



Statement on Climate Change

I. Introduction

The Hartford Financial Services Group recognizes the clear consensus in the scientific community that climate change is of real and increasing concern. As an insurer, investor, employer, property owner and responsible corporate citizen, The Hartford is committed to understanding, managing and mitigating the risks associated with climate change.

In July 2007, The Hartford convened a standing committee on environmental stewardship, composed of executives with a wide range of responsibilities and perspectives, including enterprise risk management, applied research & product development, actuarial and underwriting, corporate finance, workplace resources, law and government affairs. In accordance with the committee's charter, the Environment Committee is responsible for: promoting company activities that reduce The Hartford's impact on the environment; ensuring that the annual response to the CDP is accurate; offering advice and direction on all company environmental efforts; and ensuring that all meaningful opportunities to improve the environment and engage our employees are discussed within the Committee. The Committee serves as the senior forum within the company for coordination and promotion of environmental activities. The following discussion examines The Hartford's current views concerning the science of climate change and public policy, the effect climate change may have on our company, and steps The Hartford is taking in response. This statement, in conjunction with The Hartford's annual submissions to CDP (formerly the Carbon Disclosure Project), describes the steps The Hartford has taken to address climate change.

II. The Reality of Climate Change

While The Hartford cannot claim to be an authority on the science of climate change, or to endorse independently any specific publications on the science of climate change, The Hartford monitors the scientific literature with great interest. The most recent and comprehensive demonstration of the growing scientific consensus concerning the existence, causes and potential consequences of climate change can be found in the recently-published Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). The Report indicates that global mean surface temperatures have been increasing, with an approximately 0.60°C increase over the 1951-2010 timeframe, and that greenhouse gas (GHG) emissions such as carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) have been driving this increase¹.

III. The Forecasted Consequences of Climate Change

Climate models indicate that rising temperatures will likely result in rising sea levels over the decades to come. On a regional level, the projected effects of climate change are also concerning. As a U.S. property-casualty insurance company, The Hartford takes particular note of the following forecast changes in North America:

- Research indicates that over the next several decades, most of North America will experience an increase in the number of extreme hot days and a reduction in the number of extreme cold days¹. Extreme weather events such as abnormally high temperatures have many impacts on the insurance industry. While warming may mitigate winter storm and winter freeze losses in some regions, warmer temperatures will allow for melting and re-freezing in other regions which leads to ice damage.
- Research also indicates that it is very likely that future heat waves' duration, frequency, and intensity will increase over most land areas, especially the western and southern U.S., as the climate continues to warm². Although property losses from heat wave events tend to be minor, business interruption losses and health/life loss would be of concern.
- Precipitation patterns across the U.S. are projected to change. While northern states are expected to experience more precipitation, the southern states, particularly the southwest, are expected to become drier³. Additionally, residual moisture left from land-falling hurricanes is expected to increase the amount of winter precipitation over the U.S. coastline¹. Some regions may see a shift from snow to rain as the earth warms, while other regions may see an increase in snow resulting from more water vapor in the atmosphere¹. If realized, the natural implications of these trends include an increase in flash flood risk across the United States, an increase in forest fire risk in the southwest and southeast United States, and the potential for population migration away from increasingly arid regions in the southwest to escape severe drought conditions.
- Current data suggests that the frequency of tropical cyclones in the North Atlantic Basin have not increased over the past century¹. However, there is high confidence that the frequency of the strongest tropical cyclones (category 4 and 5 hurricanes) have increased since 1970¹. Additionally, as the ocean warms, there is potential for a longer tropical cyclone season that will start earlier and end later¹. While the impact of global warming on the frequency and severity of tropical cyclones is a hotly debated and largely unresolved issue, the prospect of increasingly intense cyclone activity is of great concern.
- Extra-tropical storm tracks are projected to move poleward, with consequent changes in wind, precipitation, and temperature patterns - continuing a trend observed over the past half century.
- Scientists project that sea levels will rise anywhere from 0.26 – 0.81 m (10 – 32 in) by the end of the century¹. Higher sea levels are associated with increased coastal flood frequency and severity from tropical cyclones/hurricanes and tsunami events⁴. Storm losses, particularly in areas with growing coastal populations, are a great concern.

While the forecasts considered above serve as powerful illustrations of the range of the potential consequences of climate change, it is important to keep in mind the tremendous uncertainty underlying the forecasts. In light of such uncertainty, the findings must be considered as indicative findings, not matters of fact. Because effective insurance pooling requires that the underlying risks are finite and well understood, however, such uncertainty is itself of great significance to the insurance industry.

IV. Implications for Public Policy

The foregoing review of the developing science of climate change points to several key implications from a public policy perspective:

- **Flood Insurance:** The risk of flooding, both flash floods from heavy precipitation events and storm surge from tropical cyclones, will continue to be a difficult risk to understand and insure - placing even more emphasis on federal flood insurance policy and programs.
- **Coastal Land Use Planning and Building Standards:** The Hartford is concerned with the trends in hurricane activity, as discussed above. The Hartford is equally concerned, however, with non-storm factors that may determine the actual losses from hurricane events. Research has consistently demonstrated that the principal factor underlying the rapid increase in economic and insurance losses from hurricanes continues to be the build-up of population and property values

in hurricane exposed areas of the country. Consequently, land use planning, building code standards and building code enforcement will be of critical importance to protect life and property from cyclones.

- Land Use Planning & Forest Management: Forest management and land use planning may take on new significance with respect to fire risks if the risk of wild fires continues to increase in the Southwest and Southeast.
- Price Flexibility: To ensure that individual decision-making properly reflects risks to the policyholder and to society, it will become increasingly important that regulators recognize the insurance industry's need to set prices on the basis of (i) the actuarial costs of the insurance, (ii) the risk associated with coverage provided and (iii) the uncertainty surrounding an insurance company's knowledge of the underlying risk. Absent this fair-market pricing, the uncertainty created by climate change may lead to a contraction in coverage.
- Support for Climate Change Science: Finally, there is a continued need for scientific research to support informed decision-making on all issues related to climate change.

V. Investment and Risk

The foregoing discussion has focused primarily on the climate change-related risks to which The Hartford is exposed through the sale of insurance products. As a diversified financial services company, The Hartford is exposed to both climate change-related risks and opportunities in its capacity as an investor.

The Hartford's general account investment portfolio holds predominantly fixed-income assets. Therefore, its primary risks are credit-related: corporate and sovereign debt obligations, commercial real estate mortgage loans, and a variety of other fixed-income securities. Nonetheless, the global and regional consequences of climate change play a role in our evaluation of the creditworthiness of specific issuers and industries. Risk (and opportunity) factors include the following:

- Changes in regulatory regimes (e.g., emissions controls, technology mandates);
- Changes in supply/demand characteristics for fuel (e.g., coal, oil, natural gas);
- Advances in low-carbon technology and renewable energy development; and
- Effects of extreme weather events on the physical and operational exposure of industries and issuers.

Such risk factors may influence investment strategies and decisions in a variety of ways. As noted, government regulation may have negative or positive consequences for certain industries. For example, increasingly stringent regulation on stack emissions of coal-fired technologies will increase the costs of existing technologies and affect coal economics. More generally, government legislation directed at polluting industries must be scrutinized for the impact on each industry's economics. As polluting industries become more expensive to finance, other low-carbon and renewable energy sources are expected to benefit from increased demand and potential government subsidies.

Climate change may have a direct impact on certain investments. For example, commercial real estate in certain locations may become less desirable due to climate change effects (e.g., rising sea levels, increased hurricane severity), negatively affecting a property's value as collateral for a commercial mortgage loan. Similarly, climate changes of a regional nature can influence the inflation outlook and/or creditworthiness of specific emerging market issuers (e.g., reduction in rainfall can cause food prices to rise, increasing inflation).

Finally, The Hartford recognizes that the combination of consumer demand, legislative and regulatory activity and technological advancement may create substantial opportunities to promote environmentally responsible activity while at the same time enhancing value for The Hartford's shareholders.

VI. The Hartford as Emitter and as Advocate

Although The Hartford is not a significant direct emitter of greenhouse gases [GHGs], The Hartford recognizes that the reduction of GHG emissions is everyone's responsibility. The Hartford takes that responsibility seriously, and the reduction of GHG emissions, paper usage and electronic waste are key Hartford objectives. The Hartford believes that responsible and innovative approaches to energy efficiency will help to reduce operational costs over the long term and establish The Hartford as an insurer and employer of choice.

The Hartford has undertaken an aggressive multi-year effort to promote energy efficiency, reduce waste and emissions and their associated costs. These include the following:

- The Hartford has established and met two greenhouse gas emissions goals. Overall, by the end of 2012, the Company reduced its GHG emissions by 42% from its original 2007 base year.
- The Hartford reported its GHG emissions for every calendar year since 2004 to CDP (formerly the Carbon Disclosure Project) The Hartford also is pursuing an expansive, multi-year paper reduction effort and it follows a policy that ensures that none of its electronics go to landfill.

In addition to managing its own GHG emissions, which are relatively small as indicated above, The Hartford further recognizes the role that all public companies may play as advocates for sound and responsible public policy. The Hartford has acted as a public advocate individually and through its membership in the American Insurance Association (AIA).

We advocate for risk-based pricing, growth management and climate adaptation. We believe that the insurance mechanism can play a vital role in making informed land use decisions if the mechanism is allowed to function. Proper pricing will send appropriate risk signals to the most vulnerable areas. Beyond pricing, we work with AIA to advocate for land use planning and building codes that reflect risk exposure. Though efforts such offering work from home and remote worker options to many employees, installation of electric vehicle charging stations at three of our Connecticut facilities, participation in the U.S. Department of Energy's Workplace Charging Station Challenge, offering premium discounts for hybrid and electric vehicles, converting 15 percent of the company's vehicle fleet to hybrids starting in 2013, and holding an annual "Alternative Commuter Challenge" for our employees, we support alternative modes of commuting that play a role in reducing greenhouse gas emissions.

VII. Corporate Governance: Accountability at The Hartford

At the Executive level, ultimate responsibility for development and oversight of the Company's policy on environmental stewardship rests with the Office of the General Counsel. The General Counsel, through staff and in concert with representatives from the Company's underwriting, research, enterprise risk management and operations management departments, is responsible for periodically reporting to the Company's Executive Leadership Team and the Nominating and Corporate Governance Committee of the Board on the Company's progress and status regarding climate change.

VIII. Opportunities

Even as climate change poses risk, increased knowledge and understanding of climate change may give rise to a number of opportunities for The Hartford. Greater understanding of the climate change mechanism will lead to more sensitive pricing capability, allowing The Hartford to more effectively match risk to price. In addition, greater understanding and public recognition of climate change may both (a) increase the demand for our insurance products and the willingness to meet our pricing terms and conditions and (b) create opportunities for The Hartford to bring a wider variety of insurance products to market to meet customer needs.

As additional information is developed pointing to increased frequency and severity of weather-related catastrophes, we expect to see more public policy attention paid to such risk mitigation techniques as better land use planning, improved building codes and more rigid enforcement combined with eliminating subsidies and other incentives that promote development in areas most exposed to natural disasters. The Hartford sees an opportunity in establishing itself as a recognized leader in the assessment and management of climate change-related risks.

As a variety of sectors seek to respond to the challenges and opportunities of climate change - for example, through the generation of renewable energy or through the provision of climate-related risk mitigation services - The Hartford may also benefit from these investment opportunities.

Finally, The Hartford sees opportunity in establishing itself as an employer and insurer of choice by demonstrating its commitment to responsible energy use and management and GHG reduction. The Hartford values its reputation as a responsible corporate citizen and will strive to preserve and enhance that reputation in the area of environmental stewardship.

IX. Conclusion

The Hartford Financial Services Group is an evaluator, underwriter and manager of risk. The evaluation of risk is fundamental to The Hartford's ability (a) to ensure that the price of our insurance products reflect the true cost of risk, providing appropriate signals and incentives to policyholders to manage their overall risk exposure (and hence the risk exposure to society), and (b) to ensure that The Hartford delivers strong risk-adjusted returns, while at all times being prepared to honor our obligations to policyholders should widespread claims occur. Consequently, The Hartford will continuously seek to advance its understanding of climate change as a risk factor that may influence the frequency and severity of natural disasters and other weather-related losses.

While The Hartford approaches the issue of climate change, first and foremost, as an underwriter and manager of risk, The Hartford also views climate change from a variety of additional perspectives - not only as insurer, but as investor, employer, property owner and responsible corporate citizen. In responding to the challenge of climate change, therefore, The Hartford embraces the following three commitments:

- First, The Hartford will strongly advocate for better land use planning, in both coastal and non-coastal areas, improved building codes with more rigid enforcement, and the elimination of subsidies and other incentives that promote development in areas most exposed to natural disasters.
- Second, recognizing that all forms of change present both risks and opportunities for leadership, The Hartford will continue to develop products and make investment decisions that promote environmentally responsible activity while enhancing The Hartford's competitive position.

- Third and finally, understanding that energy conservation is a vital goal, and is a responsibility to be taken seriously and shared by all, The Hartford will continue to take measures to reduce its own energy consumption and encourage others to do likewise.

January, 2014.

This statement on climate change updates The Hartford's original 2007 statement on climate change. It takes into account the results of the Fifth Assessment of the International Panel on Climate Change.

¹ IPCC, 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T. F., D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P. M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, in press.

² Schellnhuber, Hans Joachim, William Hare, Olivia Serdeczny, Sophie Adams, Dim Coumou, Katja Frieler, Maria Martin, Ilona M. Otto, Mahé Perrette, Alexander Robinson, Marcia Rocha, Michiel Schaeffer, Jacob Schewe, Xiaoxi Wang, and Lila Warszawski. "Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided." Editorial. The World Bank, 2012. Web. 3 Dec. 2013.

³ Monitoring and Understanding Changes in Heat Waves, Cold Waves, Floods, and Droughts in the United States: State of Knowledge. Thomas C. Peterson, Richard R. Heim Jr., Robert Hirsch, Dale P. Kaiser, Harold Brooks, Noah S. Diffenbaugh, Randall M. Dole, Jason P. Giovannetone, Kristen Guirguis, Thomas R. Karl, Richard W. Katz, Kenneth Kunkel, Dennis Lettenmaier, Gregory J. McCabe, Christopher J. Paciorek, Karen R. Ryberg, Siegfried Schubert, Viviane B. S. Silva, Brooke C. Stewart, Aldo V. Vecchia, Gabriele Villarini, Russell S. Vose, John Walsh, Michael Wehner, David Wolock, Klaus Wolter, Connie A. Woodhouse, and Donald Wuebbles. Bulletin of the American Meteorological Society

⁴ Reichenmille, Patrick, Andreas Spiegel, David Bresch, and Reto Schnarwiler. "Weathering Climate Change: Insurance Solutions for More Resilient Communities." Ed. Esther Baur. Swiss Re Media Production Zurich (2013): n. pag. 2013. Web. 3 Dec. 2013.