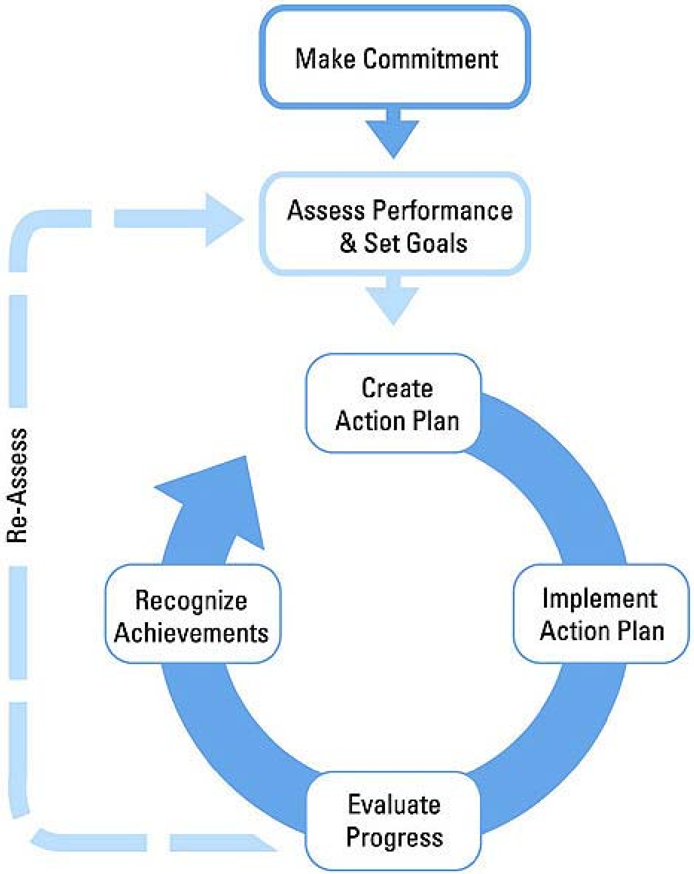
Climate Risk & Energy Management

ENERGY STAR Web Conference
September 21, 2005

Call-in Number: 1-800-914-3396
Access Code - 9307720

About The Web Conferences

- Monthly
- Topics are structured on a strategic approach to energy management
- Help you continually improve energy performance
- Opportunity to share ideas with others
- Slides are a starting point for discussion
- Open & interactive



Web Conference Tips

- Mute phone when listening! Improves sound quality for everyone.

  Use * 6 – to mute and * 7 to un-mute
- If slides are not advancing, hit reload button or close presentation window and press the launch button again.

Web Conference Tips

- Chat Feature

- Presentation slides will be sent by email to all participants following the web conference.

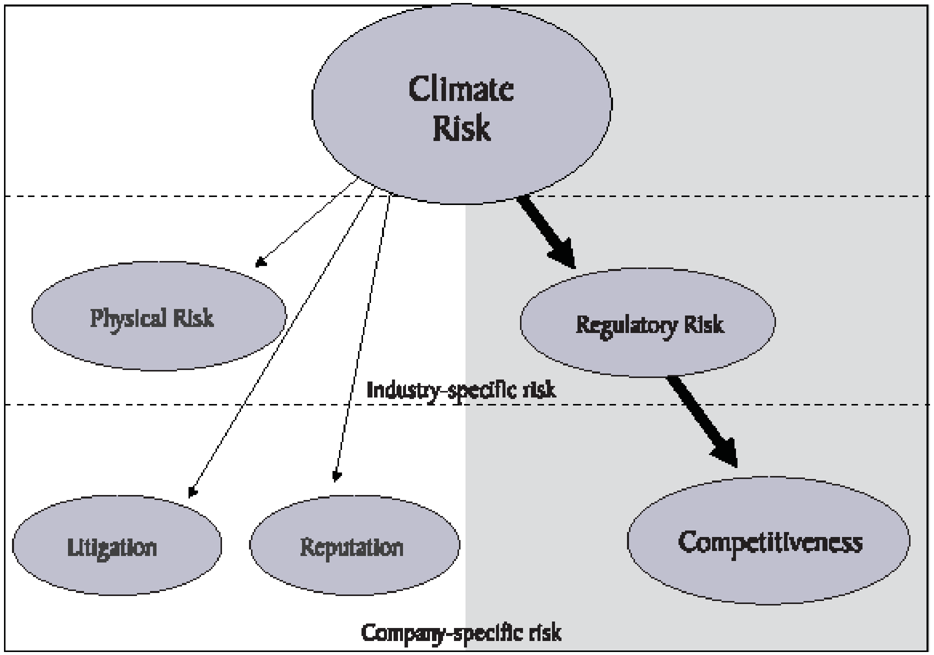
- Hold & Music – If your phone system has music-on-hold, please don't put the web conference on hold!

Background

Climate Risk:

- Regulatory
- Physical / weather
- Legal / litigation
- Reputation

- By Sector
- By Company



Source: WRI Capital Markets Research.

Background

Whose concerned about climate risk?

- Intuitional Investors, such as INCR, which includes CalPERS, NYSTERS, and other large pension funds.
- SRI investment world
- Insurers and Re-insurers
- NGOs – CERES, WRI, etc.
- Growing number of “mainstream” investors

Background

Energy Management & Climate Risk:

- CO_2 from energy use is the most common and largest GHG emission for most organizations

- Energy management can reduce CO_2 emissions through energy efficiency, procurement choices, etc.

- Energy management programs are fundamental for addressing climate risks

Background

Climate Risk & Energy Managers:

Opportunities:

- Elevate energy management program
- Momentum for new initiatives

Challenges:

- Link between energy management and climate risk not always recognized both internally and externally
- Who does what: Setting goals, Reporting, CO2 or Energy project ownership

Today’s Web Conference

Speakers:

- Paul Dickinson, Carbon Disclosure Project
- Gary Guzy and Michael McGinn, Marsh

Questions & Comments

CLIMATE CHANGE
&
SHAREHOLDER VALUE –
A Fresh Sense of Urgency

CARBON DISCLOSURE PROJECT 2005 -
Key Findings and Challenges

ENERGY STAR Web Conference
Wednesday, September 21, 2005

Paul Dickinson, Coordinator

Presentation written and produced by Innovest Strategic Value Advisors

CARBON DISCLOSURE PROJECT

"Embedded in the challenge of climate change are both dangers and possibilities. Immense dangers for firms and investors who make bad choices, or no choices, about how to respond to the risks, and are then held accountable in the marketplace, the boardroom, or the courts; and immense possibilities for firms and investors to turn challenge into opportunity."

Dr. John Holdren, Professor, Harvard University

Excerpt from Presentation at the 2005 Investor Summit on Climate Risk

New York City, May 10, 2005

1. Changes to the Carbon Landscape Since CDP2

- Kyoto Protocol and the European Union Emissions Trading Scheme
- Increased action at the state, regional and local level in US:
  - Northeast Initiative
  - CCX
  - California
  - US Mayors Climate Protection Agreement
  - Legislation (McCain/Lieberman)
- Growth in Carbon Funds – US Hedge Funds in Carbon Market
- Growing Investor Collaboration (CDP, INCR, IIGCC)
- Climate Science

2. Risks and Opportunities Posed by Climate Change

What Determines Company-Specific Risk?

- **Energy intensity and fuel source mix** and consumption patterns
- **Geographic locations of production facilities** relative to specific regulatory and tax liabilities and compliance schedules in different countries
- **Product mix** – direct, indirect, and embedded carbon intensity
- **Company-specific "marginal abatement" cost** structures: some companies can reduce emissions at much less cost than others
- **Technology trajectory** – level of progress which a company has already made in adapting/replacing its production technologies for a carbon-constrained environment
- **Company-specific risk management capability**
- **Ability to identify and capture upside and revenue opportunities**, including new manufacturing cost efficiencies, new product/service opportunities, and emissions trading.

Downside Risks…

- *Core business disruptions, physical asset risks, liquidity risks, supply chain problems*
- *Reputational risks*
- *Rising electricity and fuel costs (Hurricane Katrina – sent fuel costs and other commodity costs soaring)*
- *Tighter financing and insurance conditions*
- *Litigation*

…And Upside Opportunities

- ***Emissions trading***

  EUETS, Japan, Canada, Australia, Chicago Climate Exchange

- ***Investments in carbon funds***

  Over $1.5 billion currently invested in 15 carbon funds worldwide

- ***Renewables & Clean Technology***

  Global renewables market: $1.2 trillion by 2020. “Clean tech” financing: $2 trillion by 2020

- ***Cost savings from improved energy efficiency***

- ***Market for new financial and consumer products***

3. What Do This Year's Response Tell Us?

i) Increasing Disclosure and Response Rates

ii) Continued Shift in U.S. Corporate Perception

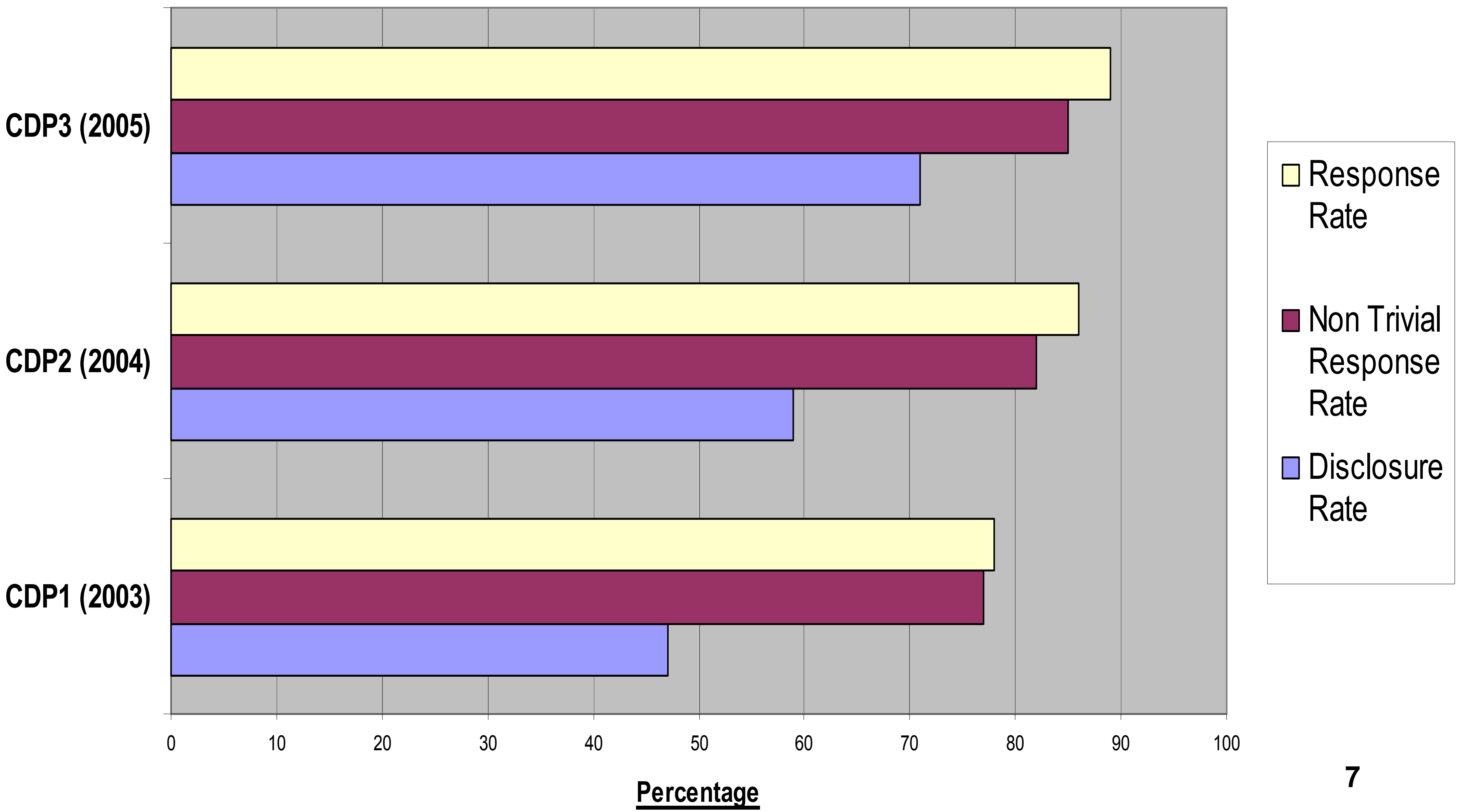
iii) Growing Awareness, But Gaps in Action

iv) Data Problems/Challenges Persist

v) Cost of Carbon Varies Significantly Between and Within Sectors

vi) Most FT500 Companies Are Not Reducing Their Emissions

i) Increasing Disclosure and Response Rates



ii) Continued Shift in U.S. Corporate Perception

Growing Number of High- Profile US Companies Recognize Business Opportunities Posed by Climate Change

- General Electric
- Duke Energy
- Excelon
- Cinergy
- Entergy
- JP Morgan
- Citigroup

iii) Growing Awareness, But Gaps in Action

92% of Responding Companies Consider Climate Change to Represent Commercial Risks and/or Opportunities. But fewer have also…	CDP3
Allocated Management Responsibility for Climate Change-Related Issues	**86%**
Disclosed Emissions Data	**80%**
Implemented Emission Reduction Programs	**51%**
Established Emissions Targets and Timeline	**45%**
Taken Early Action in Emission Trading	**35%**

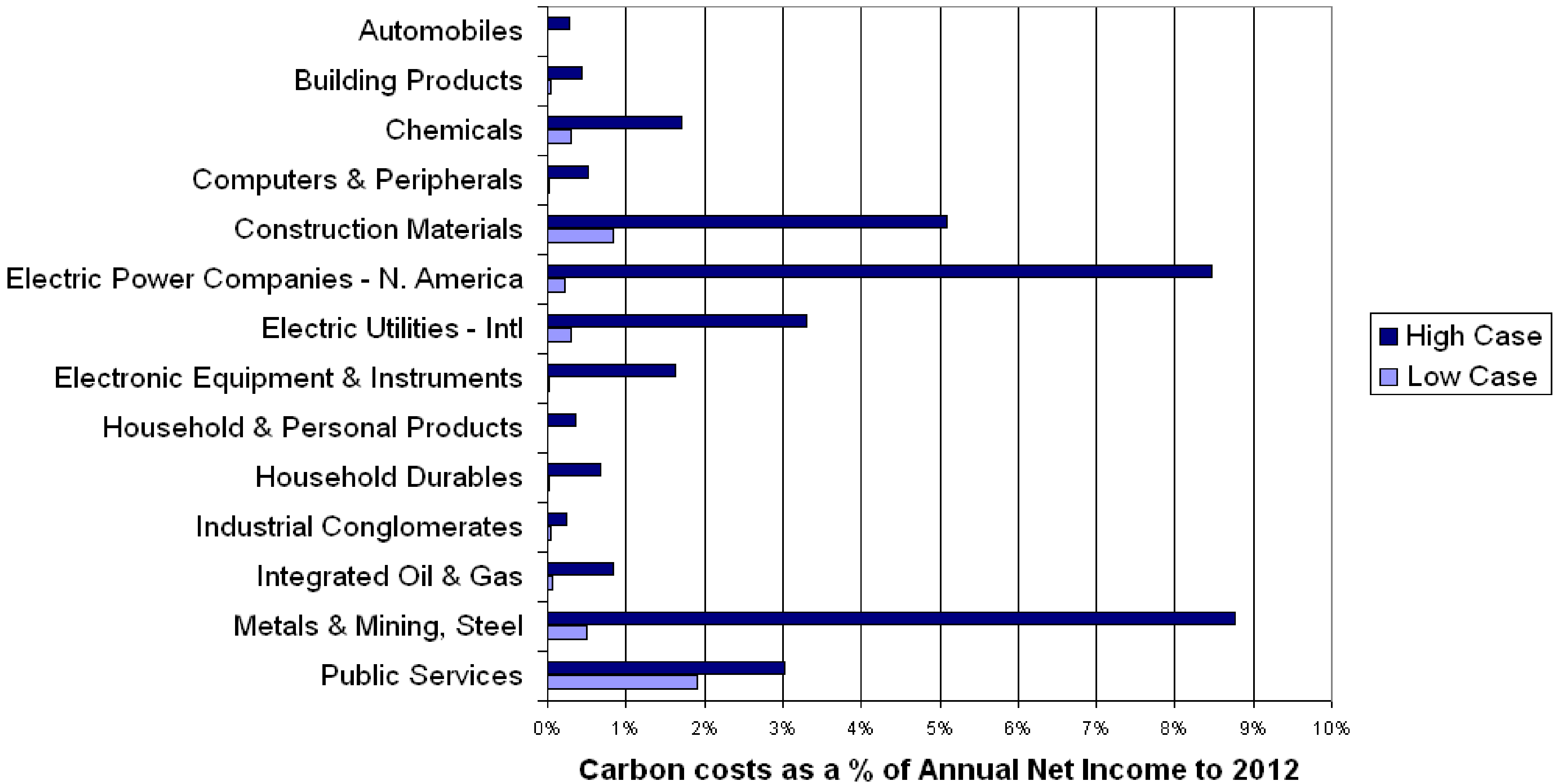
iv) Data Problems/Challenges Persist

- 266 Companies Provide Emissions Data in CDP3…
- …But only 153 (58%) can be accurately benchmarked due to incomparability of data

  - A variety of methodologies exist (i.e. not all companies using the WRI/WBSCD GHG Protocol)
  - Varying interpretations of operational boundaries
  - Estimated vs. calculated data

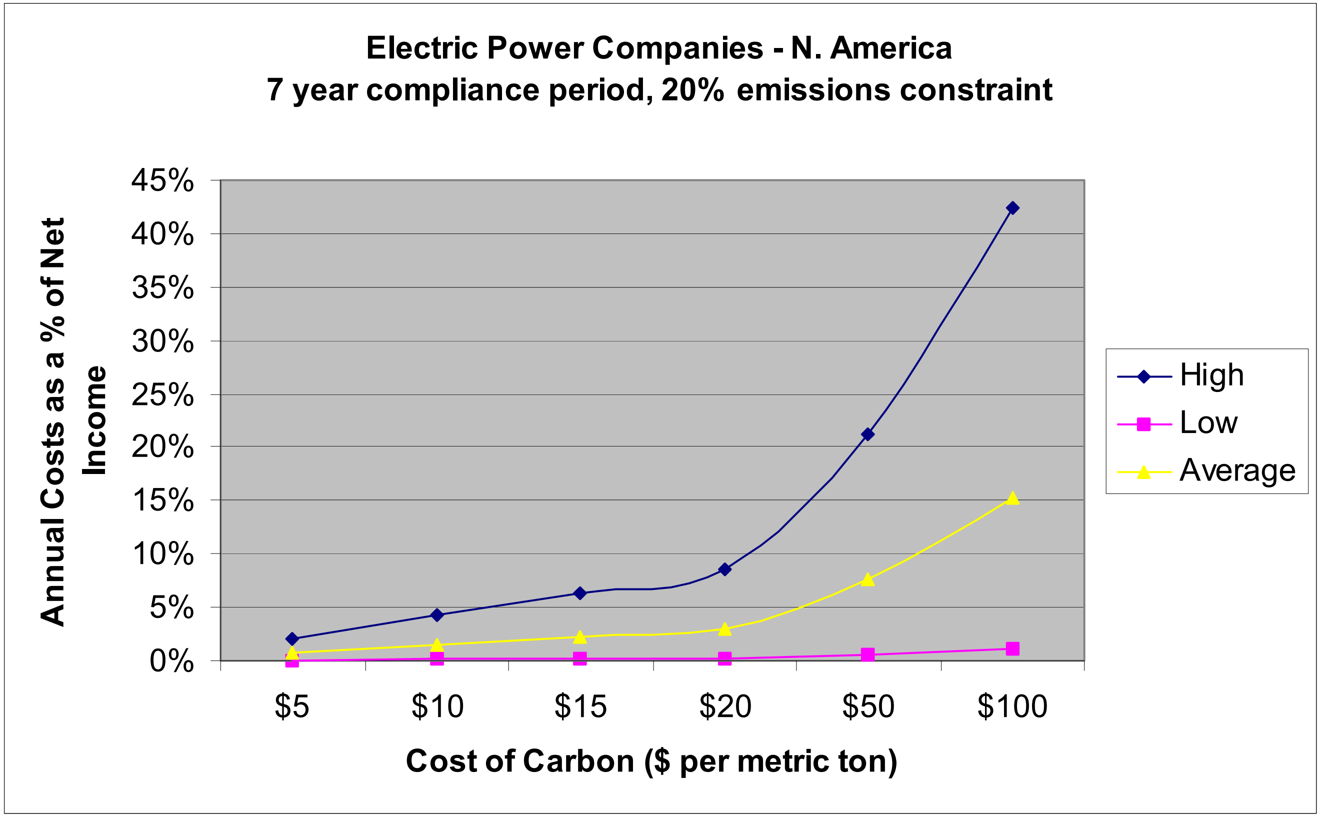
v) Cost of Carbon Varies Significantly Between Sectors…

Carbon cost: $20 p/t carbon   Emissions Constraint: 20%   Compliance Period: 7 years

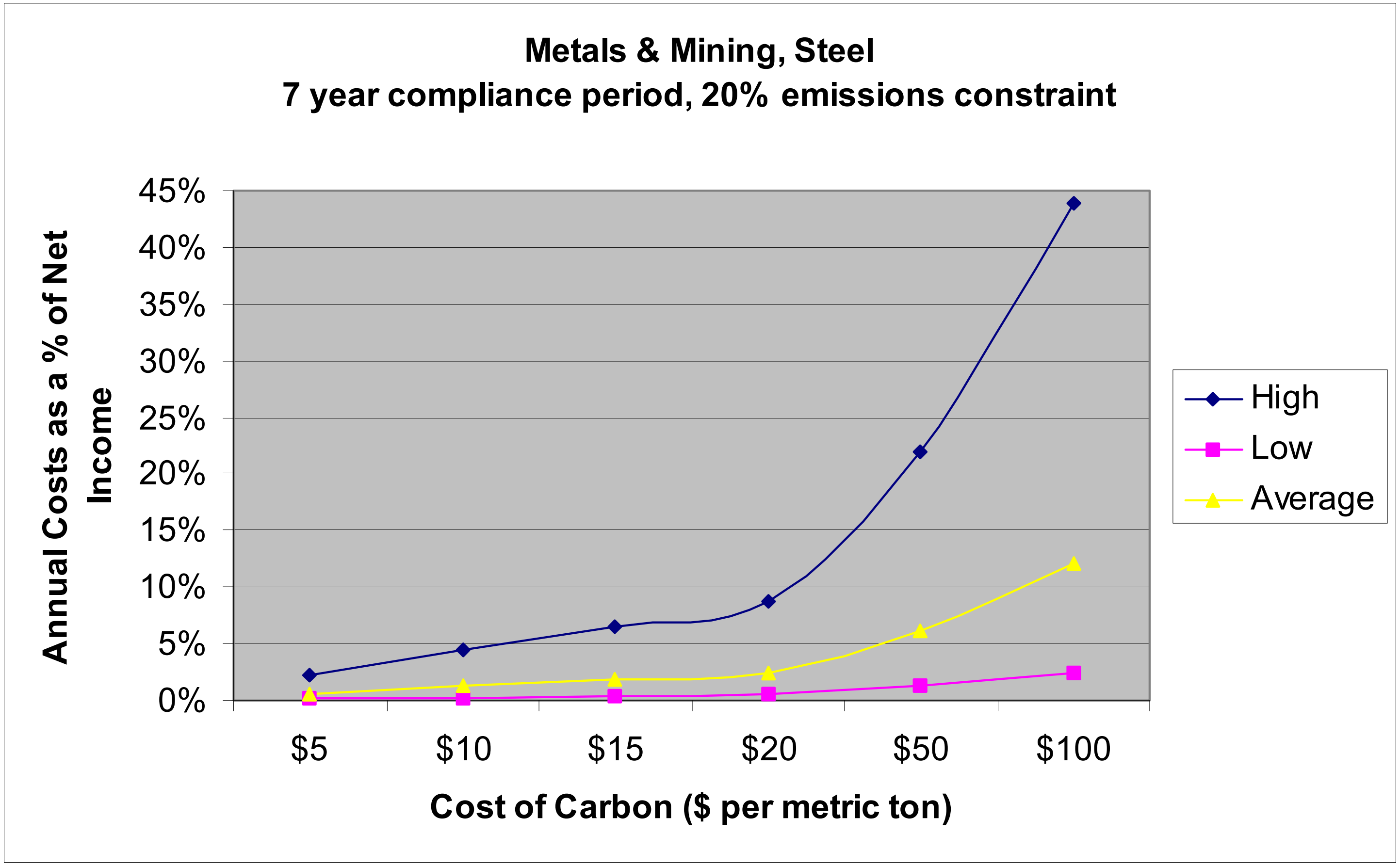


…and Within Sectors

Electrical Utilities (North America)



Metals & Mining, Steel



vi) Most FT500 Companies Not Reducing Emissions

500 Companies

266 Provide Emissions Data

153 Can Be Accurately Benchmarked

66 Reduce Emissions

87 Increase Emissions

4. Evaluating the Responses: The Good, The Bad and the Ugly

<u>How Have the Responses Been Evaluated?</u>

In CDP3, FT500 companies were asked nine questions that focused on the following:

1. Climate change as a financially-relevant risk/opportunity
2. Allocation of management responsibility for climate change
3. Relevant technologies
4. Emissions trading
5. Total annual emissions in tonnes of CO_2e
6. Emissions from products and services
7. Internal reduction programs and targets
8. Emissions intensity
9. Energy costs

i) The Good

- **ABN Amro** has developed a number of carbon finance services based on EU ETS allowances.
- **Dow Chemical** saved approximately $3 billion in energy costs between 1994-2004 due to improvements in energy efficiency
- **Entergy** owns 80 MW of wind power and has purchased over 500,000 emission reduction credits generated from landfill methane and coal mine methane recovery projects.
- **FPL Energy** represents nearly 40% of the current U.S. installed wind capacity of 3,000 MW.
- **GE's** "ecomagination" initiative, a dedicated eco-efficiency product line that focuses on renewable energy technologies, hybrid locomotives, low-emission aircraft engines and water purification equipment. The company anticipates sales of ecomagination products to increase from a current level of $10 billion to $20 billion by 2010.
- **HSBC** is the world's first major bank to commit to "carbon neutrality."
- **Toyota** has sold approximately 318,000 hybrid vehicles worldwide and is currently researching low-emission vehicles that run on biogas.

ii) The Bad

- **M&T Bank** replied that it was "not sure" whether climate change represented commercial risks and/or opportunities for their business.

- **DBS Group**, one of the largest financial services groups in Asia, indicated that "climate change does not represent commercial risks or opportunities for the company because we are a financial institution.“

- **SK Telecom** responded that, "as a telecommunications service provider, our business has no direct relationship with climate change.“

- **DirecTV**, a US pay-television service provider, commented that, "the CDP questions are, for the most part, irrelevant to our industry.“

- **Liberty Media** declined to participate in CDP3 on the grounds that it “does not apply to our company.”

iii) The Ugly

Companies That Failed or Declined to Respond	% of Total Common Shares Held by Signatories* to CDP3	Companies That Failed or Declined to Respond	% of Total Common Shares Held by Signatories* to CDP3	Companies That Failed or Declined to Respond	% of Total Common Shares Held by Signatories* to CDP3
Boeing Company	20.0	Clear Channel	12.9	Guidant	11.4
Morgan Stanley	18.6	Capital One Financial	12.8	Aflac	11.4
Cendant	17.7	Wm. Wrigley Jr	12.7	Kroger	11.1
Freddie Mac	17.2	Banco Popular Espanol	12.5	Yum! Brands	10.9
Conagra	16.5	Time Warner	12.3	Metlife	10.7
Fannie Mae	15.6	Symantec	12.2	Apollo Group	10.7
Omnicom Group	15.1	St.Jude Medical	12.2	Chubb	10.6
Paccar	15.0	Home Depot	12.1	First Data	10.5
Altria Group	14.2	Illinois Tool Works	11.9	Harley-Davidson	10.4
SLM	13.9	Prudential Financial	11.9	Electronic Arts	10.4
Wellpoint	13.9	International Game Tech	11.8	American Express	10.2
Countrywide Financial	13.7	Linear Technology	11.8	Analog Devices	10.0
Caremark RX	13.0	General Dynamics	11.6		

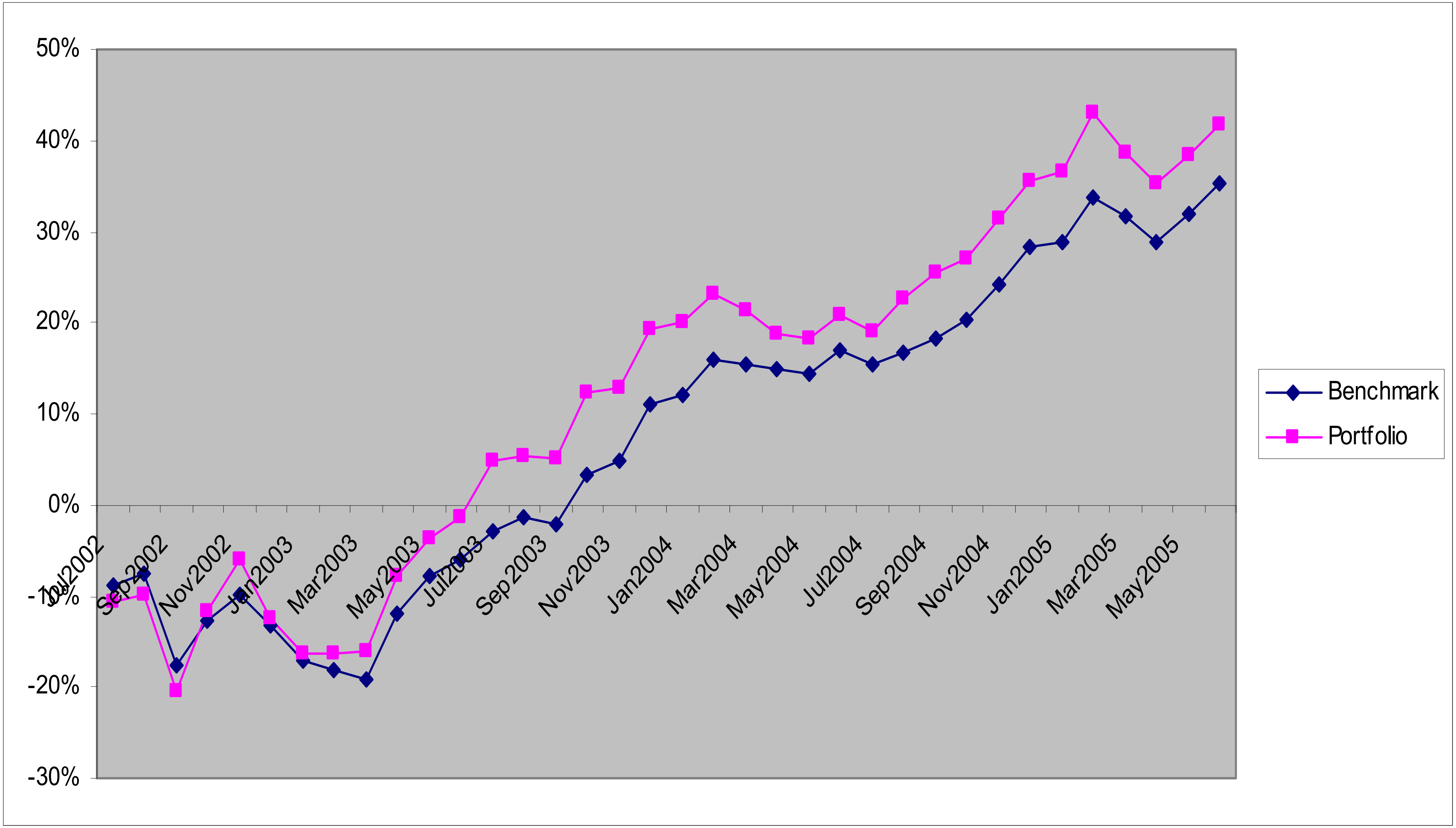
Does Not Include Perfunctory Responses!

5. The Climate Leadership Index (CLI)

Automobiles	BMW Daimler Chrysler Ford Honda Toyota
Banks	ABN AMRO Barclays Dexia HBOS HSBC HVB RBC UBS Westpac
Chemicals	Air Products and Chemicals BASF Bayer Dow Chemical DuPont
Diversified Financials	Citigroup Fortis ING
Electric Power - International	Endesa Enel Iberdrola Kansai Scottish Power
Electric Power - N. America	American Electric Power Duke Energy Entergy Exelon FPL Group

Food Products, Beverages & Tobacco, Food & Drug Retailing	Cadbury Schweppes Tesco Unilever
Industrial Conglomerates	General Electric Siemens
Insurance & Reinsurance	Allianz Munich Re Swiss Re
Integrated Oil & Gas	BP ChevronTexaco Norsk Hydro RD/Shell Suncor
Metals & Mining	Alcan Alcoa Anglo American BHP Billiton Rio Tinto
Paper and Forest Products	International Paper Stora Enso
Pharmaceuticals	BristolMeyersSquibb GlaxoSmithKline Novo Nordisk
Telecommunications	BT Group Deutsche Telekom Telstra
Transportation	Mitsui UPS

6. Financial Performance of Climate Leaders



7. Concluding Remarks – The Way Forward

- Remarkable progress has been made by companies, in both the disclosure and the strategic management of climate risk and its attendant business opportunities

- Challenge for Institutional Investors: integrating climate risk considerations into stock selection and portfolio construction.

- Promising evidence: a doubling in the asset base of CDP signatories (up from $10 trillion in CDP2 to $21 trillion in CDP3)!

Some Caveats…

- CDP “data” entirely self-reported, non-audited
- Distortions on both upside and downside
- Non-responses and poor responses are sometimes “simply” internal communication challenges

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MARSH

Managing Climate Risk:

AN INSURANCE INDUSTRY PERSPECTIVE FOR EPA's ENERGY STAR PARTNERS

Gary S. Guzy, Senior Vice President
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Marsh's Power & Utility Practice

MMC Marsh & McLennan Companies

The Transformation of Environmental Law

From 1970's:	**Birth of Modern Environmental Movement** **Pollution Seen as Moral Wrong** **Business Forced to Internalize by Government** **Extraordinary Tools for Government**
To 1990's:	**Rise of Corporate Environmental Management –** **Companies internalize** **Sophisticated Private Sector Capabilities**
Today:	**Near embrace of pollution –** **Brownfields as an asset;** **Rise of environmental insurance** **Government as a partner**

Return to Uncertainty?

Emergence of Private Environmental Law??

- Effect of networked economy and communications
- Rise of NGO's
- Importance of multi-lateral funding agencies (eg. Equator Principles)
- Response of major U.S. corporations
  - voluntary codes of conduct (eg. Chase, BofA, Citigroup)

Return to Uncertainty?

Significance of New Corporate Governance & Disclosure Requirements

TRI and experience with disclosure

SEC focus on environmental issues as related to fair presentation of corporate financial picture (GAO Report)

Atmosphere of Transparency:

- Shareholder Resolutions
- Shareholder Derivative Suits
- Whistle Blowers
- Mega-Settlements
- SEC investigations
- Corporate earnings restatements
- Big hits on Corporate Valuations
- Sarbanes-Oxley lens

Approaching Regulatory Uncertainty?

- Recently enacted European obligations through EU ETS (January ’05) and Kyoto Protocol entry into force (February ’05)

- Increasing Pressure on U.S. voluntary approach

  Gleneagles G-8 Communique: “Climate change is a serious and long-term challenge. . . . we know enough to act now to put ourselves on a path to slow and, as the science justifies,stop and then reverse the growth of GHGs.”

  Joint Science Academies: “There is now strong evidence that significant global warming is occurring . . . . It is likely that most of the warming in recent decades can be attributed to human activities.”

  Sense of the Senate: “Congress should enact a comprehensive and effective national program of mandatory, market-based limits and incentives on emissions of GHGs that slow, stop, and reverse the growth of such emissions. . . . “

•Return to Uncertainty?

State-based regulatory activities are encouraging a focus on climate risk:

- Northeastern Regional Compact
- Northeastern State litigation vs. powerplants
- State powerplant regulation
- California Automobile regulation
- 19 State Renewable Energy Portfolios
- 130 Municipalities “adopt” Kyoto Protocol

Active institutional investor focus:

- $21 trillion Carbon Disclosure Project
- INCR Proxy Resolutions – Pave the way for litigation?
- Corporate Reporting/Transparency

Financial Institution Loan Policies

- Recent J.P. Morgan Chase, Citigroup, B of A policies

rn to Uncertainty?: The Insurance Industry Perspective

Active NAIC Campaign Sharpening Focus

- BAI Assessment
- Advocacy Group Campaign
- Atmosphere of Heightened Regulatory Oversight of Insurance Industry

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Perceived Real World Insurer Solvency Impacts:

- Katrina Debate About Severity of Catastrophic Weather Events – Property Losses
- Health Related Impacts (European heat wave (“load dice”, WNV)
- Business Resources (Water salinization, Alaskan pine beatle)
- Business Interruption
- “Penstroke” regulatory compliance risk

Managing for Uncertainty

Uncertainty Makes More Imperative to Actively Manage:

- Understand Risks, Quantify Where Possible
- Develop GHG emissions baselines
- Gain trading experience
- Adequately disclose and reserve for business risk; regulatory risk
- Cap and manage through available insurance
- Evaluate new revenue opportunities from carbon trading

Marsh Climate Risk Industry Leadership

- Marsh has been at the forefront of the insurance industry's efforts to address climate risk. Our activities include:
  - Conducting climate risk mapping study for the UK DTI;
  - Arranging operational risk insurance coverage for offshore wind generation, coordinated with carbon credit generation;
  - Providing education on climate risk corporate disclosure obligations;
  - Enhancing insurance industry capacity for Carbon Credit Delivery Guarantees and applications to optimize carbon value;
  - Developing new climate risk D&O, business liability, and business interruption products with underwriters.

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Upcoming Web Conferences

October 26 – Partner Networking Meeting
Washington DC

www.energystar.gov/networking

Thank you for participating!