| Equity Securities | 893 | 1% |
| Hedge Funds & Other | 417 | 1% |
| Total Non-Fixed Income | 5,729 | 7% |

| % Fixed Maturities by Rating ⁽¹⁾ | % |
|---|------------|
| Aaa | 43% |
| Aa | 23% |
| A | 19% |
| Baa | 14% |
| Investment Grade | 99% |
| Below Investment Grade | 1% |

¹ Rated using external rating agencies or by Travelers when a public rating does not exist. Ratings shown are the higher of the rating of the underlying issuer or the insurer in the case of securities enhanced by third-party insurance for the payment of the principal and interest in the event of issuer default. Below investment grade assets refer to securities rated “Ba” or below.

Figure 8.

At Travelers, as of December 31, 2021, 93% of our \$87 billion investment portfolio is invested in highly-rated, fixed income securities, with a weighted average maturity of approximately five years. We believe that climate trends, which manifest over many decades, are already reflected in the credit ratings and price of those investments. The relatively short average maturity and high liquidity of our fixed income investment portfolio allow us to continually adjust our portfolio as trends evolve over time. Our portfolio management has a history of carefully managing risk (with default losses in our fixed income portfolio well below those of the overall market), including risks related to changing climate conditions. Importantly, from a fixed income perspective, the equity layer of the borrower's capital structure absorbs the impact of financial risks, including climate risks, before the debt layer of the capital structure is affected. The high credit quality of our fixed income holdings further reduces the potential negative financial impact of climate risks. Specifically, the weighted average credit quality of the Company's fixed maturity portfolio, both including and excluding U.S. Treasury securities, was "Aa2" as of December 31, 2021.

Managing the Impact of GHG Emissions on Our Investment Portfolio

Travelers recognizes the importance of responsible investing. We approach ESG risks the same way we approach any other investment risk, and we have incorporated relevant ESG factors into our investment analysis process for many years. Working within the regulatory framework mentioned earlier, Travelers has established an Investment Policy, approved by the Board of Directors, which reflects a long-term approach to sustainable value creation and requires that Travelers consider ESG factors in the investment process to the extent relevant. We have assigned internally developed ESG scores to all issuers in our fixed income portfolio. Explicitly incorporating ESG factors into our fundamental credit analysis process has resulted in a higher level of awareness and focus on these factors. In certain circumstances, this has led to the exclusion of potential investments and the sale of certain portfolio holdings ("negative screening") due to ESG risks where we believed that the expected returns were not consistent with the underlying risks – in other words, where we did not believe we would be appropriately compensated for the risks that we would be assuming.

With respect to our significant municipal bond portfolio, which exceeded \$36 billion as of December 31, 2021, we incorporate the impact of changing climate conditions on a given city, state or region as part of our credit analysis. Since we assume catastrophe risks such as earthquakes and windstorms in our capacity as an insurer, we also seek to manage our portfolio's credit risk to such events by assessing our investment exposures to such catastrophes. In addition, for municipal bond issuers in the Southwestern United States and other areas of the country susceptible to drought, all investment analyses include an assessment of water supply adequacy.

A governmental response to climate risk might involve new regulations that could result in stranded assets, i.e., assets that have suffered from an unanticipated or premature loss of value. Evaluating risks to asset values is an integral part of our fundamental credit analysis process, as well. For example, for issuers in the electric utilities industry, our credit analysis pays close attention to these issuers' goals and timelines for reducing carbon emissions by lowering the carbon intensity of their generating assets. Consistent with this credit-based approach to investing, we have also [publicly committed](#) that: (i) we will not make new investments in companies receiving more than 30% of their revenues from thermal coal mining or electric utilities generating more than 30% of their electricity from coal, and (ii) we will not make new investments in companies holding more than 30% of their reserves in tar sands – in each case, to the extent consistent with applicable law and Travelers' fiduciary duties. Our policy also notes that Travelers will phase out publicly traded investments in companies that exceed the thresholds above as such investments mature.

Given our longstanding risk-return approach to investing, it is not surprising that our legacy holdings (i.e., those purchased prior to the adoption of our Coal/Tar Sands Policy) that exceed the policy limits are *de minimis*.

As of June 30, 2022, our fixed income investments in the mining industry totaled \$85 million (or 0.1% of our overall portfolio), with none of the issuers generating more than 10-20% of their revenues from coal mining.

Similarly, as of June 30, 2022, our Oil & Gas bond holdings totaled \$731 million, with only \$10 million (or 0.01%) of holdings in issuers where tar sands comprise more than 30% of reserves. There are no other issuers among our Oil & Gas bond holdings with tar sands reserves exceeding 10% of total reserves.

With respect to our bond holdings in Electric Utilities, as of June 30, 2022, only \$469 million (or 0.6%) generate more

than 30% of their electricity from coal and are above the policy limit. Our credit analysis pays close attention to these issuers' goals and timelines for reducing carbon emissions by lowering the carbon intensity of their generating assets. We also own \$330 million of environmental bonds in this industry, as reported by Bloomberg. Our investments provide the necessary funding to these utilities as they continue to reduce their emissions and transition toward a lower carbon economy.

ELECTRIC UTILITIES - COAL BASED GENERATION

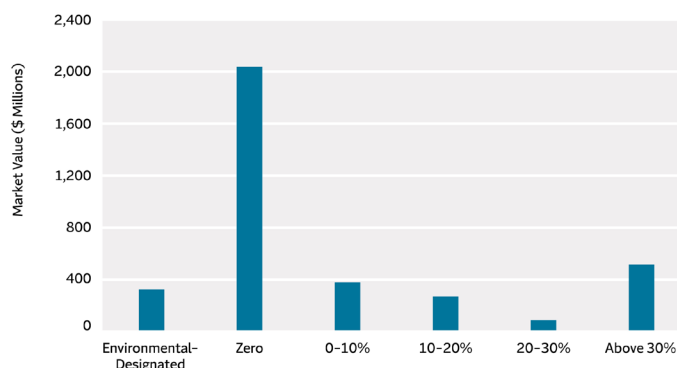


Figure 9.

Climate Scenario Analysis With Respect to Our Investment Portfolio

We recently engaged a third-party vendor to perform a climate risk analysis of Travelers' investment portfolio. This analysis combined climate stress tests with stochastic modeling of possible future economic outcomes to help us better understand the possible impacts of various scenarios on our investment portfolio.

These scenarios, put forth by the Bank of England in its PRA Exploratory Exercise from 2019 ("BoE 2019"), include (i) a short-term disorderly transition to a low carbon economy, a long-term orderly transition to a low carbon economy and a long-term increase in global temperatures by 4°C due to a failed climate policy. The climate stress tests use different return assumptions for various asset sectors and carbon intensive industries and consider both transition risk and physical risk at multiple time horizons based on parameters specified in the BoE 2019.

The assumptions on the magnitude of climate impact on asset prices embedded into these stress tests carry significant degrees of uncertainty due to many factors, such as data quality, incomplete understanding of physical risks and emerging regulatory approaches. In addition, there is a high degree of uncertainty regarding the potential effects of changing climate conditions on financial markets and asset prices. All of these uncertainties increase as the scenarios extend further into the future. Additionally, it is important to note that, as mentioned above, our portfolio durations are significantly shorter than the BoE 2019 scenarios; accordingly, to the extent needed, we believe we would have ample opportunity to reallocate our investments over time.

Keeping the significant uncertainties associated with climate stress testing in mind, the results of our analysis provide some indication of how climate risk could impact our portfolio, including by assessing how climate risk affects different sectors and providing a relative comparison across portfolios, sectors and risk categories. Based on this climate risk analysis, we do not believe that changing climate conditions poses a significant risk to our investment portfolio, and we believe that we are well positioned on an absolute basis and as compared to our large U.S. property casualty insurance industry peers.

Additional high-level results from this climate risk analysis include the following:

- The incremental portfolio downside risk under each of the three climate scenarios considered is significantly smaller in magnitude than the downside risk from various economic conditions alone (e.g., inflation, interest rates, recessions).
- The effects of a long-term orderly transition to a low-carbon economy over the next 30 years should not have a meaningful impact on the portfolio value over the next five years.
- The risk to the portfolio of a failed climate policy scenario is insignificant over the next 5-10 years, as the physical risks from climate change only become significant over much longer time horizons.
- While, in the short term, a disorderly transition to a low-carbon economy has a greater impact on our portfolio's value than the other two climate scenarios modeled, the estimated 1 in 100 downside impact from this scenario is not a significant risk to our portfolio

- The downside impact of these climate scenarios on Travelers’ portfolio is smaller than for a portfolio with an asset allocation representing the average portfolio composition of 11 large U.S. P&C insurers invested in securities with climate exposures similar to market benchmarks. In other words, based on this analysis, Travelers is less exposed to climate risk in its investment portfolio than the average large U.S. P&C insurer. This is primarily due to Travelers’ investment portfolio having lower allocation to equities, which the BoE 2019 assumes to suffer greater negative climate impacts than fixed income securities, and our corporate bond portfolio’s higher average credit rating (higher rated, financially stronger issuers are assumed to suffer smaller losses than lower-rated insurers).

Supporting Environmental Improvements Through Our Investments

In addition to achieving appropriate risk-adjusted returns, our investments enable many environmental improvements. As of December 31, 2021, 42% of our fixed income portfolio is invested in municipal bonds, which some market participants consider the original ESG bonds. Our portfolio’s focus on fixed income investments enables us to provide significant funding for many projects that will result in environmental and other societal improvements as we responsibly transition to a lower carbon economy. For example, as of December 31, 2021, we have \$6 billion invested in municipal bonds that support water and sewer projects, which help mitigate pollution, provide safe drinking water, promote conservation and, in many cases, respond to changing climate conditions. While we do not have formal targets for investing in “green” bonds – securities whose proceeds fund a variety of environmental projects – our “green” bond holdings have grown significantly over the last three years, as depicted in the graph below. As of December 31, 2021, we own almost \$2.4 billion (notional amount) of “green,” “sustainability” and “sustainability-linked” bonds (as classified by Bloomberg).

GREEN BOND HOLDINGS

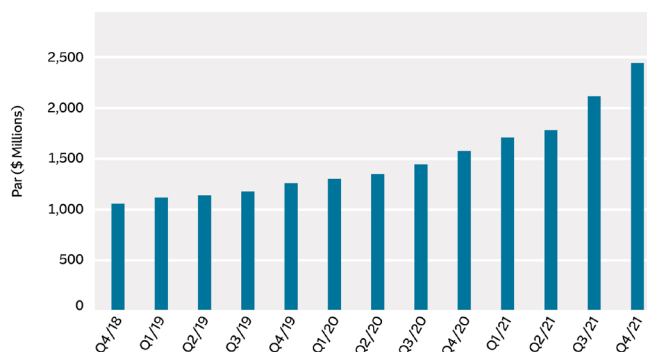


Figure 10.

Engagement with Portfolio Companies

In conjunction with our measuring and reporting journey, which is discussed in detail in the [Metrics and Targets](#) section of this report, we have initiated engagements with companies in our corporate bond portfolio regarding their GHG emissions. We are initially focusing on the top 25 companies that represent more than 50% of our financed emissions.

Through the engagement process, we can better evaluate the climate risk associated with the companies in our investment portfolio. As part of our engagement process, we also communicate the importance of, and our support for, the responsible reduction in GHG emissions. It is important to note that, as bondholders, we do not have voting rights with respect to the debtor companies.

Other Aspects of Travelers' Climate Strategy

In addition to accounting for climate risk in our underwriting and pricing decisions, as discussed in detail in the Risk Management section of this report, and providing products and product features that capture climate-related opportunities, our climate strategy includes the following components:

Advocating for Community Resiliency

Beyond the products and services we offer our customers and the thoughtful approach we take with respect to both our underwriting and investments, we are helping our communities become more resilient. Resiliency has a critical role to play in protecting our communities from the devastating effects of natural disasters. According to a 2019 National Institute of Building Sciences study, for every \$1 invested in mitigation, the United States can save \$6 in future disaster costs. For this reason, we continually endeavor to enhance public awareness about the need for effective adaptation strategies to reduce losses related to natural disasters and support and participate in research, advocacy and education. We also partner with nonprofit organizations around the country, including IBHS, the BuildStrong Coalition, Habitat for Humanity®, SBP (formerly the St. Bernard Project) and the Wharton Risk Center to promote stronger building codes, develop initiatives aimed at building communities that can better withstand changing weather patterns and influence industry standards and best practices.

We participate on the board of IBHS, an independent, nonprofit, scientific research organization supported by the insurance industry. IBHS translates top-tier research into action to strengthen homes and businesses, inform the insurance industry and increase community resiliency. Over the last decade, IBHS has identified gaps through full-scale laboratory testing at its state-of-the-art facility and influenced changes to existing building code standards and best practices to mitigate potential losses. To provide just one recent example of IBHS' important work, in 2021, IBHS released the "Wildfire Prepared Home" program. Similar to the FORTIFIED program for wind, this new program provides homeowners with a pathway to receive a three-year designation recognizing their efforts to reduce wildfire risk. Through our research partnership with IBHS, we have gained a better understanding of severe wind, hail and fire impacts on building engineering standards and have incorporated these insights into our underwriting and pricing methodologies.

We also participate on the board of the BuildStrong Coalition, a group composed of national business and consumer organizations, companies and emergency management officials. BuildStrong is dedicated to advocating for federal government legislation and incentivizing state adoption and enforcement of building codes to protect property, save lives from the devastation of natural disasters and reduce loss costs.

National mitigation and resiliency efforts benefited from the enactment of the Disaster Recovery Reform Act in 2018. Long a priority for Travelers and the BuildStrong Coalition, this legislation provides states and localities with dedicated pre- and post-disaster funding opportunities that will continue to save lives and help communities reduce the future costs of natural disasters by helping homeowners fortify their homes using IBHS proven technologies. Federal and state funding for resiliency efforts is essential. According to the 2019 National Institute of Building Sciences study referenced above, for every \$1 spent on adopting building codes, the United States can save \$11 in future disaster costs.

To help build stronger, more resilient communities, we also joined forces with Habitat for Humanity® as well as IBHS in 2011 to build affordable, wind-resistant homes to FORTIFIED Home™ standards throughout the country. Developed by IBHS, FORTIFIED Home™ construction practices are designed to help homeowners and communities better weather future storms, including hurricanes, high winds, hail and severe thunderstorms. Building FORTIFIED means exceeding the minimum standards set by building codes for construction techniques and materials. Our partnership shows that by making a few important changes in home construction standards, homes are better able to withstand storms without significantly adding to the cost. In 2019, Travelers launched a FORTIFIED building pilot program with SBP, a nonprofit organization that works to shrink the time between disaster and recovery. With assistance from SBP and other organizations, more than 31,000 FORTIFIED homes have been built over the last five years to help communities rebuild after devastating natural disasters.

In these ways, we are advocating for our communities, which we believe is good for our customers, for the communities in which we live and work and for creating shareholder value over time.

Thought Leadership on Disaster Preparedness and Renewable Energy

Travelers is helping to proactively address risks such as hurricanes, wildfires and other disasters through the Travelers Institute, the public policy division of Travelers. The Travelers Institute gathers community members and professionals, including independent insurance agents and brokers, to explore the science of these issues and the latest research on prevention and mitigation. In 2020, given the dual challenges of preparing for a disaster while facing the pandemic, the Travelers Institute teamed up with IBHS and the American Property Casualty Insurance Association (APCIA) during National Hurricane Preparedness Week on a media campaign to provide information and tips to prepare a home or business for a disaster. In addition, the Travelers Institute convened these organizations for a webinar to celebrate the 10th anniversary of the IBHS Research Center, highlighting successes and lessons learned on preparedness for wildfires, hail and wind events. Further, the Travelers Institute highlighted growth opportunities in renewable energy through a dedicated webinar featuring Travelers' Global Practice Leader for Renewable Energy.

Improving Our Eco-Efficient Operations

We continually analyze our operational impacts on the environment and look for cost-effective ways to minimize those impacts without compromising on our promise to our customers and employees.

Our Chief Administrative Officer, a member of the Company's Management and Operating Committees, oversees office activity, mobile combustion and business travel enterprise wide with the help of the Corporate Real Estate and Procurement teams. These teams regularly monitor and analyze our operations and facilities to identify ways for us to operate more efficiently, reduce our environmental impact and lower our operating expenses. We prioritize projects based on their expected financial impact, so our efforts to reduce our energy consumption and waste not only reduce our environmental impact but also lower our operating expenses.

To assist these efforts, we utilize an environmental management system that regularly reviews our operations to measure our impacts and to identify opportunities that increase efficiency and reduce costs.

Some of the key elements of our environmental management system include periodic recommissioning of facilities; evaluating emerging technologies, such as alternative energy, and their potential use in our facilities; partnering with power and other utility providers to review our operations and, when available, leveraging their incentive programs to help fund our improvements; evaluating potential changes to energy regulations that may impact our costs and operations; using technology to fine-tune operational parameters; minimizing and recycling as much waste as possible; and evaluating how to be more efficient in space utilization, which has led to the introduction of an open workspace environment that is designed to increase operational efficiency and decrease our need for office space, further minimizing our impact on the environment. We describe our efforts with respect to reducing our greenhouse gas emissions, responsible water use and waste disposal, and paper usage, in turn, below.

Greenhouse Gas Emissions

Reducing our carbon footprint is one important aspect of our climate strategy. As discussed in further detail in the Metrics and Targets section below, we have reduced our carbon footprint significantly over the years and have recently announced our commitment to become carbon neutral across our owned operations by 2030. In recent years, we have implemented various emissions reduction initiatives, including:

- **Lighting.** We have renovated our Travelers-owned Hartford campus to upgrade our lights to LED and continue to work with the local utility companies to understand the incentives for which Travelers could qualify.
- **Information Technology (IT) Equipment Upgrades.** On a regular basis, we upgrade the IT equipment in our data centers to more energy efficient equipment.
- **Owned Building Fabric Maintenance Program.** Targeting windows and roofs, we have a comprehensive preventive maintenance and repair program for our owned buildings to ensure building integrity and reduce energy loss. This program for building fabric will be ongoing for the life of each building.
- **Cloud Migration.** We are working toward using more cloud storage solutions to reduce our dependence on data centers, which will reduce our carbon footprint, over time.
- **Efficient Fleet Vehicles.** We partner with car manufacturing companies to continue transitioning our fleet to more environmentally efficient vehicles/engines.

Results from these initiatives have been impactful. For example, as a result of these actions, we have reduced the electricity usage at our owned facilities by 42% over the last decade. In addition, our open workspace environment, which we began to implement in 2017, increases operational efficiency and decreases our need for office space. We expect that upon completion of our office renovation project, we will reduce our real estate portfolio by approximately 30%.

Additionally, many of our efforts in recent years to improve our claim service also reduce our emissions intensity. For instance:

- We have implemented virtual claim tools, which allow customers to share photos and videos when filing a claim, eliminating the need for a live inspection. We are now using virtual claim handling capabilities on a significant majority of both auto appraisals and wind/hail claims, all without the need for inspection by a Travelers Claim professional. Leveraging our state-of-the-art digital capabilities can speed claim payments and also reduce miles driven by our claim fleet.
- Deploying drones to inspect roof damage improves the customer experience and eliminates safety hazards, while reducing emissions associated with roof inspections, as drone use reduces the need for ladder assist vendors to travel to the affected property.

Water and Waste

As with energy and GHG emissions, we see many opportunities to align our long-term financial interests with responsible water use and waste disposal, creating shared value for our shareholders and the environment. Travelers has implemented certain practices to help ensure proper waste handling and water use. Specifically, we:

- Employ a third-party vendor to properly recycle and dispose of obsolete IT equipment.
- Shred and recycle paper at all locations.
- Installed auto-shutoffs on most faucets.
- Are installing water bottle filling stations in all new workspaces to reduce the use and disposal of single-use water bottles.
- Have a bottle and can recycling program at all owned locations.

In 2018, we began tracking waste and water usage in our owned facilities. We now measure and track all waste at our owned facilities, including single stream recycling, municipal solid waste and construction/demolition waste. Furthermore, we now track all water and sewer use, including general water use for restrooms, kitchens and landscape-related irrigation.

With these tracking capabilities, we are able to trend waste/water consumption over time and quantify impacts of building improvements as they relate to creating more environmentally sustainable workplaces.

Paper Usage

For almost two decades, Travelers has implemented a variety of business initiatives to reduce our paper usage. In 2019, Travelers started partnering with [American Forests](#), the oldest conservation group in the United States, to fund the planting of a tree for every Personal Insurance customer who chooses paperless billing.

As of December 31, 2021, we have funded the planting of over three million trees, exceeding the goal we had set for ourselves. In 2020, we also joined the U.S. chapter of 1t.org to help conserve, restore and grow one trillion trees by 2030. In addition to restoring natural landscapes, providing habitat for wildlife and naturally capturing carbon emissions, this effort has helped us minimize our environmental impact and carbon footprint. We are proud that we are now planting more trees than we are using. Beyond the environmental impacts of planting trees for this campaign, paperless billing provides an added level of convenience for customers by allowing for easy access and retrieval of policy documents, while helping us save millions of dollars in paper and postage costs.

Additional details on these aspects of our strategy can be found in the [Climate Strategy](#), [Eco-Efficient Operations](#) and [Public Policy](#) sections of our sustainability website.

Risk Management

Travelers employs a long-term financial strategy to manage risk/ reward over time. We continually measure results to understand the performance of our products and businesses and apply our collaborative understanding of risk to adjust our current view of risk/reward, as appropriate. Through our ERM framework, we actively evaluate the risk/reward relationships on both an individual and a portfolio basis. This evaluation impacts the risks we decide to insure and the appropriate rates to charge. The Enterprise Underwriting department is one of the key internal risk management functions at Travelers. Enterprise Underwriting defines and manages Travelers' corporate underwriting risk appetite and controls to ensure consistency across the enterprise. Enterprise Underwriting also defines and manages the related underwriting authority standards and thresholds, and each business operates within the defined authority standards.

Risk management for changing climate conditions is addressed within our business model and ERM framework. As part of our ERM process, business and corporate groups work to identify and assess climate-related risks, both physical and transitional. We regularly review emerging issues, including changing climate conditions, to consider potential changes to our risk models and their use, as well as to help assess the need to adjust underwriting, pricing or reinsurance strategies, coverage terms and conditions or to develop new products or otherwise explore climate-related opportunities. We evaluate event exposures using catastrophe models, as discussed under Strategy above, and report aggregate exposure and strategies regularly to management and the Risk Committee of the Board. For more details on how we incorporate climate-related risk into our reinsurance portfolios, see [Mitigation of Climate Risks in our Underwriting and Pricing Decisions](#).

Our integrated, iterative and collaborative ERM process includes evaluating risk and reward, setting underwriting and operational strategies, and monitoring the results of our efforts. As part of our process, we consider various external environments and influences, including the economy, insurance marketplace, and views of regulators, the investment community and rating agencies.

For climate-related risks – both physical and transitional – several management groups and business-level risk committees, including the Catastrophe Risk Management group, the Enterprise Risk Committee, the Emerging Issues Committee and the Committee on Climate, Energy and the Environment (CEEC), advise the Board and its Risk Committee.

The CEEC coordinates and supports climate-related initiatives and strategies across Travelers and is a venue to share information and leverage expertise. The CEEC has four subgroups, each led by senior staff and aligned with a key area of focus:

- 1. Risk Identification & Management.** (Discussed in further detail under [Process Used to Determine Climate-related Risks](#).) Supports business activities to identify, monitor and assess climate-related risks. Participants include representatives from our Enterprise Risk Management function (which includes the Enterprise Risk Management group, Catastrophe Risk Management, and Enterprise Underwriting), Investments, Government Relations, Legal, Risk Control, Claim, Global Renewable Energy Practice and business underwriting groups across the Company.
- 2. Products, Market Development & Customer Services.** (Discussed in further detail under [Process Used to Determine Climate-related Opportunities](#).) Supports activities to identify and develop product opportunities, explore potential new markets and expand services to help customers prepare for and respond to potential risks related to changing climate and “green” trends. Participants include Business Insurance Underwriting and Product, Enterprise Underwriting, Risk Control, Claim, the Global Renewable Energy Practice and employees from across our business units.
- 3. External Relations, Communications & Industry Leadership.** Supports Travelers' external-facing corporate groups on matters pertaining to climate, energy and the environment. Participants include the Travelers Institute, Government Relations, Corporate Communications, Catastrophe Risk Management, Enterprise Underwriting, Risk Control, Community Relations and Investor Relations.
- 4. Facilities & Operations Management.** Coordinates the Company's initiatives and activities to develop and implement environmentally responsible corporate practices, including establishing emission reduction goals and monitoring progress in achieving those goals. Participants include members of the Travelers Corporate Real Estate team, along with key members of the facility management teams of our outsourced service provider.

For a more complete discussion of our ERM framework, please see our [Annual Report on Form 10-K](#) for the fiscal year ended December 31, 2021.

Process Used to Determine Climate-related Risks

Using actionable science to make informed business decisions is a pillar of Travelers' catastrophe risk management philosophy. Given our longstanding focus on changing climate conditions, our Catastrophe Risk Management group, which assesses catastrophe risk and manages the development of our strategic catastrophe efforts, includes experts in data science, meteorology, hydrology, geophysics and environmental engineering, among other areas. We have also established dedicated teams for each catastrophe peril, with the goal of developing industry-leading scientific and underwriting expertise. We have incorporated our learnings into our product development, risk selection, pricing, capital allocation and claim response.

The insights we have developed have enabled us to supplement standard vendor catastrophe models with our own sophisticated peril-by-peril view. This approach gives us a refined granular view of catastrophe risk, incorporating proprietary variables, such as complex roof characteristics, tree and brush density and location intelligence down to the parcel level. These variables are incorporated into our product development, enhancing our segmentation. They are also integrated into proprietary algorithms that we use at the point of sale to inform risk selection and decisions about terms and conditions.

We use various analyses and methods, including proprietary and third-party modeling processes and geospatial analysis, to evaluate our climate-related risks and make underwriting, pricing and reinsurance decisions designed to manage the Company's exposure to catastrophe events. In addition to catastrophe modeling and analysis, we also model and analyze the Company's exposure to other extreme events. We also utilize proprietary and third-party computer modeling processes to evaluate capital adequacy. In addition, we consider historical loss experience, recent events, underwriting practices, market share analyses, external scientific analysis and various other factors, including non-modeled losses, to refine our proprietary view of catastrophe risk. These analytical techniques are an integral component of our ERM process and further support our long-term financial strategies and objectives.

We actively monitor and evaluate changes in third-party models and, when necessary, calibrate the catastrophe risk model estimates delivered via our proprietary modeling processes. Importantly, in addition, our underwriting appetite evolves as the environment evolves, and we modify our underwriting if we believe that the risks exceed our risk appetite.

Finally, as discussed under [Mitigation of Climate Risks in our Underwriting and Pricing Decisions](#), in addition to factoring in catastrophe models and historical experience, we are able to respond quickly to changing conditions since most of our policies renew annually. This gives us the flexibility to adjust our underwriting and pricing strategies and related policy terms and conditions, as appropriate.

Separately, as discussed in both the [Governance](#) and [Risk Management](#) sections of this report, business-level risk committees play an active role in developing and executing our ERM strategy. The CEEC includes two subcommittees that are directly involved with determining climate-related transition and liability risks and climate-related opportunities, respectively: the Risk Identification & Management subcommittee, discussed immediately below, and the Products, Market Development & Customer Services subcommittee, discussed under [Process Used to Determine Climate-related Opportunities](#).

The Risk Identification & Management subcommittee includes representatives from our ERM function in the United States and the United Kingdom, including the Catastrophe Risk Management and Enterprise Underwriting groups; our business underwriting groups across the Company; our Risk Control function; and the Investment, Legal and Regulatory functional areas. The subcommittee meets regularly to discuss and assess climate-related issues, risks and trends.

The subcommittee stays current on climate-related and environmental risks, including through industry publications and external conferences, and actively monitors various relevant risk factors, such as:

- Climate-related litigation and novel theories of liability.
- Legal and regulatory requirements impacting climate, energy and the environment.
- Market-based policies that put a price on greenhouse gases, such as carbon pricing or cap-and-trade programs.
- Efforts by states, nations and nongovernmental organizations to adopt policies or implement programs designed to reduce emissions impacting global temperatures.
- Emerging regulatory requirements and "best practice guides" for international businesses with respect to risk management, disclosure and scenario analysis practices relating to changing climate conditions.
- Impacts related to emerging "clean" or "green" energy and technology trends and products.

The subcommittee also receives regular updates from internal subject matter experts regarding emerging scientific analyses and published reports relating to weather trends and the effects of changing climate conditions. The majority of these publications focus on forward-looking impacts. These publications include:

- Materials issued by the U.N. Intergovernmental Panel on Climate Change (IPCC).
- The National Climate Assessment Reports issued in the United States by the National Oceanic and Atmospheric Administration (NOAA) as part of the U.S. Global Change Research Program (USGCRP).
- Articles published in scientific journals.

When a potential risk is identified, the subcommittee engages in a comprehensive review to evaluate the risk. This process involves the relevant internal stakeholder groups and, as appropriate, may be elevated pursuant to our ERM framework for discussion with senior management and the Board of Directors.

Process Used to Determine Climate-related Opportunities

The business lead for the Global Renewable Energy Practice is the chair of one of the subcommittees of the CEEC, the Products, Market Development & Customer Services subcommittee. The subcommittee consists of Travelers specialized industry experts, who collaborate, among other things, on:

- Identifying potential new products and assessing their feasibility.
- Exploring potential new markets.
- Monitoring the impact of climate and “green” trends on current product offerings.
- Sharing ideas and exploring possibilities to avail ourselves of additional climate-related opportunities.

When we identify a potential opportunity, we conduct a comprehensive evaluation of the viability of the opportunity, as well as the risks associated with the opportunity. This process involves experts from the relevant disciplines across the organization, including industry experts and our Risk Control professionals. After a determination is made that a product is viable and within our risk appetite, further vetting is conducted through our ERM process prior to product development and/or launch.

Mitigation of Climate Risks in Our Underwriting and Pricing Decisions

As a property casualty insurance company, we are in the business of insuring risk. More specifically, Travelers is a risk/return-focused company, and we regularly evaluate our underwriting standards to ensure we are earning an appropriate return for the risks we are underwriting. Our risk appetite is dependent on our ability to understand the property and casualty risks that we underwrite. We try to avoid exposures that cannot be evaluated or have unacceptable levels of uncertainty. This approach helps ensure our ability to fulfill our contractual obligations to our customers and fund the payment of future claims, some of which manifest over years and decades. Accordingly, we employ a thoughtful and collaborative underwriting philosophy that is focused on using risk-based factors to carefully select risks and charge premium commensurate with that risk. **Importantly, we evaluate risks related to changing climate conditions consistent with how we approach all other underwriting risks.** For both property and casualty lines of business, we consider environmental factors, including weather trends and patterns, alongside other relevant risk variables in our underwriting evaluation process and in our underwriting strategies.

For example, given our risk/return requirements, our direct exposure to thermal coal and tar sands is de minimis; simply put, these businesses are not attractive to us from a risk/return standpoint. Consistent with our risk/return approach to underwriting, we have recently published a policy in which we publicly commit that we will not (i) provide insurance for the construction and operations of any new coal-fired plants, (ii) underwrite new risks for companies that generate more than 30% of their revenues from thermal coal mining, (iii) underwrite new risks for companies that generate more than 30% of their energy production from coal, or (iv) underwrite new risks for companies that hold more than 30% of their reserves in tar sands. Travelers also committed to phasing out existing underwriting relationships that exceed the thresholds above by 2030.

Understanding climate-related effects on weather perils is part of our fundamental evaluation process in connection with the underwriting and pricing of risks related to many of our products. We use proprietary, industry-specific supplemental questionnaires to help us identify specific risk characteristics and other relevant factors, including changing climate conditions and other environmental factors, which we incorporate into our underwriting process.

Pricing of Travelers property and casualty insurance products is generally developed based upon a number of factors, including an estimation of expected losses; the expenses associated with producing, issuing and servicing business and managing claims; the time value of money related to the expected loss and expense cash flows; and a reasonable profit margin that considers, among other factors, the capital needed to support the Company's business. Travelers has a disciplined approach to underwriting and risk management that emphasizes product returns and profitable growth over the long term rather than premium volume or market share.

As discussed in detail throughout this report, we can and do take steps to ensure that our portfolio of risk properly contemplates the potential for loss and that we continue to maintain the right balance of risk and reward. We will continue to underwrite risks to the extent we believe we can earn an appropriate risk-adjusted return, and we will reduce our exposure to or exit altogether markets and geographies when, upon careful evaluation, we don't believe that appropriate risk-adjusted returns are achievable. We manage the performance of our business over time, and that approach is foundational to our underwriting philosophy and core to how we manage our catastrophe exposure. We believe we are well positioned to continue to deliver industry-leading returns in the face of changing climate conditions.

Catastrophe Modeling

Core to our strategy is the incorporation of weather and climate variability into our underwriting and pricing decisions. Our catastrophe modeling, as described in the [Process Used to Determine Climate-related Risks](#) section above, is critical to this effort.

It is important to note that there are no industry-standard methodologies or assumptions for projecting catastrophe exposure. Accordingly, catastrophe estimates provided by different insurers may not be comparable.

Based on the proprietary and third-party models utilized by the Company, the table below sets forth, as of December 31, 2021, the probabilities that estimated losses, comprising claims and allocated claim adjustment expenses (but excluding unallocated claim adjustment expenses), from a single event occurring in a one-year timeframe will equal or exceed the indicated loss amounts (expressed in dollars, net of tax, and as a percentage of the Company's common equity). For example, on the basis described in the table below, the Company estimates that there is a one percent chance that the Company's loss from a single U.S. and Canadian hurricane in a one-year timeframe would equal or exceed \$2.0 billion, or 8% of the Company's common equity at December 31, 2021.

| LIKELIHOOD OF EXCEEDANCE ^[2] | DOLLARS (IN BILLIONS) | | PERCENTAGE OF COMMON EQUITY ^[1] | |
|---|------------------------------------|-------------------------------------|--|-------------------------------------|
| | SINGLE U.S. AND CANADIAN HURRICANE | SINGLE U.S. AND CANADIAN EARTHQUAKE | SINGLE U.S. AND CANADIAN HURRICANE | SINGLE U.S. AND CANADIAN EARTHQUAKE |
| 2.0% (1-in-50) | \$1.5 | \$0.5 | 6% | 2% |
| 1.0% (1-in-100) | \$2.0 | \$0.7 | 8% | 3% |
| 0.4% (1-in-250) | \$2.5 | \$1.2 | 9% | 4% |
| 0.1% (1-in-1,000) | \$6.4 | \$1.7 | 24% | 6% |

[1] The percentage of common equity is calculated by dividing (a) indicated loss amounts in dollars by (b) total common equity excluding net unrealized investment gains and losses, net of taxes, included in shareholders' equity. Net unrealized investment gains and losses can be significantly impacted by both discretionary and other economic factors and are not necessarily indicative of operating trends. Accordingly, the Company's management uses the percentage of common equity calculated on this basis as a metric to evaluate the potential impact of a single hurricane or single earthquake on the Company's financial position for purposes of making underwriting and reinsurance decisions.

[2] An event that has, for example, a 2% likelihood of exceedance is sometimes described as a "1-in-50 year event." As noted above, however, the probabilities in the table represent the likelihood of losses from a single event equaling or exceeding the indicated threshold loss amount in a one-year timeframe, not over a multi-year timeframe. Also, because the probabilities relate to a single event, the probabilities do not address the likelihood of more than one event occurring in a particular period, and, therefore, the amounts do not address potential aggregate catastrophe losses occurring in a one-year timeframe.

The threshold loss amounts in the table above, which are based on the Company's in-force portfolio at December 31, 2021, and catastrophe reinsurance program at January 1, 2022, are net of reinsurance, after-tax and exclude unallocated claim adjustment expenses, which historically have been less than 10% of loss estimates. For further information regarding the Company's reinsurance, see "Item 1 – Business – Reinsurance" in our [Annual Report on Form 10-K](#) for the fiscal year ended December 31, 2021. The amounts for hurricanes reflect U.S. and Canadian exposures and include property exposures, property residual market exposures and an adjustment for certain non-property exposures. The hurricane loss amounts are based on the Company's catastrophe risk model estimates and include losses from the hurricane hazards of wind and storm surge. The amounts for earthquakes reflect U.S. and Canadian property and workers compensation exposures. The Company does not believe that the inclusion of hurricane or earthquake losses arising from other geographical areas or other exposures would materially change the estimated threshold loss amounts.

Catastrophe modeling relies upon inputs based on experience, science, engineering and history. These inputs reflect a significant amount of judgment and are subject to changes which may result in volatility in the modeled output. Catastrophe modeling output may also fail to account for risks that are outside the range of normal probability or are otherwise unforeseeable. Catastrophe modeling assumptions include, among others, the portion of purchased reinsurance that is collectible after a catastrophic event, which may prove to be materially incorrect. Consequently, catastrophe modeling estimates are subject to significant uncertainty. In the table above, the uncertainty associated with the estimated threshold loss amounts increases significantly as the likelihood of exceedance decreases. In other words, in the case of a relatively more remote event (e.g., 1-in-1,000), the estimated threshold loss amount is relatively less reliable. Actual losses from an event could materially exceed the indicated threshold loss amount. In addition, more than one such event could occur in any period.

Moreover, Travelers is exposed to the risk of material losses other than property and workers compensation coverages arising out of hurricanes and earthquakes, and it is exposed to catastrophe losses from perils other than hurricanes and earthquakes, such as tornadoes and other windstorms, hail, wildfires, severe winter weather, floods, tsunamis, volcanic eruptions, solar flares and other naturally occurring events.

In addition, compared to models for hurricanes, models for earthquakes are less reliable due to there being a more limited number of significant historical events to analyze, while models for tornadoes, hail storms, wildfires and winter storms are newer and may be less reliable due to the highly random geographic nature and size of these events. Accordingly, these models may be less accurate in predicting risks and estimating losses. Further, changes in climate conditions could cause our underlying modeling data to be less predictive, thus limiting our ability to effectively evaluate and manage catastrophe risk. In addition, models for some events are either in early stages of development and, therefore, not widely adopted, or are not yet available.

For more information about the Company's exposure to catastrophe losses, see our [Annual Report on Form 10-K](#) for the fiscal year ended December 31, 2021, under "Item 1A – Risk Factors – High levels of catastrophe losses, including as a result of factors such as increased concentrations of insured exposures in catastrophe-prone areas, could materially and adversely affect our results of operations, our financial position and/or liquidity, and could adversely impact our ratings, our ability to raise capital and the availability and cost of reinsurance" and "Item 1A – Risk Factors – We may be adversely affected if our pricing and capital models provide materially different indications than actual results."

External Studies

In addition to catastrophe modeling, we evaluate the findings contained in governmental reports, such as the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6; 2021) and the U.S. Fourth National Climate Assessment Reports (NCA4 volumes 1 and 2; 2017–2018), as well as other external scientific studies related to climate to assess potential impacts on our underwriting and pricing decisions. For example, we have evaluated the extent to which phases of the Atlantic Multidecadal Oscillation, the El Niño–Southern Oscillation, the North Atlantic Oscillation and Saharan dust conditions may influence changes in basin frequency, severity or U.S. landfall risk of hurricanes.

Catastrophe Experience

Our catastrophe underwriting also incorporates lessons learned from recent events, including the 2017 Tubbs Fire (California), the 2018 Camp Fire (California) and the 2019 Kincadee Fire (California), as well as past events, such as Hurricanes Harvey and Katrina and Superstorm Sandy.

In addition, we are studying impacts of several 2020 and 2021 wildfire events in California and Oregon, as well as the late-season 2021 Marshall fire (Colorado). These lessons are reflected in our:

- Disciplined approach to terms and conditions that are designed to make outcomes more predictable.
- [Risk control initiatives](#), which help us with risk mitigation, selection and pricing.
- Proprietary flood underwriting, which factors in building footprints compared to segmented flood zones.
- Proprietary wildfire underwriting, which factors in terrain slope, vegetation density and propensity to burn, and road access, including proximity to fire stations, as well as historical footprints.

As it relates to the California wildfires in particular, we now view events such as those of the past few years as being less remote than we thought previously. As a consequence of that, as well as the longer-term trend in catastrophe losses, for certain perils we have weighted our more recent experience somewhat more heavily than we otherwise would have in modeling catastrophe losses going forward.

Additional Factors Limiting Our Exposure to Climate-related Risks

In addition to factoring in catastrophe models, external studies and historical experience, we are able to mitigate our exposure to climate-related risks including through the following:

- **Annual Policies.** We are able to respond quickly to changing conditions since most of our policies renew annually. This gives us the flexibility to adjust our pricing, underwriting strategy and related policy terms and conditions, as appropriate. In addition to making short-term tactical adjustments to our underwriting strategy and product pricing based on the climate-related risks we identify, we monitor climate-related risks on a medium- and long-term horizon to arrive at a holistic view of climate-related impacts on our business, further allowing us to adjust and refine our strategy, products and pricing.
- **Reinsurance.** Informed by our risk selection, claim experience and risk appetite, we reinsure a portion of the risks we underwrite to further manage our exposure to losses and to protect our capital. We cede to reinsurers a portion of these risks and pay premiums based upon the risk and exposure of the policies subject to such reinsurance.

We conduct an ongoing review of our risk and catastrophe coverages and, from time to time, make changes to our reinsurance program as we deem appropriate. For example, Travelers utilizes a corporate catastrophe excess-of-loss reinsurance treaty with unaffiliated reinsurers to manage its exposure to losses resulting from catastrophes and to protect its capital. In addition to the coverage provided under this treaty, Travelers also utilizes catastrophe bonds to protect against certain weather-related losses in the Northeastern United States and a Northeast catastrophe reinsurance treaty to protect against losses resulting from weather-related catastrophes in the Northeastern United States. To address some ongoing degree of uncertainty surrounding weather volatility, we added a new catastrophe reinsurance treaty to our overall reinsurance program in 2019. For further discussion of our reinsurance program, see our [Annual Report on Form 10-K](#).

- **Product Diversity.** Our broad product diversity also mitigates our exposure to climate-related risks. We engage broadly across nine major lines of insurance through our three business segments – Business Insurance, Bond & Specialty Insurance and Personal Insurance. Our portfolio is balanced across these lines of business and further diversified by geography and customer size and type.

Travelers is a leading U.S. commercial insurer with a top-five position in five major product lines, including a No. 1 position in workers compensation and commercial multi-peril.^[1] Our Business Insurance segment accounts for more than half of our net written premiums and includes product lines that are less susceptible to climate-related risks, such as workers compensation and general liability. Likewise, our Bond & Specialty Insurance segment offers primarily fidelity, surety, cyber, management liability and professional liability products. In 2021, approximately 67% of domestic premiums were from liability lines (e.g., workers compensation, management liability, general liability, auto insurance), whereas approximately 33% of domestic premiums came from property lines (e.g., homeowners and commercial property). See the [Business Strategy & Competitive Advantages](#) section of our sustainability website to learn more about our product breadth and specialization.

For a discussion regarding the management of climate risk associated with our investment portfolio, see the section titled [Incorporating Climate Considerations into Our Investment Processes](#) under the Strategy pillar, above.

[1] 2021 U.S. Statutory DWP. Five major product lines: Commercial Multi-Peril (Commercial Multiple Peril (Liability), Commercial Multiple Peril (Non-Liability), Farmowners Multiple Peril); Commercial Auto (Commercial Auto No-Fault (Personal Injury Protection), Commercial Auto Physical Damage, Other Commercial Auto Liability); General Liability (Other Liability Occurrence, Product Liability); Workers Compensation; and Surety. Copyright © 2022, S&P Global Market Intelligence. Used with permission.

Metrics & Targets

We measure a variety of climate-related metrics that inform our climate and overall business strategies. We also set GHG targets to monitor our operational eco-efficiencies.

Catastrophe Losses

On an annual basis, we monitor changes in catastrophe model output on our book of business, changes in the state-of-the-science, and weather and non-weather loss trends as part of the natural catastrophe planning process by business unit and by peril.

| (DOLLARS IN MILLIONS) | 2021 | 2020 | 2019 |
|---|-----------|-----------|-----------|
| Catastrophe Losses (pre-tax) | \$1,847 | \$1,613 | \$886 |
| Catastrophe Losses (after-tax) | \$1,459 | \$1,274 | \$699 |
| Earned Premiums Ceded (Reinsurance Premiums) ^[1] | (\$2,154) | (\$1,944) | (\$1,798) |
| Reinsurance Recoverable ^[2] | \$8,452 | \$8,350 | \$8,235 |

[1] For total company, including related to catastrophes

[2] Net allowance for estimated uncollectible reinsurance at \$141 million and \$146 million at December 31, 2021 and 2020, respectively

The Company defines a “catastrophe” as an event:

- that is designated a catastrophe by internationally recognized organizations that track and report on insured losses resulting from catastrophic events, such as Property Claim Services (PCS) for events in the United States and Canada; and
- for which the Company’s estimates of its ultimate losses before reinsurance and taxes exceed a pre-established dollar threshold.

The Company’s threshold for disclosing catastrophes is primarily determined at the reportable segment level. If a threshold for one segment or a combination thereof is exceeded and the other segments have losses from the same event, losses from the event are identified as catastrophe losses in the segment results and for the consolidated results of the Company. Additionally, an aggregate threshold is applied for International business across all reportable segments. The threshold for 2021 ranged from approximately \$20 million to \$30 million of losses before reinsurance and taxes.

The table on the following page presents the amount of losses recorded by the Company for significant catastrophes that occurred in 2021, 2020 and 2019, the amount of net unfavorable (favorable) prior year reserve development recognized in 2021 and 2020 for catastrophes that occurred in 2020 and 2019, and the estimate of ultimate losses for those catastrophes at December 31, 2021, 2020 and 2019. For purposes of the table, a significant catastrophe is an event for which the Company estimates its ultimate losses will be \$100 million or more after reinsurance and before taxes.

| (IN MILLIONS, PRE-TAX AND NET OF REINSURANCE) ^[1] | LOSSES INCURRED / UNFAVORABLE (FAVORABLE) PRIOR YEAR RESERVE DEVELOPMENT FOR THE YEAR ENDED DECEMBER 31, | | | ESTIMATED ULTIMATE LOSSES AT DECEMBER 31, | | |
|--|--|------|------|---|------|------|
| | 2021 | 2020 | 2019 | 2021 | 2020 | 2019 |
| 2019 PCS Serial Number: | | | | | | |
| 33 – Severe wind storms | (9) | 8 | 250 | 249 | 258 | 250 |
| 61 – Severe wind storms and tornadoes | (13) | 8 | 109 | 104 | 117 | 109 |
| 2020 PCS Serial Number: | | | | | | |
| 16 – Tennessee tornado activity | (9) | 151 | n/a | 142 | 151 | n/a |
| 19 – Severe storms | (9) | 134 | n/a | 125 | 134 | n/a |
| 20 – Severe storms | (25) | 165 | n/a | 140 | 165 | n/a |
| 33 – Civil unrest | (7) | 100 | n/a | 93 | 100 | n/a |
| 44 – Tropical Storm Isaias | (22) | 140 | n/a | 118 | 140 | n/a |
| 46 – Midwest derecho | (10) | 212 | n/a | 202 | 212 | n/a |
| 68 – California wildfire – Glass fire ^[2] | (9) | 145 | n/a | 136 | 145 | n/a |
| 2021 PCS Serial Number: | | | | | | |
| 15 – Winter storms | 228 | n/a | n/a | 228 | n/a | n/a |
| 17 – Winter storms | 508 | n/a | n/a | 508 | n/a | n/a |
| 29 – Severe wind storms | 105 | n/a | n/a | 105 | n/a | n/a |
| 60 – Hurricane Ida | 417 | n/a | n/a | 417 | n/a | n/a |
| 76 – Tornado outbreak | 131 | n/a | n/a | 131 | n/a | n/a |

[1] Amounts are reported pre-tax and net of recoveries under all applicable reinsurance treaties, except for the Company's 2021, 2020 and 2019 Underlying Property Aggregate Catastrophe Excess-of-Loss Treaties. Those treaties covered the accumulation of certain property losses arising from one or multiple occurrences (both catastrophe and non-catastrophe events) for the period January 1, 2021, through and including December 31, 2021, and the period January 1, 2020, through and including December 31, 2020, and the period January 1, 2019 through and including December 31, 2019, respectively. As a result, the benefit from those treaties are not included in the table as the allocation of the treaties' benefit to each identified catastrophe changes each time there are additional events or changes in estimated losses from any covered event.

[2] In addition to the Glass fire, there were 16 other PCS-designated wildfires in 2020. While none of the 16 wildfires were individually large enough to meet the Company's threshold for disclosure as a significant catastrophe in this table, total losses in 2020 from those wildfires were \$169 million, of which two wildfires totaling \$73 million met the Company's threshold for disclosure as catastrophes.

n/a: not applicable

Greenhouse Gas (“GHG”) Emissions

Travelers’ Owned Operations

As an insurer, most of our Scope 1 and 2 GHG emissions result from office activity and mobile combustion (e.g., claim vehicles). While we strive to reduce our emissions, our primary climate-related risks and opportunities relate to our property insurance business and claim service.

Travelers set a goal to reduce the Company’s absolute Scope 1 and 2 emissions by 40% by 2020, based on a 2011 base year. By year-end 2020, we exceeded this goal, cutting absolute Scope 1 and 2 emissions by 60%. In April 2021, we announced our commitment to become carbon neutral across our owned operations by 2030.

We will achieve this by reducing or offsetting an additional 50,000 metric tons of carbon dioxide. We plan to accomplish this goal by continuing to implement projects that result in absolute physical reductions of GHG emissions, continuing efforts to reduce energy consumption, increasing the percentage of renewable energy sources, reducing the size of our vehicle fleet and transitioning to a greater use of electric vehicles. When these efforts are exhausted, as a last resort, we will buy certified offsets. The table below outlines our Scope 1, 2 and 3 emissions data, which has been [verified by an independent third party](#). We use The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) to calculate our Scope 1 and 2 greenhouse gas emissions.

| TOPIC | 2021 | 2020 | 2019 | 2011 |
|---|------------|------------|------------|--------------|
| Scope 1 GHG Emissions (metric tons CO ₂ e) | 12,794 | 13,500 | 23,746 | 37,436 |
| Emissions from Mobile Combustion (metric tons CO ₂ e) | 11,655 | 12,414 | 22,525 | 36,574 |
| Emissions from Office Activity (metric tons CO ₂ e) | 1,139 | 1,086 | 1,221 | 862 |
| Scope 2 GHG Emissions (metric tons CO ₂ e) ^[1] | 20,683 | 21,908 | 27,970 | 47,167 |
| Total Scope 1 and Scope 2 GHG Emissions (metric tons CO ₂ e) | 33,477 | 35,408 | 51,716 | 84,603 |
| GHG Emissions per Revenue (metric tons CO ₂ e per \$) | 0.00000096 | 0.00000111 | 0.00000163 | 0.0000033248 |
| GHG Emissions per FTE (metric tons CO ₂ e per person) | 1.12 | 1.18 | 1.72 | 2.76 |
| Scope 3 Emissions from Travel | 4,479 | 5,666 | 17,819 | Not Tracked |
| Percentage of Electricity from Renewable Sources ^[2] | 22% | 22% | 19% | Not Tracked |
| Percentage of Total Energy from Renewable Sources ^[2] | 8% | 8% | 6% | Not Tracked |

[1] Location-based method.

[2] Percentages from renewable energy for 2020 and 2019 have been restated to reflect adjusted data from certain utility vendor partners.

As illustrated in the chart below, from 2011 through 2021, we reduced our Scope 1 and Scope 2 emissions by 66% and 56%, respectively.

HISTORICAL SCOPE 1 AND 2 GHGe

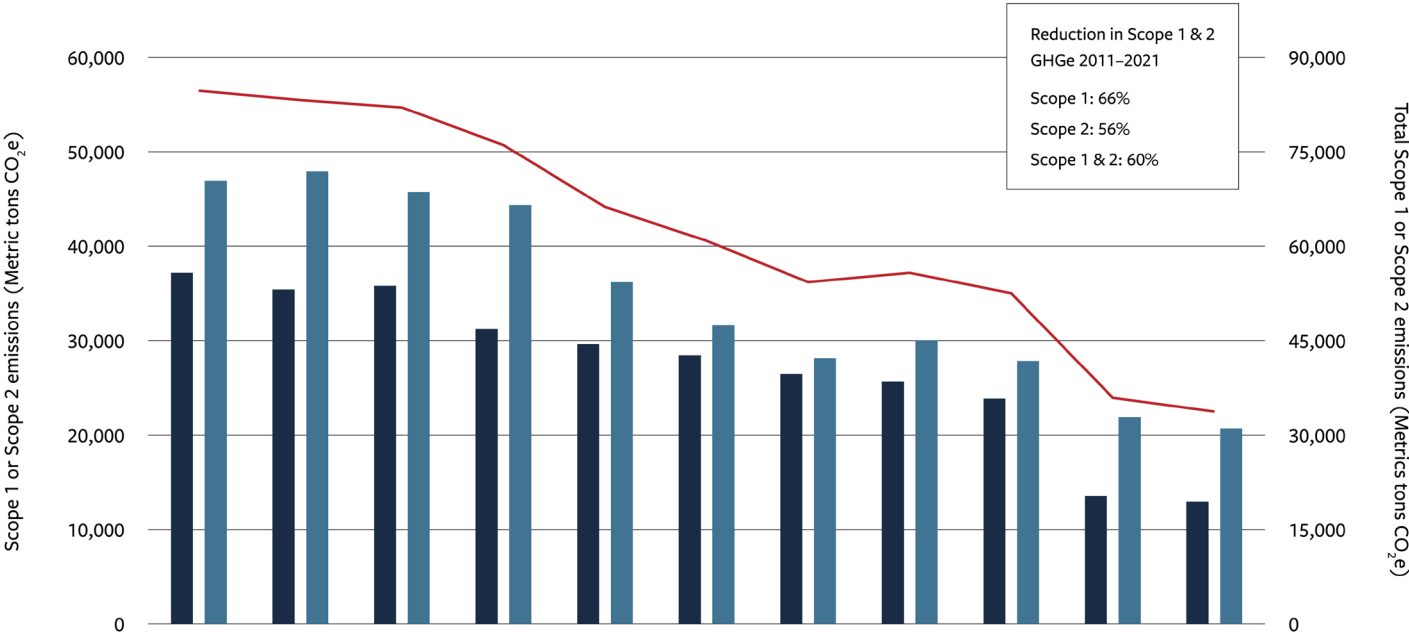


Figure 11.

| TOPIC | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| ■ Scope 1 | 37,436 | 35,633 | 35,804 | 31,184 | 29,605 | 28,352 | 26,640 | 25,591 | 23,746 | 13,500 | 12,794 |
| ■ Scope 2 | 47,167 | 48,151 | 46,278 | 44,576 | 36,352 | 31,979 | 28,250 | 29,881 | 27,970 | 21,908 | 20,683 |
| ● Total | 84,603 | 83,784 | 82,082 | 75,760 | 65,957 | 60,331 | 54,890 | 55,472 | 51,716 | 35,408 | 33,477 |

Measuring GHG Emissions Associated with Our Investment Portfolio

Currently, GHG emissions data for the substantial majority of segments of our investment portfolio (e.g., municipal bonds (42% of our portfolio), mortgage bonds (2%) and private equity, hedge funds and other investments (4%)) is unavailable and, where it is available, the data quality remains inconsistent. Accordingly, at this time, we cannot accurately calculate the total emissions of our overall investment portfolio. Nonetheless, as discussed in detail above, we believe that we have incorporated the relevant risks into our investment analysis. In addition, we have attempted to quantify GHG emissions of securities within our corporate securities portfolio (corporate bonds and public equity), the only portfolio segment where some GHG emissions data is available. This portfolio represents less than one third of our overall investments. As additional emissions data becomes available over time, we expect that the total GHG emissions that we will be able to report will increase.

Data

Approximately 80% of companies in our corporate securities portfolio (by market value) voluntarily report Scope 1 (direct) and Scope 2 (indirect; e.g., purchased electricity) emissions. Since annual GHG emissions data is reported by most companies with a substantial lag after their fiscal year-end, when calculating GHG emissions-related metrics for our year-end corporate securities portfolio, we use companies' most recently reported GHG emissions data available at that time. For companies that do not report GHG emissions data (about 14% by market value), we use estimates from Bloomberg's proprietary GHG emissions estimates model, which uses companies' reported data to build an estimation model for non-reporting companies. We exclude holdings where no emissions information is available (about 6% of corporate securities). To calculate an estimate of financed GHG emissions for our corporate securities portfolio as of December 31, 2021, we used company-reported emissions data for fiscal year 2020, as well as Bloomberg's estimates for that year.

Methodology

The shortcomings with respect to the data described above are exacerbated by significant challenges in determining how to attribute companies' GHG emissions to owned investments. In making such a determination, it is important to distinguish between an accounting-based approach and a risk-based approach. The accounting-based approach commonly attributes an investee company's GHG emissions to the investor based on the investor's total investment (debt and equity investment) divided by a measure of the investee company's enterprise value. While this approach might seem straightforward, it does not differentiate between the relative riskiness of potential transition costs associated with a company's GHG emissions borne by debt versus equity holders. As discussed above, we manage our investment portfolio with a focus on risk-adjusted returns. Accordingly, we utilize a risk-based framework in which we attribute an issuer's total reported GHG emissions between debt and equity based on the issuer's weighted average probability of default (taking into account the issuer's average rating and maturity).

We believe this approach more appropriately captures the transition risk that matters to our shareholders and policyholders, and it also reflects differences related to asset allocation and credit quality within an investment portfolio. Specifically, for companies with a low default probability, most of the risk related to GHG emissions rests with equity holders. Conversely, for companies with a high default probability, the risk related to GHG emissions impacts bond holders to a greater degree than for companies with a low default probability.

We track several related metrics for our corporate securities portfolio. First, we calculate absolute Scope 1 and Scope 2 GHG emissions, as described above. Second, we compute the portfolio's "carbon footprint," and to account for the fluctuating size of our portfolio, we normalize the total Scope 1 and Scope 2 emissions by the amount invested. Third, while absolute GHG emissions – appropriately normalized and attributed – provide some useful information, we also track GHG emissions per unit of revenue. This metric is important for evaluating a corporation's GHG emissions, as it captures the intensity of a company's GHG emissions and allows for a comparison across companies of varying sizes. We then calculate a weighted average carbon intensity (WACI), multiplying each investee company's carbon intensity by its weight in our portfolio.

Notably, as discussed in more detail below, our investments in "green," "sustainability" and "sustainability-linked" bonds provide significant funding for many projects that will result in environmental improvements, which are critical to support a transition to a lower-carbon economy. Accordingly, we exclude environmental-designated bonds when calculating GHG emissions exposure to an issuer (such bonds represented about 2% of our corporate securities at year-end 2021).

Results

The table below provides information on Scope 1 and Scope 2 emissions attributable to our corporate securities portfolio, which represented less than 33% of our total investment portfolio at year-end 2021. We provide metrics calculated using both the accounting-based and risk-based attribution methods described above. In addition, we provide results by sector for the sectors that represent the substantial majority of our corporate securities portfolio's GHG emissions.

Our corporate securities portfolio is almost entirely composed of fixed income investments (99%), with public common and preferred equity representing the remainder. Most of this portfolio's emissions were Scope 1 (direct). Total Scope 1 and Scope 2 emissions declined from 3.2 million metric tons of CO₂ equivalent (tCO₂e) in 2019 to 2.4 million tCO₂e in 2021 (as measured using the enterprise-value weighted emissions attribution approach) – a reduction of approximately 24%. To account for variations in investment amounts we also calculate the carbon footprint, which represents emissions per \$1 million invested. This statistic also showed a reduction of more than 30% from 2019 to 2021 (from 125 to 86 tCO₂e/\$1 million).

Calculating emissions metrics using the risk-weighted approach yields much smaller values. For example, the 2021 risk-weighted carbon footprint was only 5.9 tCO₂e/\$1 million. Note also how this methodology results in much larger carbon footprints for the public equity segment compared to the corporate debt portfolio, reflecting – in our view appropriately – the greater risk of a company's GHG emissions borne by equity holders. Lastly, the weighted average carbon intensity of our corporate securities portfolio also declined more than 12% during this period (from 405 tCO₂e/\$1 million of revenue in 2019 to 355 tCO₂e/\$1 million of revenue in 2021).

| | Year ⁽¹⁾ | Market Value ^(2,3) (\$mm) | Market Value (% Investments) | Enterprise-Value Weighted | | | | Risk Weighted | | |
|-----------------------------------|---------------------|---|---------------------------------|------------------------------------|------------------------------------|--------------------------------------|---|--------------------------------------|--|--|
| | | | | Scope 1 (mm tCO ₂ e) | Scope 2 (mm tCO ₂ e) | Scope 1+2 (mm tCO ₂ e) | Carbon Footprint (tCO ₂ e/1mm) ⁽⁴⁾ | Scope 1+2 (mm tCO ₂ e) | Carbon Footprint (mm tCO ₂ e/1mm) ⁽⁴⁾ | WACI (mm tCO ₂ e/1mm) ⁽⁵⁾ |
| By Asset Class | | | | | | | | | | |
| Corporate Debt ⁽⁶⁾ | 2021 | 28,109 | 32.2% | 2.07 | 0.33 | 2.40 | 85 | 0.098 | 3.5 | 353 |
| | 2020 | 25,686 | 30.4% | 2.21 | 0.43 | 2.64 | 103 | 0.092 | 3.6 | 383 |
| | 2019 | 25,443 | 30.1% | 2.65 | 0.51 | 3.16 | 124 | 0.115 | 4.5 | 402 |
| Public Equity ⁽⁷⁾ | 2021 | 271 | 0.3% | 0.03 | 0.00 | 0.03 | 128 | 0.070 | 259.8 | 591 |
| | 2020 | 215 | 0.3% | 0.03 | 0.00 | 0.03 | 161 | 0.098 | 454.0 | 709 |
| | 2019 | 220 | 0.3% | 0.04 | 0.00 | 0.05 | 205 | 0.105 | 478.6 | 727 |
| Corporate Securities | 2021 | 28,380 | 32.5% | 2.10 | 0.33 | 2.43 | 86 | 0.168 | 5.9 | 355 |
| | 2020 | 25,901 | 30.7% | 2.24 | 0.43 | 2.67 | 103 | 0.189 | 7.3 | 386 |
| | 2019 | 25,663 | 30.4% | 2.69 | 0.51 | 3.21 | 125 | 0.220 | 8.6 | 405 |
| TOTAL INVESTMENTS | 2021 | 87,375 | | | | | | | | |
| | 2020 | 84,423 | | | | | | | | |
| | 2019 | 77,884 | | | | | | | | |
| Selected Corporate Sectors | | | | | | | | | | |
| Chemicals | 2021 | 897 | 1.0% | 0.13 | 0.05 | 0.19 | 208 | 0.013 | 14.8 | 690 |
| | 2020 | 774 | 0.9% | 0.13 | 0.06 | 0.18 | 245 | 0.010 | 12.3 | 668 |
| | 2019 | 807 | 0.9% | 0.16 | 0.07 | 0.23 | 281 | 0.012 | 14.6 | 637 |
| Home & Building Products | 2021 | 642 | 0.7% | 0.15 | 0.01 | 0.16 | 255 | 0.011 | 17.6 | 832 |
| | 2020 | 597 | 0.7% | 0.16 | 0.01 | 0.17 | 285 | 0.011 | 18.9 | 842 |
| | 2019 | 545 | 0.6% | 0.18 | 0.02 | 0.19 | 354 | 0.014 | 24.8 | 790 |
| Metals & Mining | 2021 | 126 | 0.1% | 0.02 | 0.02 | 0.03 | 254 | 0.002 | 16.0 | 433 |
| | 2020 | 147 | 0.2% | 0.02 | 0.02 | 0.04 | 272 | 0.003 | 18.4 | 401 |
| | 2019 | 178 | 0.2% | 0.03 | 0.03 | 0.05 | 298 | 0.004 | 24.7 | 454 |
| Oil & Gas | 2021 | 910 | 1.0% | 0.23 | 0.02 | 0.25 | 274 | 0.014 | 15.8 | 574 |
| | 2020 | 1,142 | 1.3% | 0.26 | 0.03 | 0.28 | 248 | 0.019 | 16.5 | 439 |
| | 2019 | 1,288 | 1.5% | 0.29 | 0.04 | 0.33 | 252 | 0.018 | 14.0 | 394 |
| Pipelines | 2021 | 569 | 0.7% | 0.10 | 0.03 | 0.13 | 232 | 0.004 | 7.2 | 935 |
| | 2020 | 601 | 0.7% | 0.10 | 0.03 | 0.12 | 203 | 0.007 | 11.0 | 830 |
| | 2019 | 550 | 0.6% | 0.09 | 0.03 | 0.12 | 222 | 0.007 | 12.9 | 729 |
| Regulated Utilities | 2021 | 3,729 | 4.3% | 1.29 | 0.06 | 1.35 | 362 | 0.082 | 22.1 | 1,832 |
| | 2020 | 3,422 | 3.9% | 1.36 | 0.13 | 1.49 | 434 | 0.112 | 32.6 | 2,031 |
| | 2019 | 3,157 | 3.6% | 1.70 | 0.14 | 1.84 | 583 | 0.132 | 41.7 | 2,357 |
| Transportation & Shipping | 2021 | 926 | 1.1% | 0.06 | 0.00 | 0.06 | 68 | 0.004 | 4.0 | 349 |
| | 2020 | 950 | 1.1% | 0.08 | 0.01 | 0.09 | 95 | 0.004 | 4.4 | 330 |
| | 2019 | 932 | 1.1% | 0.09 | 0.01 | 0.10 | 102 | 0.005 | 5.6 | 341 |

¹ Holdings as of year-end. Emissions, enterprise value and default-probability data as of the preceding fiscal year (e.g., we use FY2020 emissions data for 12/31/21 holdings).

² Holdings exclude Corporate Securities where emissions, enterprise value or revenue data was unavailable (\$1,927/\$2,764/\$2,706 mm for 2021/2020/2019, respectively).

³ Excluding Corporate Securities identified as green, sustainable or sustainability-linked by Bloomberg (\$747/\$283/\$227 mm for 2021/2020/2019, respectively).

⁴ Scope 1+2 emissions per \$1 mm invested.

⁵ Market value weighted average scope 1+2 emissions per \$1 mm company revenue.

⁶ Excludes foreign sub-sovereigns, CMBS, ABS, supranationals and other.

⁷ Excludes equity mutual funds, where historical emissions data was unavailable.

Figure 12.

Similar to the overall trends in our corporate securities portfolio, we observed declines in Scope 1 and Scope 2 GHG emissions and carbon footprint from 2019 to 2021 across the highlighted portfolio sectors. Within our corporate securities portfolio, regulated utilities (predominantly electric) represent the sector with the largest Scope 1 and Scope 2 GHG emissions. Our credit analysis for issuers in this sector evaluates both the issuers' current electricity generation portfolio and, importantly, future plans for reducing their carbon intensity. Given the regulated nature of these entities, these plans largely reflect the regulators' judgment with regard to balancing the dual objectives of transitioning toward green power while maintaining the availability, reliability and affordability of power in their service territory. Accordingly, although electric utilities are a carbon intensive sector, they are also an indispensable player in the over-time and responsible transition to a lower carbon economy. Our investment in these issuers provides them with the necessary funding to develop "green" and/or low-carbon electricity generating capacity. In addition – and importantly – regulated utilities have an attractive credit profile (as they provide an essential service with regulatory approval of investment return).

Important Limitations Associated with the Data

As noted above, we have attempted to quantify the GHG emissions associated with our corporate securities portfolio. However, there are some important limitations associated with the data:

- GHG emissions data reported herein is based on third-party information that is reported voluntarily and is unaudited. In addition, emissions information for about 14% of companies (by market value) in our corporate securities portfolio is based on estimates from a proprietary third-party model. Accordingly, we are unable to confirm or verify the accuracy, completeness or reliability of the emissions information included in this report. In addition, given that there are no universally agreed upon methodologies, it is likely that the GHG emissions data was calculated by different companies using different methodologies.

- GHG emissions data is reported by individual companies with a significant time lag. We are therefore required to use GHG estimates from a prior fiscal year when calculating current portfolio metrics. In addition, reported GHG emissions data is inherently backward looking and does not capture how a company's emissions might change going forward.
- Combining Scope 1 and Scope 2 emissions data results in some double counting of the same emissions. For example, Scope 1 emissions for electric utilities in our portfolio are also counted as Scope 2 emissions for other portfolio holdings that use the electricity generated by these utilities.
- The choice of attribution method used to calculate portfolio emissions (accounting-based versus risk-based) also has a significant impact on the magnitude of the overall reported emissions. We believe that using accounting-based metrics significantly overstates the transition risk that GHG emissions pose to our investment portfolio.
- Year-over-year comparisons of portfolio emissions can be impacted by market volatility. This effect can be especially pronounced for the accounting-based metric that weighs a company's emissions by its enterprise value, which is sensitive to the company's equity market value.
- Absolute GHG emissions reflect overall economic activity. In 2020, for example, global GHG emissions declined due to lower economic activity during the COVID-19 pandemic. Accordingly, portfolio metrics calculated using emissions data from 2020 may be anomalously low compared to other years and not reflective of changes in companies' carbon efficiency.

We expect to continue to track available metrics for GHG emissions related to our investments portfolio and enhance our disclosures over time. Further, we will continue to incorporate relevant ESG factors into our investment analysis and guide our investments with a thoughtful approach focused on risk-adjusted returns.

Understanding the GHG Emissions in our Underwriting Portfolio

Challenges with Measuring the GHG Emissions Associated with our Underwriting Portfolio

GHG emissions data for the vast majority of our underwriting portfolio (e.g., personal auto, personal homes, small and mid-sized businesses) is simply unavailable and, where it is available, the data quality remains uneven and unreliable. With respect to larger companies, out of the roughly 4,000 public U.S. companies in the Vanguard Total Stock Market Index, slightly more than 800 report their GHG emissions. While some of these companies are Travelers customers, they represent **approximately 0.003% of our total customers**. The annual premiums associated with these companies is \$88 million, which represents less than 0.3% of our total direct written premiums. Bloomberg has estimated the GHG emissions for an additional 2,800 public companies in the Index, some of which are Travelers customers. The annual premiums associated with these additional companies is \$229 million. **In total, companies that have self-reported their GHG emissions or with respect to which Bloomberg estimated GHG emissions represent, in the aggregate, \$316 million in annual premium, or 1% of our direct written premiums.**

Given the insignificant percentage of Travelers' total premium that this represents, coupled with the fact that the companies that disclose this data are not representative of our typical customer base of individual and small and mid-sized businesses, **this data does not serve as a credible basis to calculate the GHG emissions related to our underwriting portfolio.**

The data shortcomings described above are exacerbated by significant challenges in determining how to allocate companies' GHG emissions among the many lines of insurance coverage an individual or company may purchase. Most commercial insurance customers purchase multiple lines of coverage, including, for example, general liability, commercial auto, workers' compensation, umbrella, professional liability, cyber and employment practices liability coverages. Even small businesses tend to purchase 5 or more lines of coverage, and middle market customers sometimes purchase 10 or more lines. These lines of coverage are often purchased from several different insurance companies. Further complicating this, many large customers have multiple insurers providing the same line of coverage in order to assemble the desired total limits.

In both of these situations, it is unclear to what extent a commercial customer's GHG emissions should be attributable to each of its many insurers. Further complicating the allocation challenge is that primary insurance carriers often reinsure a portion of their underwriting portfolio, and there is no established or credible methodology to allocate the GHG emissions among the primary insurance carriers and the reinsurers.

For all of these reasons, at this time, we cannot accurately calculate the total emissions of our overall underwriting portfolio. Notwithstanding the challenges discussed in detail above, we believe that we have incorporated the relevant risks into our underwriting process. Additionally, we will continue to stay abreast of developments with respect to the availability and accuracy of the information relating to the GHG emissions of our underwriting portfolio and expect to enhance our disclosures as more relevant and accurate information becomes available.

In the meantime, the following provides an alternative view to understanding the GHG emissions associated with our underwriting portfolio.

Travelers Underwriting Exposure to the Energy Sector

As of December 31, 2021, energy industry-related insurance premiums accounted for 1.7% of Travelers total annual premium (and of that amount, only 21% related to firms directly involved with extraction). As illustrated in the graph below, the percentage of Travelers premiums generated from the energy sector has meaningfully decreased in recent years.

ENERGY – PERCENTAGE OF TOTAL TRAVELERS BOOK

(Based on Direct Written Premium)

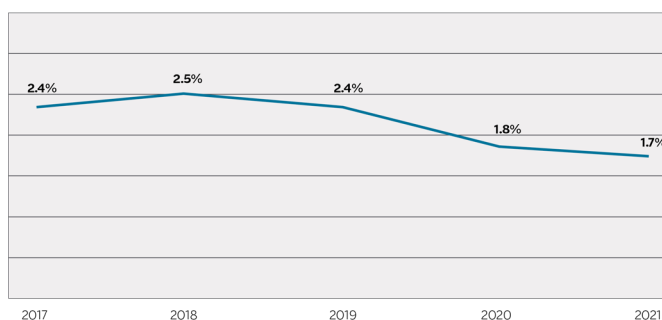


Figure 13.

Based on ISO MarketStance data and Travelers independent analysis, we estimate our share of the U.S. energy insurance market to be approximately 2%. While ISO MarketStance is the best available source to evaluate market share at industry-level granularity, we believe that it may not adequately capture the entire U.S. energy market, given that many large energy companies do not purchase traditional insurance risk transfer products.

Our energy premiums are further subdivided according to the value chain construct and market segments illustrated in the section titled [Components of the Energy Sector](#) above, as well as by insurance line. Of the 1.7% of Travelers direct written premiums, the largest segment relates to “Support Activities,” and the two biggest coverage lines are auto and workers’ compensation.

TRAVELERS ENERGY PREMIUM BY COVERAGE LINE

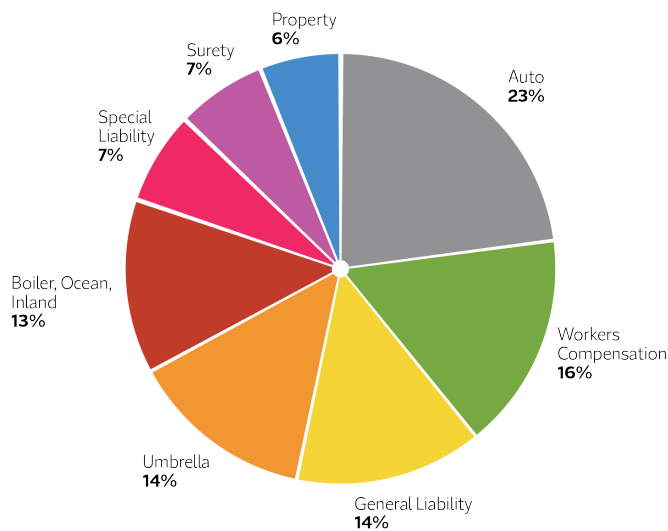


Figure 14.

Oil & Gas

The largest share of our energy-related premium is written in our Oil & Gas business. Support Activities account for the largest customer segment within our Oil & Gas business, representing approximately 71% of the premium. This customer segment is primarily composed of small and mid-sized contractors, such as plumbers, pipefitters, electricians and welders, with average annual revenues of less than \$10 million and fewer than 25 employees.

Providing insurance solutions for this segment of the market is also critically important to our company’s relationships with our agent and broker partners, as they rely on Travelers’ breadth of products to meet the needs of their diverse customer bases. Importantly, all of our top 50 Oil & Gas distribution partners sell other Travelers insurance products and services. Accordingly, failure to offer insurance solutions for one sector of the economy could significantly impair our distribution relationships and our ability to compete in the market with respect to a variety of insurance lines.

As depicted below, premiums from our Oil & Gas business currently represent 0.9% of our total premiums and have been meaningfully decreasing in recent years. As the economy continues to evolve and as Travelers continues to support the transition to a lower carbon economy over time, it is likely that these trends will continue.

O&G BUSINESS UNIT – PERCENTAGE OF TOTAL TRAVELERS BOOK

(Based on Direct Written Premium)

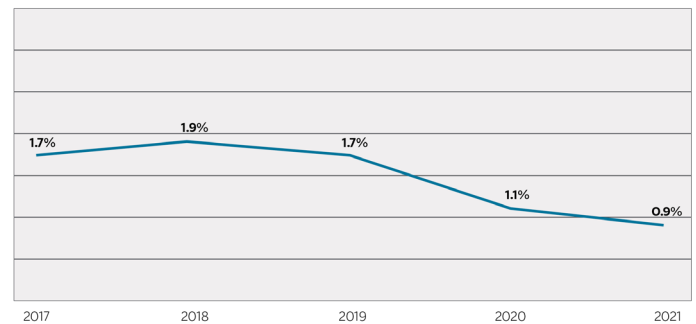


Figure 15.

Renewable Energy

As noted above, Travelers provides products, services and risk expertise to support the development of renewable energy sources and the energy transition. This includes a range of tailored insurance solutions that cover the entire life span of renewable energy businesses that invest in, develop, operate and maintain commercial and utility-scale operations – from research and development and manufacturing to permanent operations, as well as onshore and offshore wind, solar and biopower operations. Our Global Renewable Energy Practice is designed to facilitate innovation and the growth of renewable energy businesses and support the energy transition. Our Global Renewable Energy Practice also helps Travelers capture a greater share of the expanding renewable energy industry domestically and internationally, as trends toward renewable and clean energy sources continue to accelerate. Many renewable energy projects are large and complex underwriting risks, requiring significant technical expertise and detailed underwriting to ensure they meet our underwriting standards and are priced commensurate with the risks they present. In light of our deep expertise in this area, Travelers is able to deploy underwriting capacity to support important renewable energy projects including the first commercial offshore wind project in the U.S. and the first utility-scale offshore wind projects in the U.S., among others.

As illustrated in the chart below, our renewable energy business has grown significantly since 2018, when we first began collecting separate data for this segment of the energy industry.

GLOBAL RENEWABLE ENERGY CUMULATIVE REVENUE GROWTH

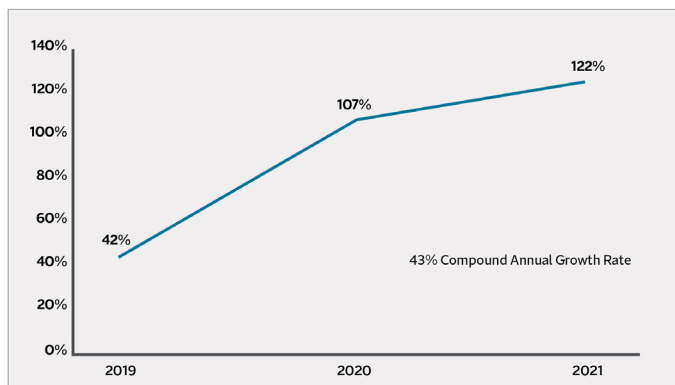


Figure 16.

We expect our renewable energy book of business to continue to grow over time and will continue to monitor the progress of this business.

Travelers Underwriting Exposure to Carbon Intensive Sectors

In its 2022 Global Insurer Survey, S&P classified Coal, Utilities, Oil & Gas and Transportation as the most carbon intensive sectors. Using the S&P classification, we have tracked our premiums over time with respect to these industries. As of December 31, 2021, the total combined premium from these industries was only 5.9% of our total premium – representing a 17% reduction over the past four years. As the economy continues to evolve and as Travelers continues to support the transition to a lower carbon economy over time, we expect these trends to continue.

The charts below illustrate the percentage of our premiums associated with each of the carbon intensive sectors identified by S&P, as well as the breakdown of this premium by insurance line.

S&P GLOBAL'S MOST CARBON INTENSIVE SECTORS PERCENTAGE OF TOTAL TRAVELERS BOOK

(Based on Direct Written Premium)

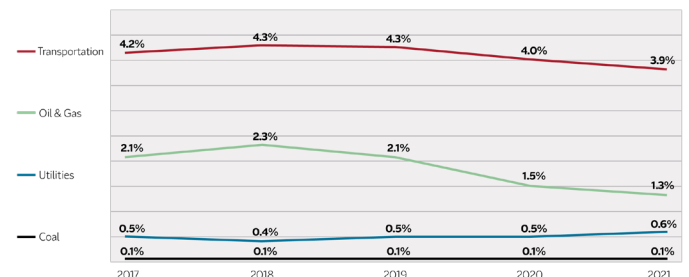


Figure 17.

**S&P GLOBAL MOST CARBON INTENSIVE SECTORS
TRV ENERGY PREMIUM BY LINE OF BUSINESS**

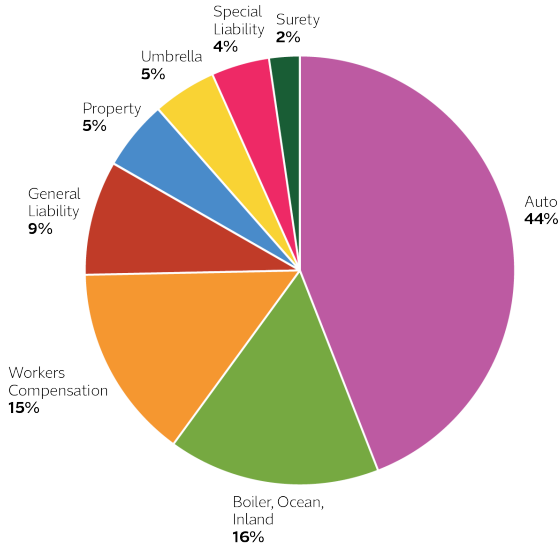


Figure 18.

Travelers Underwriting Exposure to Hybrid and Electric Vehicles

In our Personal Insurance business, we track the increase of hybrid and electric vehicles in our underwriting portfolio. While these vehicles represent a small percentage of total insured vehicles, we continue to see a notable increase in the total units insured, and the percentage that those vehicles represent among total personal vehicles in our underwriting portfolio. As depicted in the second chart below, the percentage of hybrid and electric personal vehicles in our underwriting portfolio has doubled since 2016, and we expect our hybrid and electric personal vehicle book of business to continue to grow.

NUMBER OF TRAVELERS INSURED PERSONAL AUTOS THAT ARE HYBRID AND EV

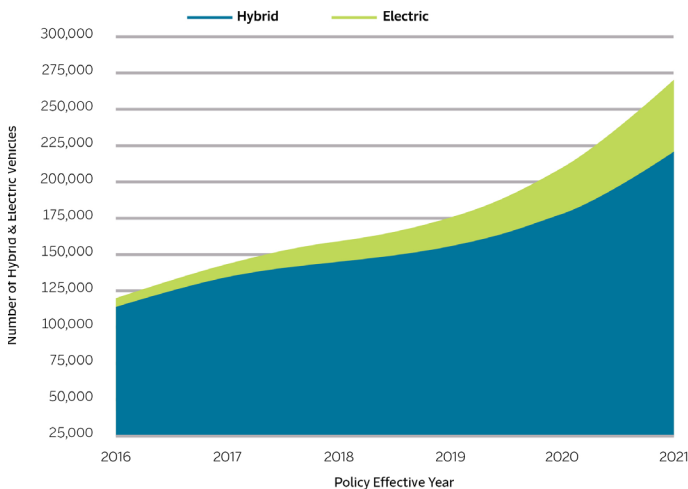


Figure 19.

PERCENTAGE OF TRAVELERS INSURED PERSONAL AUTOS THAT ARE HYBRID AND EV

(Including New Business and Renewal Business)

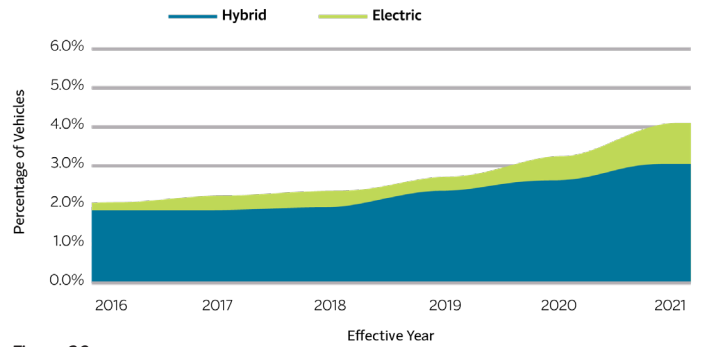


Figure 20.

Conclusion

As demonstrated above, we believe Travelers is well positioned to support the transition to a lower carbon economy over time. As always, we continue to take into account all relevant factors, including environmental factors, in both our underwriting and investment processes, and we will adjust our strategies and practices, as appropriate, as the energy market and governmental policies continue to evolve. Through our Global Renewable Energy Practice and our other products and services, we will also continue to support our clients across the energy sector, enabling their innovation and the transition to a cleaner environment. As the alternative energy market evolves in the years ahead, with new technologies and regulatory policies, there will be even more opportunity for our economy and companies like ours to evolve with it.

Important Legal Information

This report contains information about Travelers. Travelers disclaims any duty or obligation to update such information. Any “forward-looking statement” is made only as of the date such information was originally prepared by Travelers and is intended to fall within the safe harbor for forward-looking information provided in the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, may be forward-looking statements. Words such as “may,” “will,” “should,” “likely,” “anticipates,” “expects,” “intends,” “plans,” “projects,” “believes,” “estimates” and similar expressions are used to identify these forward-looking statements. These statements include, among other things, statements about our future results of operations and financial condition; our share repurchases and dividends; our strategy and competitive advantages; our strategic and operational initiatives to improve profitability and competitiveness; our new product offerings; our innovation agenda; our investment portfolio; our risk management, including climate-related risks and opportunities; our catastrophe modeling, including statements about probabilities or likelihood of exceedance; our scenario analyses; our cybersecurity, business resiliency and data privacy; our underwriting strategy; and our carbon footprint. Results may differ materially from those expressed or implied by forward-looking statements. Factors that can cause results to differ materially include those described under “Forward Looking Statements” in the Corporation’s most recent Form 10-K and Form 10-Qs filed with the Securities and Exchange Commission and linked in this report, and with respect to our scenario analyses, those factors described under “Climate Scenario Analysis With Respect to the Hurricane Peril” and “Climate Scenario Analysis With Respect to Our Investment Portfolio” in this report.

This report may contain links to other internet sites and may frame material from other internet sites. Such links or frames are not endorsements of any products or services in such sites, and no information in such site has been endorsed or approved by Travelers.

Except where noted, the information covered in this report highlights our performance and initiatives in fiscal year 2022.

The inclusion of information in this report should not be construed as a characterization regarding the materiality or financial impact of that information. For additional information about Travelers, please see our filings with the Securities and Exchange Commission, including our Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q.

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