

Review of Liability Insurance Considerations in the Context of Global Climate Change

Presented at Stanford Law School:

Spring 2007 Symposium: Climate Change Liability and the Allocation of Risk

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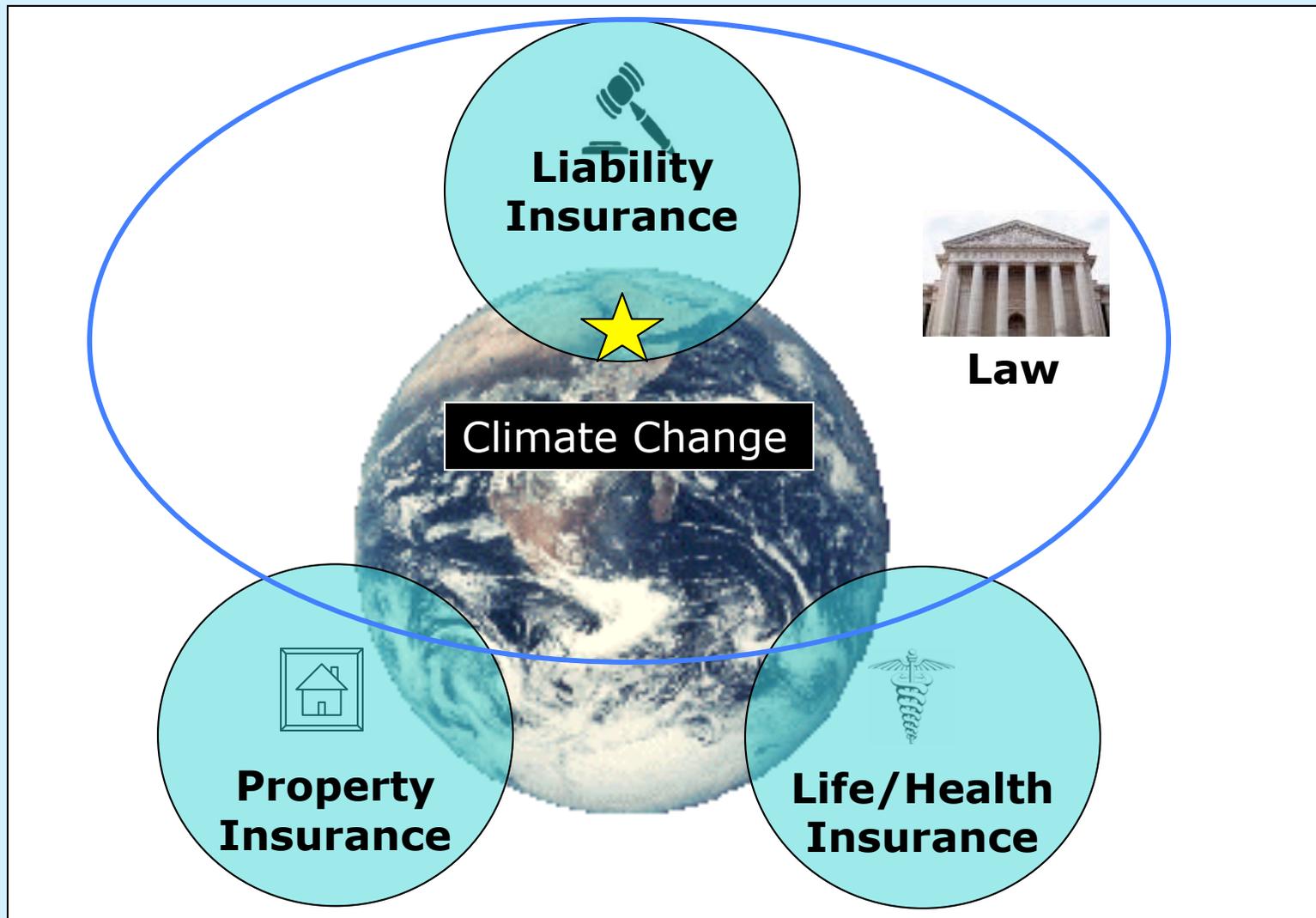
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<http://insurance.lbl.gov>

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Intersection of Climate Change with Insurance, Liability, and Law



Climate Change Liability is a Rapidly Emerging Issue:

New IPCC Report has reduced the uncertainties

Business Insurance

February 5, 2007 www.businessinsurance.com

ANOTHER APPEALS COURT RULES CASH BALANCE PLANS DON'T DISCRIMINATE / PAGE 3

FINANCIAL GUARANTEE INSURER PAYS \$75 MILLION TO SETTLE FINITE CHARGES / PAGE 3

RADIO STATION RISK MANAGERS TO INCREASE ON-AIR OVERSIGHT AFTER CONTEST TRAGEDY / PAGE 3

In Brief

Mich. court rejects same-sex benefits

Michigan's 2004 moratorium on public employment prohibits public employers in the state from offering health benefits to employees' same-sex partners, the Michigan Court of Appeals says. The unanimous 14-11 decision last week in *Anderson v. Michigan* is a reversal of Michigan and Ohio's previous rulings that said such health and public employer plans that recognize domestic partnership agreements for the purpose of providing benefits "are not subject to the general language of the amendment."

Uias claims up in 2006: EFCC

A total of 78,758 discrimination charges were filed with the U.S. Equal Employment Opportunity Commission in fiscal year 2006.

See IN BRIEF page 22

U.N. climate report stirs liability fears

Scientific testimony may fuel lawsuits on global warming

By ROBERTO CENIGEROS

The publication of a U.N. report last week linking human activity to global warming "will be enough to cause immediate liability problems for industrial companies, but it does increase the chances of more claims flowing through to insurance policies in the future, some experts say."

The report, which links the burning of fossil fuels with more extreme climate conditions, may increase the likelihood that commercial policyholders and their liability insurers will have to fund more defenses against alleged

climate change liability lawsuits, claims that global warming played a role in causing Hurricane Katrina, which damaged the home owners' properties.

The lawsuit, which lawyers reportedly thought would get thrown out and didn't represent a threat that stresses the need for adequate reparable liability for global warming-related losses, said Dave Delahall, president of American Risk Management Resources Network LLC, a Naperville, Ill.-based environmental wholesale brokerage.

In addition, last year the California Attorney General Bill Lockyer sued several Japanese and U.S. auto manufacturers, and G. Andrew Lindberg, a policyholder attorney at Letram & Watkins LLP in Los Angeles, filed a lawsuit alleging that the

Marsh reaps \$3.9B with Putnam deal

Investment firm sale will sharpen focus, boosts war chest

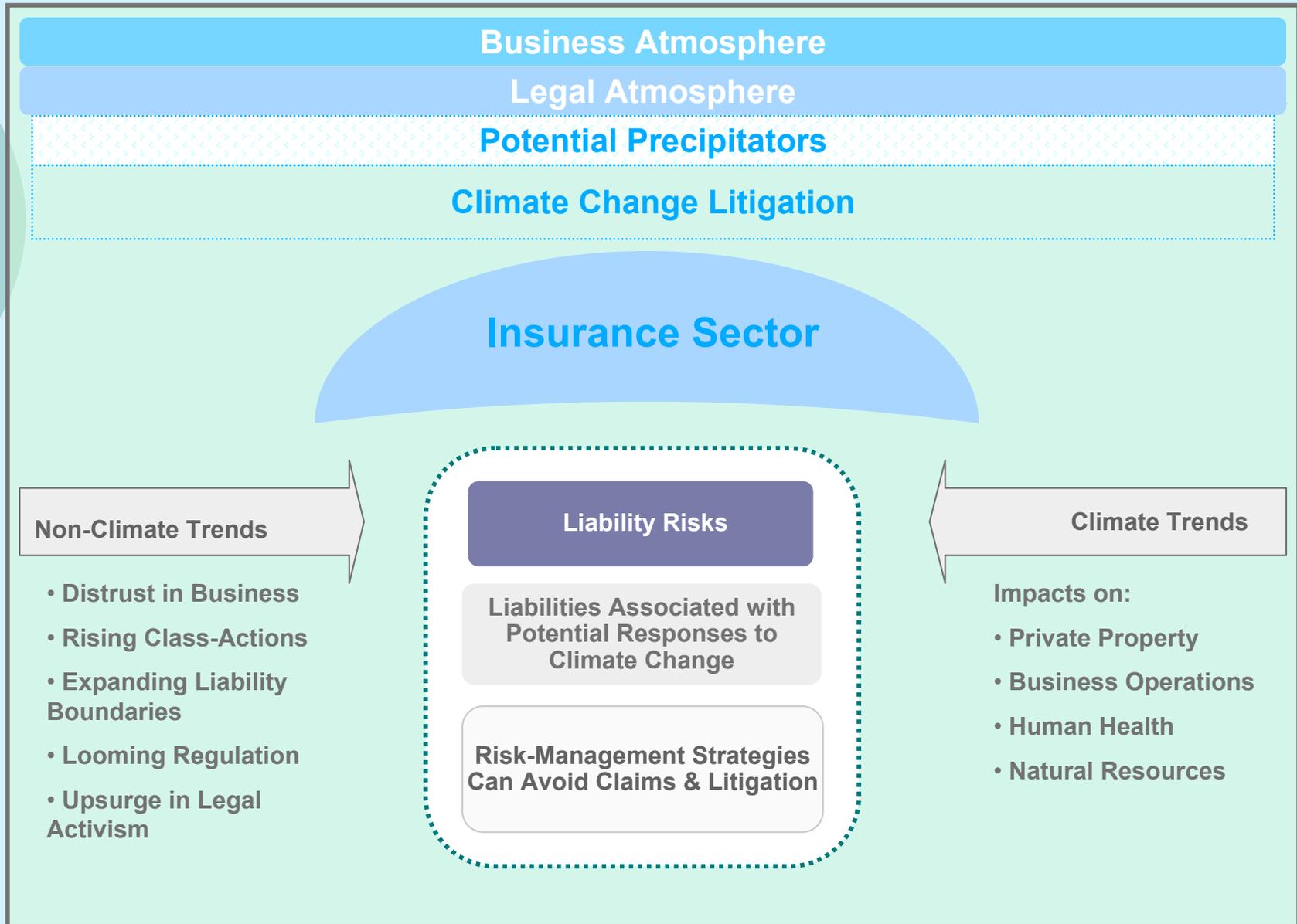
By SALLY ROBERTS

NEW YORK—Marsh Inc. and American Co. Inc.'s sale of Putnam Investments, its investment management unit, to a consortium of trading and hedge funds will make the insurance manager and more focused, analysts say.

Great-West, Liberty Life, a Wilmington, Delaware-based unit of Metropolitan Life, and Sun Life of Canada will purchase the insurance unit, while the consortium of hedge funds will purchase the investment management unit. The deal is valued at \$3.9 billion, including \$1.2 billion in cash and \$2.7 billion in debt.

The deal is expected to close in the second quarter of 2007. Marsh and Putnam have a long history of cooperation, including a joint venture to provide investment management services to clients in the U.S. and Canada.

Landscape of Climate Change Liability



Sources of Climate-Change Related Liability & Their Nexus With Insurance



Hurricane Katrina Approaching Southeastern U.S.

Photo: NASA

Why would insurers care about climate change?

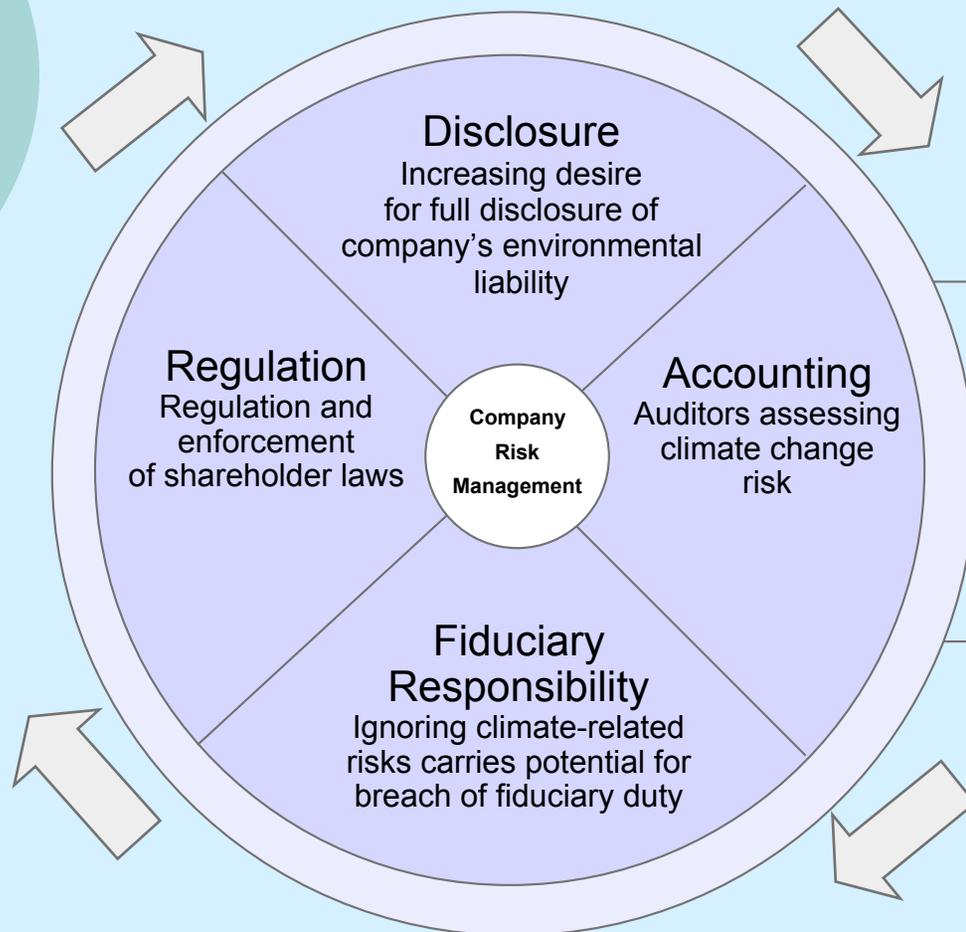
Insurance Customer Exposure to Climate Change Litigation

- Burden of liabilities from catastrophic losses, smaller, more diffuse extreme-weather events, sea-level rise
- Corporate director & officer liability for responsible management practices
- Carbon-intensive customers including long-tail losses predating pollution exclusions

In-House Liability Exposures to Causes & Consequences of Climate Change

- Direct
 - Handling of insurer shareholder & customer interests
 - Underperforming in disclosures to shareholders
- Indirect (payers of claims faced by others)

Business Atmosphere



Business Value

- Negative impacts on company value, reputation & brand caused by ignoring climate change

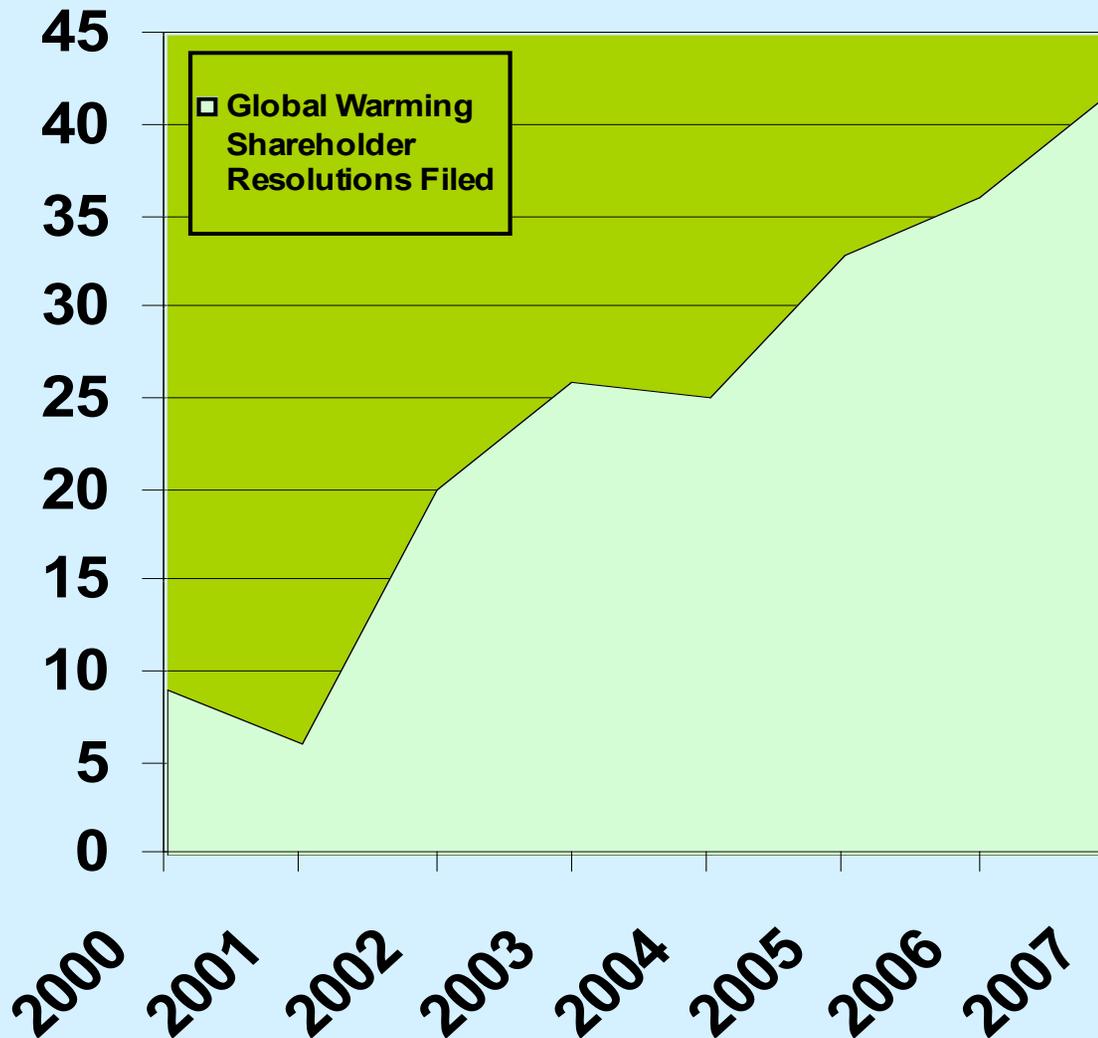
Shareholder Demand for Action

Shifting Regulatory Environment

- Energy prices
- Carbon caps, etc.
- Compliance cost of “penstroke regulation”

Note: non-business entities also have liability insurance, e.g., local governments

Shareholder Resolutions Link Business Atmosphere to Climate Change Liability

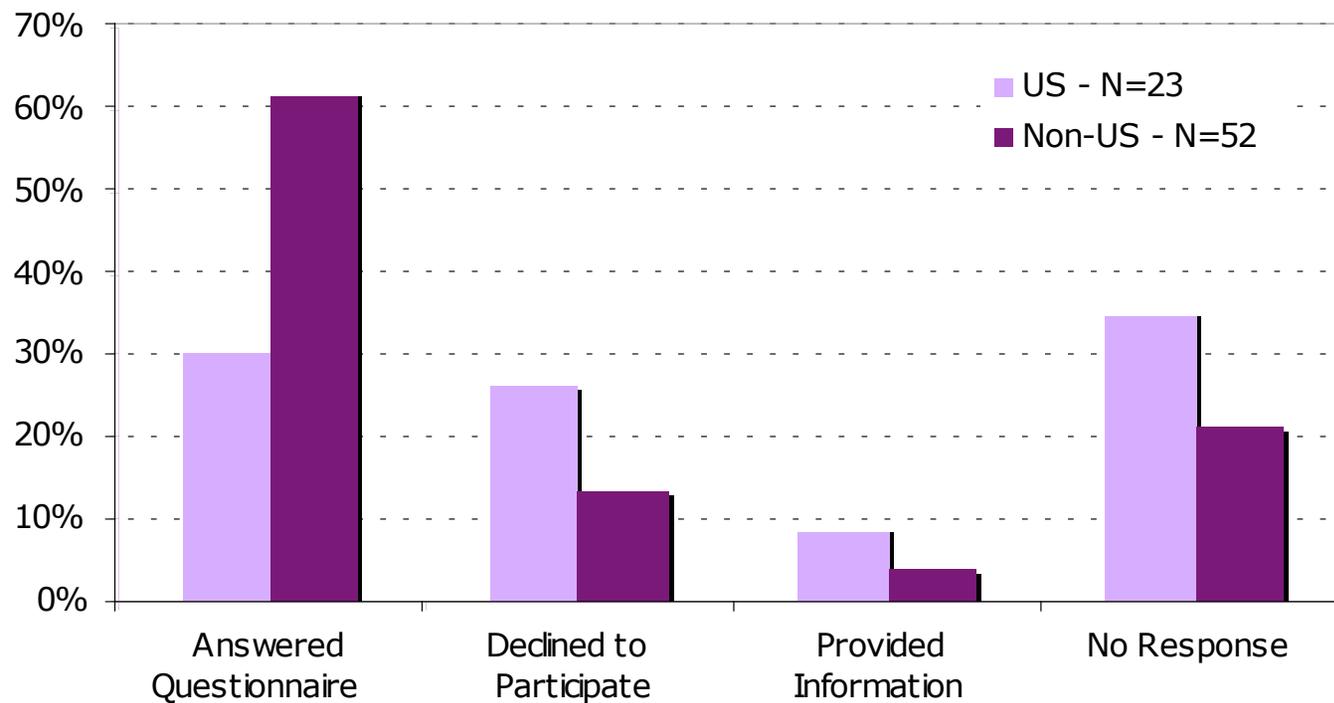


2000-2006 Data:
ISS 2007

2007 Data (as of
02.06.07): Ceres
2007

Insurance Sector (Non)-Disclosure

Insurer Response Rates to Carbon Disclosure Project (CDP) Survey: 2006



Liability Insurance

Commercial General Liability

Insures against negligence (where product was known to be hazardous to health), personal injury, business interruption & product liability

Environmental Liability

Emitters of GHGs: 1. Direct impacts from climate change
2. Indirect consequences associated with toxic releases, mold & other environmental disruptions from the physical impacts of climate change

Professional Liability

D&O liability for those involved as GHG emitters or arising from obligations to protect shareholder value from the impacts of climate change

Political Risk

New government policies (e.g., carbon levies, regulatory risks)

Personal & Commercial Vehicle Liability

Increased roadway accidents related to adverse weather

Legal Claims of Relief

Nuisance Claims

Air pollution – liability for an unreasonable injury to a right (public, health, life) common to the general public or private interests

Sarbanes-Oxley Act

D&O liability; potential application by SEC for environmental disclosure enforcement

Fraud-related Claims

Sources of mis-information on climate change

Public Int'l Law Claims

Indigenous peoples adversely impacted from climate change; environmental refugees

Other Avenues

Endangered Species Act; National Environmental Policy Act

Liabilities Associated with Potential Responses to Climate Change



- **Adaptation** – efforts to decrease vulnerability
 - Levees, water-pumping systems
 - Risk of mal-adaptation
 - Water desalination plants: energy-intensive and vulnerable to coastal hazards
- **Mitigation** – emissions reductions
- **Supply- and demand-side energy choices**
 - Green Buildings
 - Nuclear energy
 - Hydrogen energy
 - Renewable energy
 - Carbon Capture & Storage

Carbon Capture and Storage (CCS)

- Lake Nyos - 1986 (Cameroon): Natural CO₂ leak killed 1800 people, 3500 farm animals



Potential Roles for Insurers to Proactively Manage Risks - Mitigating the Causes 1

Risk-Management Strategies

Mitigating The Causes

Reducing Greenhouse Gases



Bottom line/cost

Limiting Exposure



Controls

Disclosing Risks



Effectiveness/Risk

Raising Energy-Efficiency



Value Creation

Strategies

- Reducing greenhouse gas emissions by establishing a management program

- Decreasing operational exposure to energy price shocks, disruptions, or emissions regulations by minimizing emissions through improved supply or end-use efficiency and distributed generation

- Disclosing risks to investors as precursor to identifying loss-prevention strategies

- Designing energy-efficient, low-emissions products
- Developing emissions-offset activities

Potential Roles for Insurers to Proactively Manage Risks - Mitigating the Causes 2

Risk-Management Strategies

Mitigating The Causes

Performing Analyses



Bottom line/cost

Increasing Investments



End-use efficiency

Rebalancing Portfolios



“Decarbonizing”

Developing Products



Value Creation

Strategies

- Performing analyses of positive and negative risks associated with nuclear power, carbon capture & storage, hydrogen energy & renewable energy systems
- Examining demand-side responses

- Increasing investments in end-use efficiency or improved land mngt to sequester carbon to carry far less liability than supply-side investments
- Focusing on investments in adaptation & loss-prevention

- Rebalancing asset portfolios to reduce vulnerability of investments o severe weather losses.

- Developing new insurance products (e.g., Carbon emissions credit guarantees)
- Contingent cap-forward for emissions reduction trades
- Engineering quality assurance
- Mileage-linked vehicle insurance

Potential Roles for Insurers to Proactively Manage Risks - Adapting to the Impacts

Risk-Management Strategies

Adapting To The Impacts

Improving Land Management



Planning

Managing Hazardous Materials



Public Health

Ensuring Business Continuity



Loss Prevention

Fostering Responsibility



Good-faith

Strategies

- Improving land management with:
- Drought-resistance agricultural practices
- Curbing development in high-risk areas
- Flood defenses
- Advancing land-use planning

- Improving siting and safeguarding of hazardous materials
- More rapid response to damages

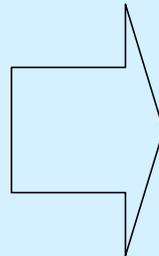
- Developing & establishing business continuity (BCM) plans as a prerequisite for adding on business interruption coverage to a company's commercial general liability insurance

- Fostering scientific responsibility
- Peer-review of documents & communications related to climate change hazards
- Good-faith information disclosure

From Risk to Opportunity for Insurers

Risk

- Customers' causes of and responses to climate change can be distinguished by their potential for enhancing or reducing liability.



Opportunity

- Application of insurers' expertise in proactive risk management towards helping their customers avoid liabilities.