



# **Climate Change: Fact vs. Fiction and Implications for Our Business**

Rita Zona, ACAS, MAAA

Deloitte Consulting LLP

CAS Annual Meeting – November, 2009

# Contents

---

Insurance Industry and Climate Change Page 3

---

CAS Committee on Climate Change Page 4

---

Importance to Insurers Page 6

---

CERES Report Page 10

---

Carbon Disclosure Project Page 12

---

Closing Page 17

---

# The Insurance Industry and Climate Change

---

**“No-one knows how quickly climate change will happen or how severe the consequences will be. Companies must therefore build a strategy towards climate change into their planning and review their thinking regularly.”**

**Lloyds 360° Risk Insight, Climate Change and Security, April 2009**

**“As an insurer, investor, employer, property owner and responsible corporate citizen, The Hartford is committed to understanding, managing and mitigating the risks associated with global climate change.”**

**The Hartford Financial Services Group  
Statement on Climate Change  
Company Website, Accessed November 2009**

**“Disclosure of climate change risks is important because of the potential impact of climate change on insurer solvency and insurance availability/affordability across all major categories of insurance: property casualty, life and health.”**

**National Assoc. of Ins. Commissioners  
Insurer Climate Risk Survey, March 2009**

**“With a fundamental role in assisting individuals and businesses to manage risk, it is prudent for the insurance industry to acknowledge the changing climate as well as the risks it poses to all areas of its business.”**

**Reinsurance Association of America  
Climate Change Policy  
RAA Website, Accessed November 2009**

# CAS Committee on Climate Change

---

## Background

- Task force on climate change was formed by CAS in second half of 2008
  - Determine if a standing committee was warranted
  - Outline the scope and focus for its research and development, if such a committee were to be formed
- CAS quickly established a standing committee in January 2009
- Joined forces to include representatives from SOA and CIA
  - Climate change affects all three actuarial organizations
  - Pooled talent and resources to perform research and development work

## Goal

- Recommend, support, and perform research on climate change and assess the potential risk management implications for the insurance industry

# CAS Committee on Climate Change

---

## Key areas of potential focus

- Identify future climate scenarios and explore implications for our profession
  - Insurance products/services, reserving practices, contingency planning, and corporate strategy
- Have a significant role in climate change modeling
  - Model development, assumptions, uncertainty, sensitivity, robustness, appropriate application, and interpretation of results
- Understand reporting and disclosure requirements
- Address public relations and policy issues that arise from climate change
  - Recommend position of CAS and how to work with other actuarial organizations around the world
- Educate our membership
  - Facilitate background training for our membership to understand issues and implications

## Work underway

- Initial development of a climate change index
- Student outreach to promote understanding of climate change issues
- Webinars and other training

**Importance to Insurers – Increased  
Exposure to Loss**

# Importance to Insurers – Increased Exposure to Loss

---

- An increase in hot days and heat waves
- Intense precipitation leading to flooding, mudslides, etc.
- Wildfire frequency and severity
- Crop failure
- Coastal erosion from rising sea levels
- Increased hurricane peak wind intensities, precipitation intensities, and storm duration

**Will directly affect Property, Flood, Crop, Vehicle, Life and Health Insurance**

# Importance to Insurers – Increased Exposure to Loss

---

- Infectious diseases
- Heat stress
- Respiratory and coronary disease
- Waterborne diseases
- Food poisoning
- Post-event mental health problems
- Malnutrition and water shortages in developing countries

**Will directly affect Life Insurance and Health Insurance**



# Importance to Insurers – Increased Exposure to Loss

---

- Product liability for materials or products that contribute to the greenhouse effect
- Environmental liability for emitters of greenhouse gases or consequences associated with mold or other physical effects of climate change
- Disruptions in supply chains, transportation, and communications
- Failure to safeguard shareholder value from the consequences of climate change

**Will affect Product Liability, Environmental Liability, Business interruption Insurance, and Directors and Officers Liability**

# CERES Report

# CERES Report

---

## From Risk to Opportunity: 2008 – Insurer Responses to Climate Change, Evan Mills, Ph.D., April 2009

- Includes 244 insurers, reinsurers, brokers and insurance organizations from 29 countries
  - 2007 report included 190 entities
- Identifies 643 specific activities that relate to climate change
  - Ceres report tallies those activities into 10 different types
    1. Understanding the Climate Change Problem – 6%
    2. Promoting Loss Prevention – 9%
    3. Aligning Terms & Conditions with Risk-Reducing Behavior – 6%
    4. Crafting Innovative Insurance Products & Services – 22%
    5. Offering Carbon Risk-Management and Carbon-Reduction Services – 5%
    6. Financing Customer Improvements – 2%
    7. Investment In Climate Change Solutions – 5%
    8. Building Awareness & Participating in Public Policy – 14%
    9. Leading by Example – 17%
    10. Carbon Risk Disclosure – 14%

# **Carbon Disclosure Project**

# Climate Disclosure Project – Introduction

- The Carbon Disclosure Project is an independent not-for-profit organization (launched in 2000)
- Largest database of primary corporate climate change information in the world
- Some insurers participating include:
  - AFLAC
  - Aviva
  - Hartford Financial
  - Swiss Re
  - Allianz
  - AXA
  - MetLife
  - Travelers
  - Allstate
  - Chubb
  - Progressive
  - Unum
  - AIG
  - Hannover Re
  - Prudential
  - Zurich

NAIC Disclosure	Comparable CDP Questions
Disclosure 1	CDP: Performance; Question 21
Disclosure 2	N/A
Disclosure 3	CDP: Risks and Opportunities; Questions 1-3
Disclosure 4	CDP: Risks and Opportunities; Questions 1-3
Disclosure 5	CDP: Risks and Opportunities; Question 3 “Other Risks” Question 6: “Other Opportunities”
Disclosure 6	CDP: Risks and Opportunities; Questions 4-6
Disclosure 7	CDP: Governance; Question 24, 26, 27
Disclosure 8	CDP: Risks and Opportunities; Questions 1-3

# Climate Change Disclosures: 1 – 3

---

**Question 1: Does the company have a plan to assess, reduce or mitigate its emissions in its operations or organizations?**

- Energy Star buildings & LEED certification
- IT efficiency (such as consolidating data centers)

**Question 2: Does the company have a climate change policy with respect to risk management and investment management?**

- Involvement of Board of Directors
- Review risk to all aspects of business (Research, Product design, Underwriting and Actuarial)

**Question 3: Describe your company's process for identifying climate change-related risks and assessing the degree that they could affect your business, including financial implications.**

- Use of Catastrophe Models
- Stress test analysis of capital structure
- Comprehensive studies to assess emerging, reputational, and strategic risks

# Climate Change Disclosures: 4 – 6

---

**Question 4: Summarize the current or anticipated risks that climate change poses to your company.**

- Regulatory Risk - Unable to price or UW correctly
- Physical – changes to weather, including more frequent/severe storms, droughts
- Other/General – risks to office locations, damages to IT, energy costs, employee health

**Question 5: Has the company considered the impact of climate change on its investment portfolio?**

- Real estate investments
- Investigate impact of CO2 disclosures on stock values of individual companies
- Cat bonds
- Investments in renewable interests

**Question 6: Summarize the steps the company has taken to encourage policyholders to reduce the losses caused by climate change-influenced events.**

- Risk mitigation services/education
- Usage based auto insurance
- Hybrid discounts
- Consultation/Analysis services – sprinklers, business income, pre-construction

# Climate Change Disclosures – 7 & 8

---

**Question 7: Discuss steps, if any, the company has taken to engage key constituencies on the topic of climate change.**

- External reports or statements on their website and/or in their annual statement
- Participation on industry groups
- Manage relationships with regulators

**Question 8: Describe actions your company is taking to manage the risks climate change poses to your business including, in general terms, the use of computer modeling**

- Use of cat modeling in underwriting, exposure concentration, pricing
- Refinement of coastal areas
- Closer monitoring of policy holder characteristics: deductibles, sub-limits, higher deductibles, insurance to value
- Seek additional help from academics, consultants, meteorologists



# Closing

---

- The climate change impacts on all industries continue to expand & evolve
- Insurance companies have the opportunity to drive some of future responses to climate change
- The CERES report has found 643 different activities where insurance companies are already doing this
- CDP – Though the response from insurance companies has grown, the overall response disclosure rate of insurance companies is small
- NAIC – Mandatory disclosures (for some) beginning with year-end 2009
- SEC exploring possible disclosures for all publicly traded companies

**Deloitte.**

Copyright © 2009 Deloitte Development LLC. All rights reserved.

Member of  
**Deloitte Touche Tohmatsu**