Catastrophe and Climate

Sustainable Insurance: A Changing International and National Landscape

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Sustainable Insurance: A Changing International and National Landscape

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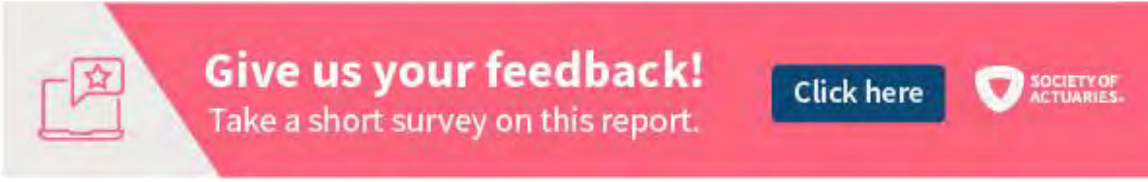

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Sustainable Insurance: A Changing International and National Landscape

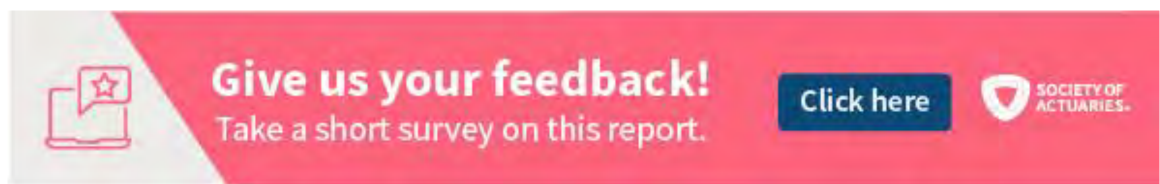
Executive Summary

We summarize some of the developments in corporate sustainability. The guiding principles of corporate sustainability are developed on the global stage, but implementation of these principles necessarily occurs at the individual company level. Our aim is to educate actuaries on the broad principles, point curious readers towards more research, and inspire actions that actuaries can take within their organizations to strengthen the long-term sustainability of the industries that actuaries serve.

Environmental, social and governance (ESG) are three factors commonly used to judge the sustainability of a business or investment. We discuss these factors, and ways in which organizations have implemented them in insurance. Many initiatives that connect insurance to sustainability occur under the auspices of the United Nations (UN), and so we next focus on the Sustainable Development Goals (SDGs) of the UN as well as writings on how to utilize them at the corporate level. We then turn to the United Nations Environment Programme, particularly the insurance-related activities of the United Nations Environment Programme-Finance Initiative. Finally, we discuss the Principles for Sustainable Insurance (PSI), the Sustainability Insurance Forum (SIF), and other related topics.

The groups we highlight consider the concerns of both developed and developing countries. Significant leadership has come from Europe, though we also highlight initiatives within the United States to embed sustainability principles into insurance markets. We further reference work from the nonprofit world to distill these principles into actionable items for the insurance and reinsurance industries.

We hope to encourage actuaries serving within North American companies and government agencies to think creatively about how their institution's work aligns with the UN Sustainable Development Goals, and how their organization can tie in to larger global efforts surrounding sustainable insurance.



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Section 1: Environmental, Social, and Governance

Environmental, social, and governance (ESG) factors describe a three-fold approach to measuring the sustainability of business. This approach considers the management and asset allocation of a company as going beyond maximizing economic returns, giving appropriate weight to costs borne by the environment and society, as well as non-economic costs borne to the firm itself. A number of precursors to the idea of ESG appeared throughout the late 20th century, including how corporate activities related to enabling apartheid in South Africa, or the rise of terms like *triple bottom line* (Elkington, 1999) and *corporate social responsibility*. These idioms grew from the increased recognition that corporate actors had wide influence over social and environmental issues, but existing accounting and management practices were inadequate for businesses to fully recognize or act on this influence. By the early 21st century, a survey from AXA (2008) showed that the term "Environmental, Social, and Governance" was the preferred term encompassing the broad goals of sustainable corporate considerations, and so we focus on this heading. Two companies from the insurance industry who have both helped to write global ESG guidelines include Swiss Re's Sustainable Business Risk Framework (Swiss Re, 2016) and Allianz's ESG Integration Framework (Allianz, 2018).

In 2019, the report Underwriting Environmental, Social, and Governance Risks in the Non-life Insurance Business (UNEP-FI 2019) was published, which links the concepts of ESGs to the insurance industry. The introduction states:

> This document is intended to provide guidance primarily to insurance industry participants with non-life insurance business, particularly industrial and commercial insurance business. It is aimed at industry participants who intend to develop their approach to integrating ESG risk considerations into their core insurance business processes and decision-making. This guide is also useful for stakeholders who might need to assess or obtain information on ESG risks from insurance industry participants, and who would like to better understand the relevance of ESG issues to the insurance business and approaches to managing them.

Development and implementation of the ESGs is strongly associated with the company Ceres, founded in the wake of the Exxon Valdez oil spill in 1989 by a group of investors and environmentalists looking for better ways to do business. Ceres (the name originates from the Coalition for Environmentally Responsible EconomieS, but is also the name of the Roman God of fertility and agriculture) is a nonprofit organization whose objective is to build in sustainability solutions throughout the economy by working with investors and companies. Ceres is a substantial organization that emphasizes leadership mobilization and sophisticated technical analysis in support of these advocacy objectives.

Insurance is a specific initiative sector for Ceres. They describe the U.S. insurance industry as "largely silent on the climate issue" and "slow to recalibrate their business and investment plans and practices to reduce their exposure to climate risks."[1] In particular, Ceres has pushed the National Association of Insurance Commissioners to respond to the results of their annual climate risk survey.

In Ceres' view, the insurance industry needs to engage better in four key areas: (1) plan for the future, not the past; (2) disclose climate risk exposure; (3) assess and manage exposure to carbon asset risk; and (4) re-align investment portfolios to capture opportunities arising from the global transition to a low carbon economy. Allstate Insurance and Prudential Insurance are Ceres partners, along with a number of large U.S. and multinational banks and investment firms.

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Section 2: The United Nations Sustainable Development Goals

In 2015, the United Nations General Assembly enacted 17 Sustainable Development Goals (SDGs) as part of UN Resolution 70/1, the 2030 Agenda for Sustainable Development. These SDGs replaced the Millennium Development Goals and are intended to be achievable by the year 2030. The goals call for global partnership among nations to recognize the interconnected nature of reducing poverty, promoting equality and human rights, growing the global economy, protecting the environment, and combating climate change.

Figure 1

THE SEVENTEEN SUSTAINABLE DEVELOPMENT GOALS. AN INTERACTIVE ONLINE TOOL ALLOWS THE READER TO PURSUE INDIVIDUAL GOALS IN GREATER DEPTH.

Figure 1 shows an infographic produced by the UN designed to summarize the goals. The seventeen goals are often grouped into five areas, termed: People (1 - 5), Planet (6, 7, 13, 14, 15), Prosperity (8, 9, 12), Peace (10, 11, 16), and Partnership (17). While each SDG is very broad and written for an audience far more general than the insurance and actuarial science sector, it is not difficult to see strong links between actuarial work and several of the SDGs. Social insurance schemes such as pensions and disability insurance clearly support anti-poverty efforts (SDG #1); availability of crop insurance helps to ensure a stable agricultural base for food production (SDG #2); and health insurance is a primary determinant of good health and well-being (SDG #3). The affordability and availability of insurance more broadly promotes risk-taking and innovation needed for economic growth (SDGs #8 and #9). And while at first glance other SDGs may seem outside the scope of the insurance industry, one need only recall that insurance underwriting helps support building codes, earthquake resistant structures, flood maps, and other programs which help ensure sustainable development in a risky world (SDGs #9, #11, etc.). Beyond underwriting, insurance

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premiums and premium discounts help incentivize risk-averse behaviors. One would be hard-pressed to find a SDG with no link whatsoever to the insurance industry.

Huber et. al. (2018) state "The SDGs also provide a framework and common language for companies to integrate sustainability information into their reporting cycles, providing more information to both investors and shareholders." The aim is to encourage reporting on business activities that touch upon one or more of the SDGs, with the intention that "what gets measured gets managed" (Drucker, 2012).

The Global Reporting Initiative (GRI) is an international standards organization focused on sustainability reporting. Seventy four percent of the world's 250 largest corporations use GRI standards to report on sustainability. Along with the GRI, a second organization teamed up to assist companies with translating the broad SDGs into actionable items for corporate reporting. This is the United Nations Global Compact (UNGC), a non-binding UN pact to promote the adoption of global standards for corporate sustainability. It describes itself as the world's largest corporate sustainability initiative with over 13,000 corporate partners spanning over 170 countries. Adding the World Business Council for Sustainable Development, these organizations jointly authored the SDG Compass. The site states, "The objective of the SDG Compass is to guide companies on how they can align their strategies as well as measure and manage their contribution to the Sustainable Development Goals." This tool comes paired with two other reports: *Business Reporting on the SDGs: An Analysis of Goals and Targets* (GRI et. al., 2015) and also *Business Reporting on the SDGs: Integrating the SDGs into Corporate Reporting, A Practical Guide* (GRI et. al. 2017). The purpose of these reports is to assist companies with translating the goals of the SDGs into possible relevant business actions. In Analysis of the Goals and Targets, a quick search for the term *insurance* yields 11 possible relevant business actions, shown in Table 3 in the Appendix.

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Section 3: The United Nations Environment Programme--Finance Initiative and Principles of Sustainable Insurance

3.1 United Nations Environment Programme – Finance Initiative (UNEP-FI)

Perhaps the most active international organization on insurance risks associated with sustainability is the United Nations Environmental Programme--Finance Initiative, known generally by its acronym UNEP-FI. UNEP-FI is linked to the larger United Nations Environmental Programme (UNEP), but their headquarters are in different locations and they have had different relationships with businesses and other non-governmental organizations (NGOs).

The United Nations governance structure is quite complex, and many different programs and UN-related institutions have links to sustainability activities. However, since its establishment by the UN General Assembly in 1972, UNEP has been the focal point for international efforts to address challenges related to environmental sustainability. While much of this paper focuses on its environmental aspects, the emergence of the Sustainable Development Goals, discussed above, highlights this interconnectedness.

As with all activities of the United Nations, state actors govern and implement UNEP's core program. Much of UNEP's work over the years has been to develop global frameworks for technical assessments of environmental conditions and to sponsor conferences on topics such as the law of the sea, sustainable development, trade in endangered species, desertification, and a wide variety of regional environmental problems. Such conferences have resulted in agreements on common actions that nations would take under their own authorities to address the problem at issue, such as the 1987 Montreal Protocol on Substances That Deplete the Ozone Layer (UNEP 2020a). Each conference marks the culmination of many months of consultations among Member States, UN experts and non-governmental representatives.

One such conference in 1992 in Rio de Janeiro (known as the Rio Earth Summit or just the Rio Conference) produced the first UN Framework Convention on Climate Change and created a Commission on Sustainable Development. Associated with this action was a UNEP Statement by Banks on the Environment and Sustainable Development and the creation of a new structure, the UNEP Banking Initiative.

The Banking Initiative was a new effort to engage the private financial sector in sustainability discussions in ways that went beyond traditional UNEP government-to-government relationships. Banks (almost all European) were explicitly engaged in the development of the 1992 UNEP Statement. The establishment of the Banking Initiative's headquarters in Geneva, instead of with the rest of UNEP in Nairobi, reflected this engagement. The Initiative also recognized the growing role of the private financial sector in promoting global economic development.

While UNEP's initial focus was on sustainable banking and investment, engagement with the insurance industry was not far behind. In 1995, consultations with the insurers led to the development of a UNEP Statement of Environmental Commitment by the Insurance Industry. The next step, in 1997, was the formation of an Insurance Industry Initiative (III, not to be confused with the Insurance Information Institute) to fund research activities, sponsor awareness meetings and workshops, and conduct annual meetings. That same year, in recognition of the need to appeal to the wider financial services sector, the 1992 UNEP Statement was redrafted to become the UNEP Statement by Financial Institutions on the Environment and Sustainable Development, and the Banking Initiative was renamed the Financial Institutions Initiative (FII).

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By 1999, UNEP-FII had started three working groups: the Climate Change Working Group; the Asset Management Working Group; and the Environmental Management and Reporting Working Group. In 2003, the UNEP-FII and the UNEP-III merged and became the UNEP Finance Initiative (UNEP-FI), which still exists today (UNEP 2020b).

A distinctive feature of the UNEP-FI is the degree of integrated engagement between UN agencies and the private financial sector. This has been particularly true of European, Asian and African financial institutions. UNEP-FI lists as members 313 separate banking, investment and insurance firms. Of the 313 listed, only 13 are from the United States. Of these, ten are investment firms and three (Citi, Beneficial State Bank and Amalgamated Bank) are banks; none are U.S. insurance companies (UNEP-FI 2020c). Worth noting is that Western European economies rely more heavily on banks to provide funds for private capital investments, while United States companies are more likely to rely more heavily on stock and bond markets, including private equity firms.

3.2 Principles for Sustainable Insurance (PSI)

Following an extensive research and consultation process, in 2012 the UNEP-FI presented a set of Principles for Sustainable Insurance (UNEP-FI 2012). These Principles are intended to serve as a global framework for the insurance industry to address environmental, social and governance risks and opportunities, and to enable the insurance industry to be a trusted player in enabling a healthy, safe, resilient and sustainable society. The Principles were endorsed by the UN Secretary-General, and have led to the largest collaborative initiative between the UN and the insurance industry—the PSI Initiative.

Table 1
THE PRINCIPLES FOR SUSTAINABLE INSURANCE

Principle #1 -- "We will embed in our decision-making environmental, social and governance issues relevant to our insurance business."
Principle #2 -- "We will work together with our clients and business partners to raise awareness of environmental, social and governance issues, manage risk and develop solutions."
Principle #3 -- "We will work together with governments, regulators and other key stakeholders to promote widespread action across society on environmental, social and governance issues."
Principle #4 -- "We will demonstrate accountability and transparency in regularly disclosing publicly our progress in implementing the Principles."

Associated with each Principle are possible actions enumerated under the headings: Company Strategy; Risk Management and Underwriting; Product and Service Development; Claims Management; Sales and Marketing; Investment Management; Clients and Suppliers; Insurers, Reinsurers and Intermediaries; Governments, Regulators and other Policymakers; and Other Key Stakeholders.

Insurance and reinsurance companies around the world can become signatories to the Principles. This involves completing an application form, endorsed by a firm's Chief Executive Officer, Chair of the Board or equivalent positions, containing statements confirming the company's approval of the Principles and agreeing to participation in the annual public disclosure process and payment of annual fees. Over 140 organizations worldwide have adopted the four Principles, including insurers representing more than 25% of world premium volume and $14 trillion in assets under management. The Principles are used as one of the criteria for ranking insurance companies in the Dow Jones Sustainability Indices and FTSE4Good.

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Signatory companies are listed online (UNEP-FI 2020). As of February 2020, the only North American Companies listed as signatories were Desjardins Insurance, Intact, TD Insurance, and The Co-operators Group, all from Canada, and Risk Management Solutions of the United States. Disclosure statements from many of the signatories are available at the link above.

Supporting institutions (institutions carrying out work relevant to the insurance industry but not insurers themselves) are also listed. As of February 2020, supporters based within the U.S. included the California Department of Insurance, Ceres, the International Insurance Society, the Multilateral Investment Guarantee Agency, Temple University Fox School of Business, The Nature Conservancy, and the Washington State Office of the Insurance Commissioner. Other supporters included the Insurance Bureau of Canada, the International Actuarial Association, the International Institute for Sustainable Development, and the University of Calgary Haskanye School of Business. The International Finance Corporation, a World Bank organization, is also a supporting institution.

3.3 Sustainable Insurance Forum (SIF)

UNEP-FI directly engaged the global insurance industry in developing the UNEP-FI Principles for Sustainable Insurance. However, government regulatory bodies that supervise the activities of the insurance industry--primarily state agencies in the United States, but mostly national agencies in other parts of the world --have become more involved through the mechanism of the Sustainable Insurance Forum (SIF).

Convened by UNEP-FI in 2016, the SIF is a network of insurance supervisors and regulators from around the world. Membership is limited to state-backed regulatory authorities. UNEP-FI serves as its Secretariat, and as of June 2019, the SIF had 25 jurisdictions as members. Twenty-two are national insurance authorities, and three are U.S. states: California, New York and Washington. The International Association of Insurance Supervisors (IAIS, 2018 and 2019) is also a member. SIF members have convened six times between December 2016 and June 2019; these are ordinarily held in conjunction with meetings of the IAIS.

The SIF's principal objective is to inform insurance supervisory agencies of the risks that insurers face from sustainability threats, notably climate change, and to increase the ability of supervisory agencies to properly oversee activities of insurers and promote the smooth and proper functioning of insurance markets in their respective jurisdictions. The results of this work can affect the requirements that such regulatory bodies place on insurers (including such things as reserve requirements and portfolio assessments).

Table 2
CURRENT WORK OF THE SIF

Surveying implementation of the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD, 2017a).
Mainstreaming climate risks in supervisory practice by developing and applying a Question Bank which supervisors can adapt for use in their own jurisdictions to strengthen examination of how regulated entities are responding to climate change risks.
Working with the Financial Stability Institute (FSI) of the Bank for International Settlements to develop an FSI Insights paper on insurance stress testing and climate change risks. The objectives of this FSI Insights Paper are to compare risk quantification requirements that insurance regulators impose on insurers in relation to climate change risks, and to review how insurance supervisors quantify such risks themselves. Publication of this paper was pending as of January 2020.

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3.4 Other Governance Initiatives

Several related efforts are underway to consider climate risks in banking and insurance underwriting. Some overlap; some are connected with UNEP initiatives more or less formally, some are governmental or quasi-governmental, and others are exclusively private sector or NGO initiatives. This is an especially important consideration for the United States, as US participation in activities of the UNEP-FI thus far has been limited. We end this section with a description of four specific efforts.

3.4.1 SECURITIES AND EXCHANGE COMMISSION (SEC)

In 2010, in response to a 2007 petition for interpretive guidance submitted by large institutional investors and other investor groups, the SEC issued guidance to publicly traded companies on their disclosure requirements related to climate change matters (SEC, 2010). In particular, this guidance speaks to the question of what potential climate-related risks are material to the operation of the business and should be publicly disclosed to investors and discussed pursuant to SEC rules governing Management's Discussion and Analysis of Financial Condition and Results of Operations, known as MD&A.

3.4.2 NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS (NAIC)

The National Association of Insurance Commissioners is an expression of U.S. federalism at work in the insurance sector. NAIC describes itself as "the U.S. standard-setting and regulatory support organization."[2] It represents an effort to promote national consistency in the face of the reality of state-based insurance regulation in the U.S. The NAIC was created and is governed by the chief insurance regulators from the 50 states, the District of Columbia and 5 U.S. territories. State insurance regulators use NAIC to establish standards and best practices, conduct peer reviews, and coordinate regulatory oversight. NAIC staff support these efforts and represent the collective views of state regulators domestically and internationally.

In 2008, the NAIC released a white paper entitled The Potential Impact of Climate Change on Insurance Regulation (NAIC, 2008). In March of 2009, the NAIC adopted a mandatory requirement that insurance companies disclose the financial risks they face from climate change to regulators, as well as actions the companies are taking to respond to those risks. The requirement specified that all insurance companies with annual premiums of $100 million or more complete an Insurer Climate Risk Disclosure Survey every year, with an initial reporting deadline of May 1, 2010. The surveys must be submitted in the state where the insurance company is domesticated. Since 2010, the surveys have been completed annually and reported to a database created by the California Insurance Department since the 2012 reporting year. California maintains a webpage where these surveys can be reviewed.[3]

In 2019, the NAIC identified climate/natural catastrophe risks and resilience as one of its top eight priorities, noting the cost of natural disasters to the U.S. economy. NAIC's Property and Casualty Insurance Committee has set up two working groups, the Catastrophe Insurance Working Group, and the Climate Risk and Resiliency Working Group.

The Catastrophe Insurance Working Group evaluates state, regional and national programs to increase capacity for (re)insurance related catastrophe perils, and monitors and assesses proposals to address disaster insurance issues at the federal and state levels. This includes assessing state efforts to foster private flood insurance and protect consumers, pressing for a long-term National Flood Insurance Program (NFIP) program and collaborating with the Federal Emergency Management Agency (FEMA) and others to close the estimated 60% gap between economic losses caused by natural disasters and those covered by insurance.

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The Climate Risk and Resiliency Working Group investigates sustainability issues and solutions such as the feasibility of public-private partnerships, financial mechanisms and mitigation measures to protect infrastructure and reduce exposure to the public. It also engages both domestically and internationally on climate-related risks and resilience.

NAIC works with both the Sustainable Insurance Forum and the International Association of Insurance Supervisors (see below). In addition, NAIC, through its Center for Insurance Policy and Research, has followed the work of the actuarial profession, including SOA, in developing the Actuaries Climate Index, an index that takes into account overall global temperature changes, sea level rise, and the frequency of extreme weather events. Still in development is an Actuaries Climate Risk Index, which may also show the impact of infrastructure development values (which can of course vary from place to place). The idea behind these indices is to give underwriters a tool that they can incorporate their assessment of overall and specific risks.

3.4.3 INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS

Established in 1994, the IAIS is a voluntary membership organization of insurance supervisors and regulators from around the world. While it is a voluntary organization, membership is limited to government organizations, such as central banks or insurance regulators and supervisors. Governance exists through a series of committees and working groups. IAIS itself is a member of other international organizations such as the Financial Stability Board (FSB), the Advisory Council of the International Accounting Standards Board, and the Access to Insurance Initiative. From the United States perspective, the NAIC is a member, as are the Federal Reserve Board and the Department of the Treasury.

IAIS members and working groups have been active in climate change discussions for many years. In 2018, the IAIS published its Issue Paper on Climate Change Risks to the Insurance Sector (IAIS, 2018). This paper was a cooperative product with the Sustainable Insurance Forum and is an extensive review of global practice on considering climate risk in underwriting policies. The paper argues that those who oversee insurance companies should connect climate change with their core mandate of ensuring the safety and soundness of firms and the insurance sector as a whole, and presents examples from around the world. In particular, the paper includes case studies of activities in Australia, Europe, and the United States. The paper notes the variation in insurance practices among different states and singles out the leading role of California (IAIS 2018).

3.4.4 FINANCIAL STABILITY BOARD/TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

The Financial Stability Board (FSB) originated in 1999 as an initiative of the Group of Seven finance ministers and central bank governors of the major industrial nations, and subsequently expanded under the auspices of the Group of 20. United States institutional members are the Department of the Treasury, the Board of Governors of the Federal Reserve System, and the Securities and Exchange Commission. As a convening of national authorities responsible for financial stability in significant international financial centers, the FSB coordinates national financial authorities and international standard-setting bodies in developing strong regulatory, supervisory and other financial sector policies. These include sector-specific international groupings of regulators and supervisors engaged in developing standards and codes of good practice; international financial institutions charged with surveillance of domestic and international financial systems and monitoring and fostering implementation of standards; and committees of central bank experts concerned with market infrastructure and functioning.

In 2015, Mark Carney, the Chair of the FSB and at that time Governor of the Bank of England, announced the intent of the FSB to recommend to the G20 “that more be done to develop consistent, comparable,

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reliable and clear disclosure around the carbon intensity of different assets."[4] The recommendation led to the creation of an international Task Force on Climate-Related Financial Disclosures (TCFD), consisting of large private sector insurance and investment firms ("users") along with representatives of companies who generate such data ("data preparers") such as major industrial companies. The current chair of the TCFD is Michael Bloomberg. The TCFD has engaged with large U.S. investment firms such as BlackRock and JP Morgan Chase, along with insurance and reinsurance firms such as Barclay's and SwissRe.

The TCFD, as an initiative of the financial industry, sees its work as complementary to initiatives of the NGO community in promoting transparency and framing climate risk. This responds to what Chair Carney described as "the tragedy of the horizon"[5], a recognition that markets have difficulty dealing with impacts of climate change that will be felt beyond the traditional horizons of most actors and impose costs on future generations that the current generation has no direct incentive to fix. Carney noted, "The horizon for monetary policy extends out to 2-3 years. For financial stability, it is a bit longer, but typically only to the outer boundaries of the credit cycle – about a decade. In other words, once climate change becomes a defining issue for financial stability, it may already be too late."[6]

Since 2015, the TCFD has published a set of recommendations on identifying the information needed by investors, lenders, and insurance underwriters to appropriately assess and price climate-related risks and opportunities. Along with these recommendations, the TCFD has published status reports on the implementation of these recommendations around the world and a technical supplement entitled The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities (TCFD 2017b). In addition, the Society of Actuaries has a paper specifically relating the TCFD to the actuarial procession (Gutterman et. al., 2020).

3.4.5 PRINCIPLES FOR RESPONSIBLE INVESTING

In recent years, there has been substantial interest in the financial community in promoting the concept of sustainable investing. In the past, the investment community viewed sustainability as essentially a form of philanthropy, believing that investments based on sustainability principles would carry a financial penalty when compared to returns from investments tied to standard market indicators such as the S&P 500 index or the Financial Times Stock Exchange 100 Index (FTSE 100).

The underlying basis for this new interest has been increasing evidence in recent years that not only is there no penalty on returns from investments in companies that rank highly on various indicators of sustainability, but that in fact such companies have been outperforming the standard indicators.[7]

Sustainable investing has multiple dimensions, but there are two broad directions, roughly corresponding to divestment and investment strategies. The first direction is to divest from companies that have poor environmental or social records; the second is to invest affirmatively in companies that show promise in addressing challenges such as reducing the carbon footprint of the energy, transportation, agricultural, manufacturing, or built environment sectors. Both directions call attention to risk factors such as stranded assets, loss of market share to innovation, and loss of reputational value.

Both the environmental and social aspects of sustainability have attracted increased attention, reflecting the impact of the UN Sustainable Development Goals discussed earlier in this paper, and a vast array of public and private sector initiatives have emerged. An early one was the Principles for Responsible Investing (PRI), launched in 2005 by a group of mostly European investment firms in coordination with UNEP-FI and the UN Global Compact, both of which have seats on the PRI's governing board. The PRI members adopted a set of six principles that are similar to those of the Principles of Sustainable

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Insurance.[8] The PRI's mission is based on the belief "that an economically efficient, sustainable global financial system is a necessity for long-term value creation", and seeks to encourage adoption of the Principles and collaboration on their implementation.[9] The PRI hosts a wide variety of conferences and podcasts aimed at this mission, and has been especially active on the social and corporate governance aspects of sustainability.

3.4.6 REPORTING AND DISCLOSURE

Sustainable investment initiatives depend on metrics to judge the relative performance of companies in achieving sustainability goals. However, these metrics are meaningless without reputable standards for how information is collected.

Since 2000, there have been many efforts to address this. For example, with respect to carbon, there are domestic governmental structures, such as the Greenhouse Gas Reporting Program (GHGRP) required by the U.S. EPA since 2009. The regulatory provisions of the GHGRP, found at 40 CFR 98, govern greenhouse gas reporting from applicable industrial categories. There are also United Nations programs (specifically, reports developed in accordance with the 1992 Framework Convention on Climate Change).

An early proliferation of reporting frameworks led to confusion and incommensurability among them. To address this problem, especially in European, Asian and African countries and in contrast to the regulatory approach adopted in the United States, a variety of private initiatives have taken on the challenge of developing more coordinated, reliable and consistent methods of measuring and reporting corporate performance in reducing greenhouse gases. The various initiatives are interrelated and involve a substantial amount of networking among the different groups.

A significant private initiative is the Carbon Disclosure Project (CDP), a global non-profit organization with an international board and supported by a variety of philanthropic, governmental and service- based funding streams. The CDP receives reports on greenhouse gas emission from global corporations in over 90 countries, on behalf of over 515 institutional investor signatories, and compiles this data for a variety of governmental and nongovernmental partners. The CDP has close connections with the TCFD discussed earlier in this paper.

The CDP provides secretariat support to the Climate Disclosure Standards Board (CDSB), a non-profit organization launched in 2007 at the annual meeting of the World Economic Forum to develop a global mainstream corporate reporting model. The CDSB consists of nine business and environmental NGOs that seek to advance and align global mainstream corporate reporting models and to equate natural capital with financial capital, using rigorous frameworks for reporting environmental information similar to those required for financial information.

In addition to carbon, a related non-profit organization, the Sustainability Accounting Standards Board (SASB), was established in 2011 as a standard-setting body concerned with the larger universe of environmental and social sustainability information that could be of material interest to investors. SASB standards are evidence based, developed with broad market participation, and are designed to be cost-effective for companies and decision-useful for investors. All of these organizations have relationships with the Global Reporting Initiative (GRI) discussed earlier in this paper, and all maintain active websites and sponsor regular meetings, webinars and special studies concerning information for investors on the sustainability performance of various firms.

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Section 4: Responses from the Insurance Industry and the Road Ahead

Given the political climate in the United States and the prominence of states in American insurance regulation, it is perhaps not surprising that U.S. insurers have been less vocal than their European counterparts in speaking out about the material risks of a changing climate for the insurance industry. As noted earlier, there are exceptions to this, especially in American firms with strong ties to New York or California insurance regulators, but there are many other states in the U.S. where partisan views on climate have affected the language and tone of dialogue on this topic. In contrast, European insurance and reinsurance firms have been more active in recognizing and accounting for climate risks. There is evidence that this dynamic may be shifting. Partly this is a result of the increased losses from climate-related risks, and partly this is a result of a growing interest in sustainability more broadly within the U.S.

While no single storm or wildfire can be necessarily tracked directly to a changed climate, the shifting probabilities -- a new normal, as it were -- are increasingly apparent and bear out the predictions climate scientists made decades ago. This has not escaped the notice of financial stakeholders. The U.S. government-sponsored National Flood Insurance Program remains in operation on a year-to-year basis and, while retaining bipartisan political support for the present, its continuing deficits will inevitably raise the question of whether such subsidies are equitable and sustainable. The Central Banks and Supervisors Network for Greening the Financial System, an international group of institutions aiming to address global warming, said in June that as much as 25% of the world's gross domestic product could be wiped out by losses from physical damage alone by 2100 if there is no further action on climate change.[10] It is not surprising that a principal source of trade press reporting on climate and the environment is Bloomberg News, which started as an organization reporting on financial markets. The impact of these extreme, now increasingly “normal” weather events may be overcoming ideological predispositions. Public opinion is shifting on climate concerns, and as a new millennial generation takes its place as a dominant force in political dialogue, this trend seems likely to continue.

Beyond climate, the issue of social sustainability looms large. The recent COVID-19 pandemic has illustrated, yet again, chronic structural issues of disparate impact and inequality that are particular challenges for the United States. A fuller exploration of this topic is beyond the scope of this paper, and it is hard to predict which changes in behavior triggered by the pandemic will endure. On the one hand, the reduction in carbon emissions from the transportation sector during the pandemic has been significant, and combined with increasing use of renewables, technological innovation, closure of inefficient and expensive coal-fired electric power generation, and business pressures for efficiency, this offers some hope that even ambitious goals for moving these sectors towards a carbon-neutral framework can be achieved. On the other hand, the distributional benefits of these efficiencies are not widely shared, and without additional investment in education and connectivity infrastructure for underserved communities, there remains significant risk that inequities can impede progress toward a more sustainable and just society. How these trends will develop is unknown, although there is hope that a strong social concern for sustainability will remain throughout.

While the themes described in this paper are far-reaching and broad, we have included some industry-focused and insurance-specific papers to help actuaries address the pressing question “what should we do at our company?” Many of these sustainable guidelines are being written now, as interested parties gather and seek ways to strengthen the resilience of the insurance industry. Greater representation from the actuarial community would be a testament to the actuarial profession, and a benefit to the entire global insurance industry.

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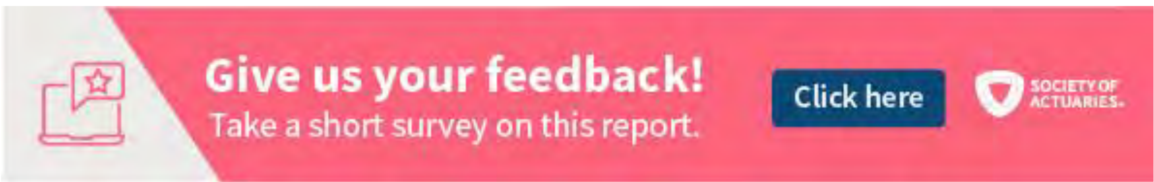

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Appendix A: Business Reporting on the SDGs

Table 3

THE 11 POSSIBLE RELEVANT BUSINESS ACTIONS ASSOCIATED WITH THE SEARCH TERM "INSURANCE" INCLUDED IN THE REPORT BUSINESS REPORTING ON THE SDGS: AN ANALYSIS OF GOALS AND TARGETS

SDG	Target	Possible Relevant Business Action
#1 No Poverty	Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.	Offering insurance to employees and their families, such as life insurance or accident insurance, as well as employee benefits (including but not limited to medical care, sickness benefits, unemployment benefits, old-age benefits, employment injury benefits, family benefits, maternity benefits, invalidity benefits and survivors' benefit/death benefit for family) – complementing, and not substituting or undermining the role of the public sector.
#1 No Poverty	By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.	Helping to strengthen the resilience of employees, communities and suppliers by paying at a minimum the living wage and offering insurance to employees and their families, such as accident insurance; and by paying fair prices to all suppliers, particularly MSMEs and smallholders, for their products and services, taking into account the poverty lines.
#2 Zero Hunger	By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous people, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.	Possible Gap -- Access to appropriate and affordable financial services for smallholder farmers, including micro-insurance.
#3 Good Health and Well-Being	By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.	Providing accessible and affordable health-care options, including insurance covering family planning, to employees and their families, as complements to rather than substitutes for government action.
#3 Good Health and Well-Being	By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-five mortality to at least as low as 25 per 1,000 live births.	Providing accessible and affordable health-care options, including insurance, to employees and their families, as complements to rather than substitutes for government action.
#3 Good Health and Well-Being	By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs.	Supporting employees' access to adequate and affordable sexual and reproductive health-care services, including ensuring these are covered in any other health related service or insurance coverage.
#3 Good Health and Well-Being	Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and	Supporting government efforts to achieving universal health coverage. Providing accessible and affordable health-care options, including insurance, to employees and their families, as complements to rather than substitutes for government action. This

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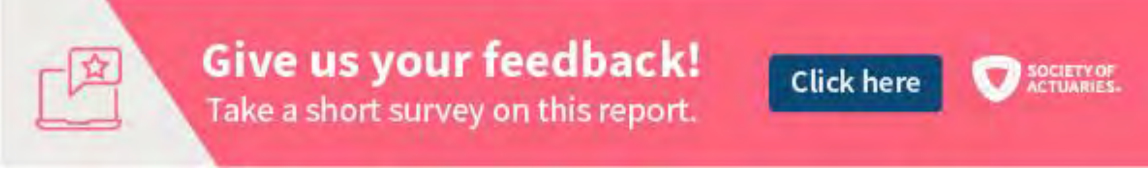
	affordable essential medicines and vaccines for all.	could also include health related benefits such as life insurance and disability and invalidity coverage.
#5 Gender Equality	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.	Offering insurance to employees and their families as well as employee benefits (including but not limited to medical care, sickness benefits, unemployment benefits, old-age benefits, employment injury benefits, family benefits, maternity benefits, invalidity benefits and survivors' benefit/death benefit for family) – complementing, rather than substituting or undermining the role of the public sector.
#8 Decent Work and Economic Growth	Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.	Facilitating access to financial services, including insurance, by providing schemes to employees, for example as part of their employment contract.
#10 Reduced Inequalities	By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.	Supporting the right to social securities through providing insurance for employees such as income protection, life or accident insurance and social security.
#10 Reduced Inequalities	Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.	Paying at a minimum the living wage and providing insurance for employees, such as income protection, life or accident insurance and social security.



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