

# MARSH

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## Climate Change Risk and Insurance National Association of Regulatory Utility Commissioners 2005 Summer Committee Meetings Austin, Texas

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# Climate Change Risk and Insurance

- The Big Questions:
  - Will climate change risks be financially material to U.S. utilities?
  - Will a rate increase be needed to cover the costs of these risks?
  - What are insurers doing to deal with climate change risks to help?
- To gain insight into the answers, define the risk in the context of insurance

# Climate Change Risk Identification

- Marsh/MMC Enterprise Risk Study 2001
  - 231 risks categorized into 44 groups
- Innovest U.S. Electric Utility Industry Report 2002
  - 5 climate-oriented investor issues
- JPMorgan Global Equity Research 2003
  - 5 risk factors assessed
- Carbon Disclosure Project 2003
  - 8 risk factors identified
- TXU/NERA Economic Consulting White Paper 2004
  - 4 company-specific risks
- Cinergy Analysis of Greenhouse Gas Regulation Impacts 2004
  - 6 company-specific risks
- Duke Energy Response to the Carbon Disclosure Project May 2005
  - 4 company-specific risks




# Climate Change Risk Identification

## Generalized categorical climate risks for utilities

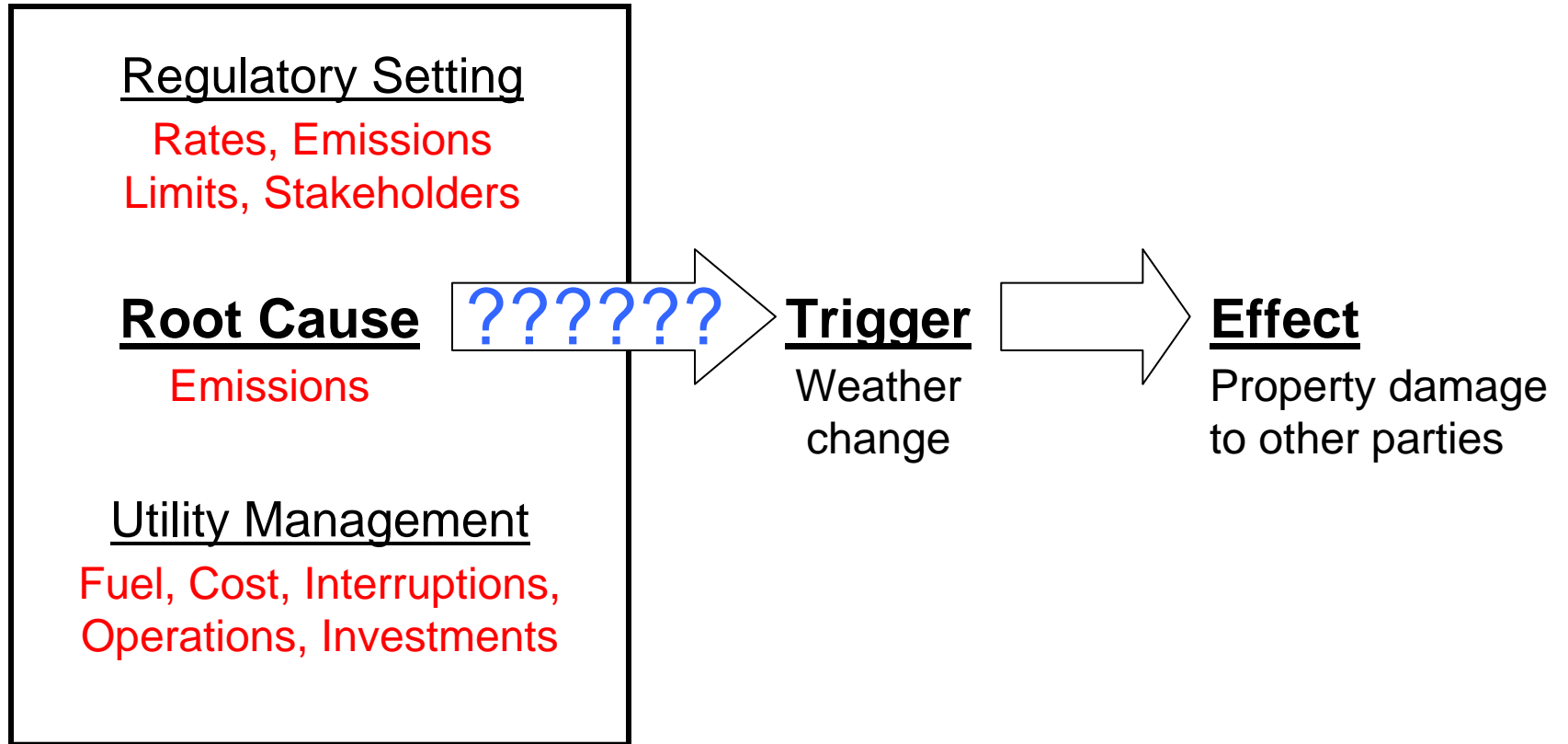
- Business Interruption
- Operating Cost
- Emissions Trading
- Pollution Controls
- Fuel/Asset Mix
- Regulatory Uncertainty
- Rate Increases
- Stakeholder Concerns

# Climate Change Risk Identification

Linkage to the “Four Quadrants” of insurance risk

<b><u>Financial</u></b> <ul style="list-style-type: none"><li>- Business Interruption</li><li>- Operating Cost</li></ul>	<b><u>Operational</u></b> <ul style="list-style-type: none"><li>- Emissions Trading</li><li>- Pollution Controls</li><li>- Fuel/Asset Mix</li></ul>
<b><u>Strategic</u></b> <ul style="list-style-type: none"><li>- Regulatory Uncertainty</li><li>- Rate Increases</li><li>- Stakeholder Concerns</li></ul>	<b><u>Hazard</u></b>  

# Climate Change Risk Functional Relationships



# Is Climate Change Risk Insurable?

- Coverage is offered for losses that directly impact the INSURED
  - Clear causal relationship between trigger and loss
  - Insurable interest in loss
  - Claimants contemplated as covered
- “Inside the Box” – literally and figuratively

So What is Insurable in Relation to Climate Change Risk?

# Climate Change Risk Coverage Possibilities

- Business risks related to GHG programs and investments
  - Regulatory risk
  - Risks in emissions trading
    - Quantification errors/omissions, credit risk, delivery
  - Loss of previously committed emissions credits (“permanence”)
  - Power price protection (derivatives, hedging)
  - Business interruption
  - Fuel mix/cost (hedging)

# Climate Change Risk Coverage Possibilities

- “Traditional” pollution claims/losses
  - Tort actions
  - Natural Resource Damages (where causation is proven)
  - Pollution events
    - Requires resolution on question of CO<sub>2</sub> as a “pollutant”
  - Business interruption
  - Performance of control technologies
  - Legal defense costs
  - Limited fines and penalties

# Climate Change Insurance Limitations

- Insurers are not likely to provide
  - Funding for pollution control equipment upgrades (CapEx)
  - Near term modification of underwriting models to incorporate climate change causation chain
  - Available market capacity to service all aspects of climate risk

# Climate Change Risk Issues Being Monitored

- Scientific certainty/linkage of property loss causation
- Insurer capacity
  - Emerging NSR insurance may “prime the pump” for larger pools of air emissions risk capital
- Economic value of insurable trades
  - Notional value of trades may be within existing retention levels
  - Recent rise in natural gas cost may increase economic value of emissions rights due to unanticipated scarcity

# Climate Change Risk Issues Being Monitored

- Accounting treatment of credits/allowances
  - IASB: credits are intangible asset that offset operating liability (potential financial liability of fines) one-for-one on continuous basis
    - Appears to reduce the financial value of sequestration assets
  - Allowances treated as governmental grant
- Insuring the economic value of credits generated from sequestration
  - Timberlands and forest fires
  - Subsurface sequestration and well/formation failures

# The Big Questions

- Will climate change risks be financially material to U.S. utilities?

Maybe

- Will a rate increase be needed to cover the costs of these risks?

Maybe

- What are insurers doing to deal with climate change risks to help?

Covering some risks already, tracking emerging risks and developing new solutions, but insureds should manage their expectations