



Climate Change Disclosure and Risk Management

Thriving in the New Carbon Economy
The Climate Registry's Regional Forum

Chicago: June 23, 2010

SEC Disclosure Guidance on Climate Change

- **January 2010:** Securities and Exchange Commission (SEC) announced interpretive guidance on existing SEC disclosure requirements as they apply to business or legal developments relating to the issue of climate change.
 - This is guidance on existing “material risk” disclosure, not an SEC Rule
 - Effective February 8, 2010
- SEC's interpretative guidance highlights the following areas as examples of where climate change may trigger disclosure requirements:
 - Impact of legislation and regulation
 - Impact of international accords
 - Indirect consequences of regulation or business trends
 - Physical impacts of climate change

SEC Guidance – Why Climate Change?

Materiality

“...substantial likelihood that a reasonable investor would attach importance in determining whether to purchase the security registered...”

“...fact would have been viewed by the reasonable investor as having significantly altered the "total mix" of information made available...”

Securities and Exchange Commission, Commission Guidance Regarding Disclosure Related to Climate Change 17 CFR Parts 211, 231 and 241, Release No.s 33-9106, 34-61469, FR82

- Securities and Exchange Commission (SEC) and the Financial Accounting Standards Board (FASB) require publicly traded companies to disclose any material transaction, fact, event, etc. in financial statements
- What is really required?
- Materiality remains mostly a judgment, some quantitative guidelines (for example, 3 percent to 5 percent impact)

Communicating Climate Change to Investors

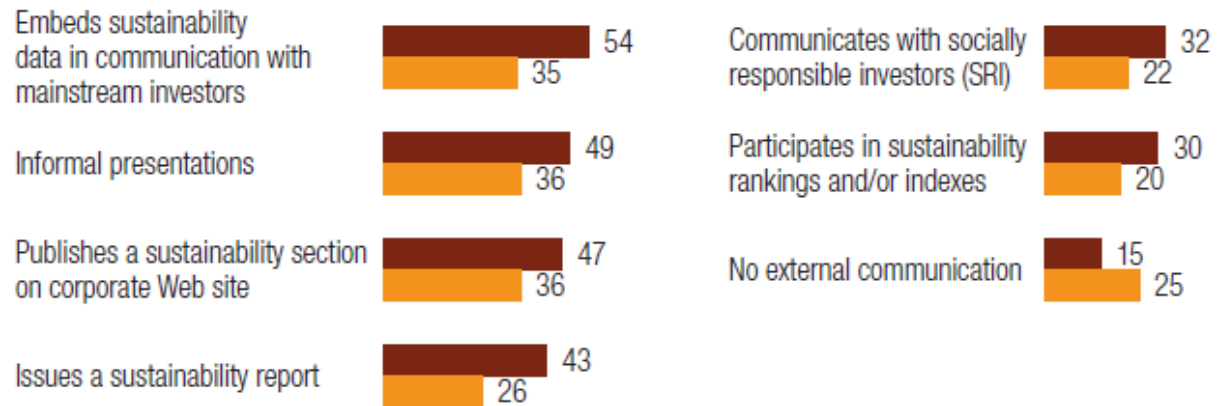
Exhibit 4

How companies communicate

% of respondents¹

■ Energy, n = 98
 ■ Total, n = 1,749

Ways in which companies communicate engagement in sustainability activities to external audiences



¹ Respondents who answered “other” or “don’t know” are not shown.

Source: McKinsey Quarterly; How companies manage sustainability 3/2010

Example Issues Influencing Materiality

State/Fed Legislation:

EPA Endangerment Finding
EPA Mandatory Reporting Rule
Regional Greenhouse Gas Initiative
Western Climate Initiative
AB 32
Waxman – Markey (potential or real?)
Kerry, Lieberman, Graham Proposal
Title V Tailoring Rule

International Legislation:

EU Emission Trading System
Kyoto
Copenhagen Commitments

Indirect Business Trends:

Customer demands
Market dynamics (ARRA influence)
Changing perceptions
Commodity pass-throughs
Capital expenditures
Insurance

Physical Impacts:

Water availability
Geo-political
Weather events
Coastal locations
Flooding
Temperature
Food availability

EPA = Environmental Protection Agency AB = Assembly bill EU = European Union ARRA = American Recovery and Reinvestment Act

Energy | Environment | National Security | Health | Critical Infrastructure



Example Disclosures

- Federal and international regulations
 - Operations regulated
 - Direct and indirect costs; cost of compliance
- Indirect business trends
 - Capital expenditure impacts (IT/energy efficiency/distributed generation)
 - Re-prioritization of project or product mix that meets hurdle rate
 - Market opportunities and threats (market assessment)
 - “Carbon” or commodity pass-through contracts
- Physical impacts
 - Qualitative (water, weather, coastal)
 - Asset impacts (valuation)

Short Term Impacts:

SEC guidance will drive deeper quantitative and monetary analysis climate change impacts

Sustainability reporting will start transitioning to 10-k /annual reports

SEC = Securities and Exchange Commission

Energy | Environment | National Security | Health | Critical Infrastructure



Climate Change Impacts - Legislation (Direct)

Geographic regulatory risk

- Percent of assets/revenues/cost of goods sold (COGS) exposed to regulations

Compliance costs

- Systems, monitoring, reporting
- Cap and trade
- Capital expenditures

Compliance-related opportunities

- New or increased revenue or profit (for example, Clean Development Mechanism, offsets, renewable energy credits)

Climate Change Impacts - Legislation (Indirect)

Energy risk

- Trickle down of compliance costs
- Energy costs as a percentage of the cost of goods sold (COGS)

Water risk

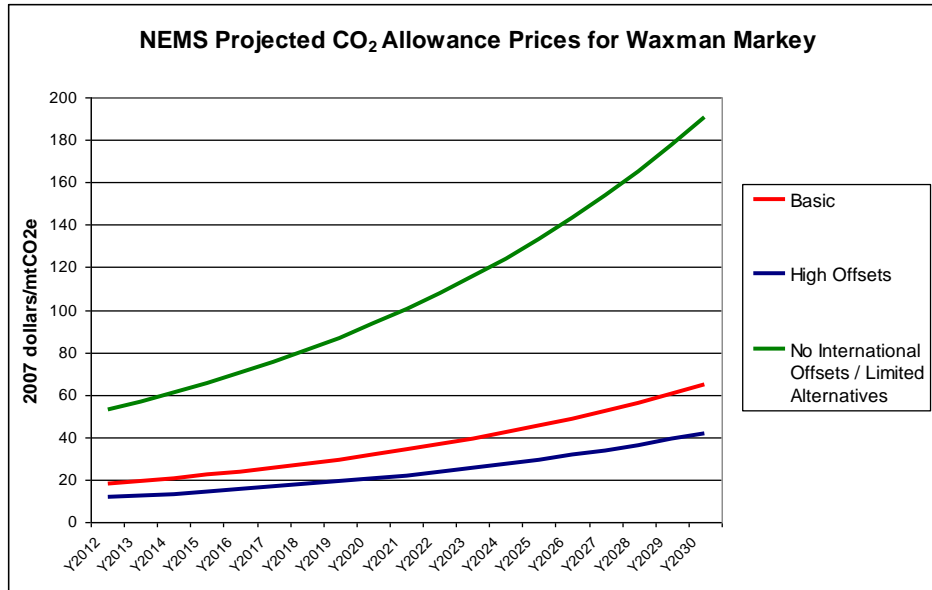
- Trickle, trickle down of compliance costs
- Water costs as a percentage of COGS

Contractual risk – Is Carbon a Pass-through?

- Surcharges and pass-throughs as risk management tools
- Concrete, steel, construction-related industries have “surcharges”
- Utilities have fuel charge pass-throughs (net income neutral)
- Do current and future contracts (buy and sell) address it?
- Percentage of applicable contracts with “pass-through” and monetary exposure (risk or risk mitigation)

Case Study -Fortune 500® Food and Beverage Company

Legislative/Regulatory Risks



- Gasoline consumers
 - 1 cent per gallon per each \$1 per ton of carbon tax or allowance price
- Electricity consumers
 - 1 cent per kWh for each \$16 per ton of carbon tax or allowance price
- Natural gas consumers
 - Five plus cents per MMBTU for each \$1 per ton carbon tax or allowance price

NEMS = The U.S. Energy Information Administration's National Energy Modeling System
 Fortune 500 is registered trademark of Time, Inc. in the U.S. and/or other countries.

Potential Costs to Fortune 500 Food and Beverage Company

	Electricity (mWh)	Natural Gas (MMBTU)	Coal (MMBTU)
Energy Used	13,994,405	60,614,432	15,153,608
Metric Tons CO ₂ E	9,460,218	3,191,350	1,456,565
Value at \$10	\$94,602,178	\$31,913,498	\$14,565,648
Value at \$20	\$189,204,356	\$63,826,997	\$29,131,296
Value at \$40	\$378,408,711	\$127,653,994	\$58,262,592
Value at \$80	\$756,817,422	\$255,307,988	\$116,525,184

Based on U.S. Average Default Emissions Factors from the Energy Information Administration

Total Costs Under Kerry Lieberman Price Collar: \$169 Million to \$352 Million Annually



Climate Change Impacts – Indirect Business Trends

Capital expenditures

- Distributed generation/renewables
- Energy efficiency/green IT

Customer and new product demands

- Low-carbon branded products

Resource switching

- Low-carbon/energy/water-intensive feedstocks; lower cost
- Recycled feedstocks; “green” product demand

Clean energy demand

- Generation
- Transmission
- Affiliated energy initiatives (Smart grid measures, electric vehicles, ENERGY STAR®)

ENERGY STAR is a registered trademark of the Environmental Protection Agency in the U.S. and/or other countries.



Energy | Environment | National Security | Health | Critical Infrastructure

Case Study – Fortune 500® Professional Services Organization

Indirect Business Trends:

Market Conditions:

- Largest customer is U.S. federal government
- Federal agencies committed to an average 28 percent reduction in greenhouse gas emissions under Executive Order (EO)13514
- EO calls for reduction in Scope 3 emissions (suppliers)

Likely Impact:

- Future procurements likely to require:
 - Sustainability plan in place
 - Demonstrated achievements

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Climate Change Impacts – Physical Impacts

Example Physical Impacts Variables:

Sea levels/coastal regions
Weather (storms/drought/precipitation/temperature)
Energy/water resources
Agriculture and food availability

Identify Boundaries and Define Exposure to Physical Impact Variables:

Boundaries:

Geographic and operational (supply/value chain)

Define exposure:

Specific impact exposures and intensities (for example, coastal, weather, water, resource)

Resulting asset/revenue/expense impacts

Climate Change Impacts – Physical Impacts

Geographic risk

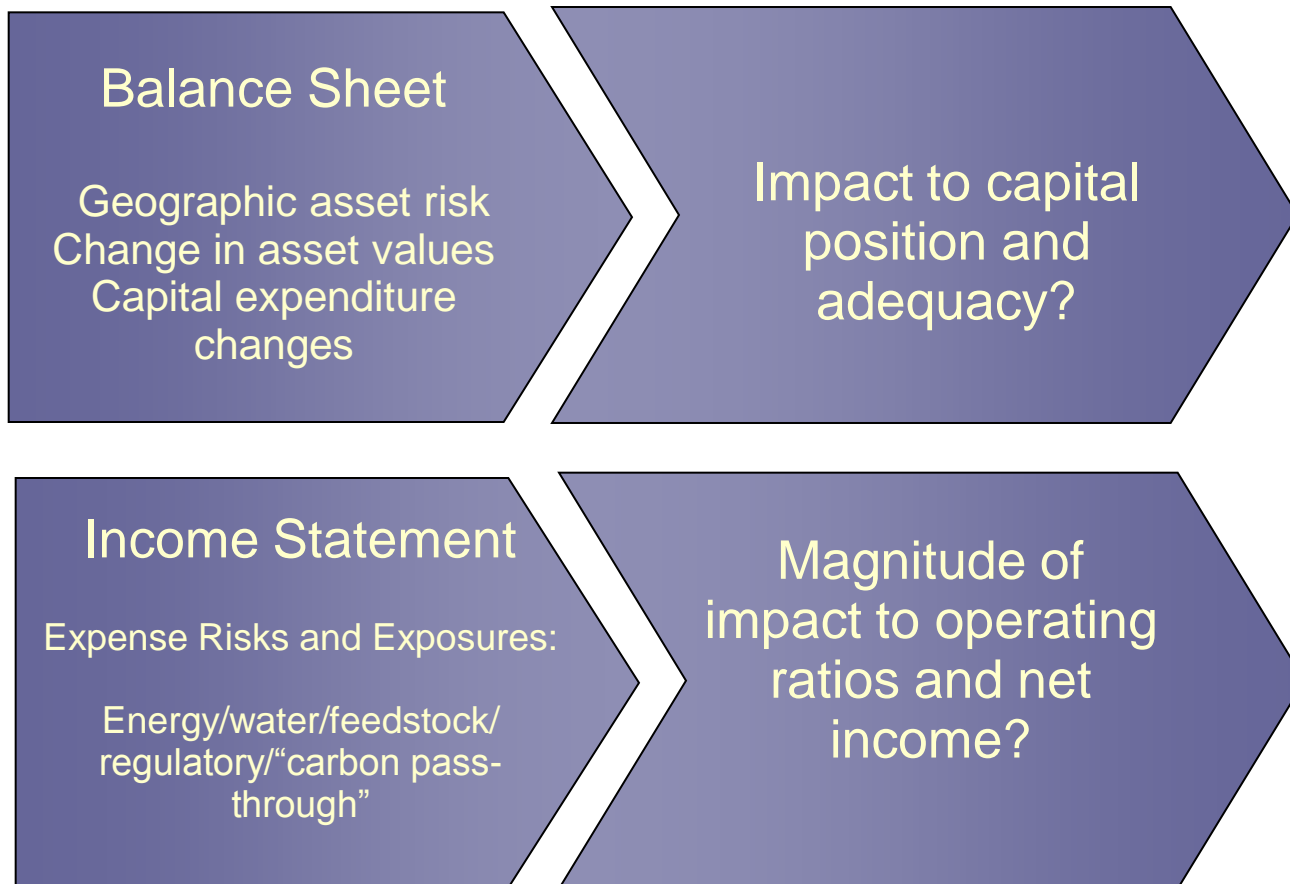
- Percent of assets/revenues/expenses affected by physical impacts (for example, coastal, drought/flooding, weather events, agriculture)
- Asset insurance costs
- Real estate/tourism value and revenues
- Infrastructure
- Supplier operating geographic risk

Operational risk

- Natural resource availability risk (supply and demand)
- Water costs as a percentage of the cost of goods sold
- Level of water resource reliance (hydro, recreation, beverage, agriculture, mining, semiconductor)
- Agriculture/food availability
- Transportation
- Operational insurance costs
- Geo-political (war games/scenario planning)

Evolution of Disclosure: Financial Statements

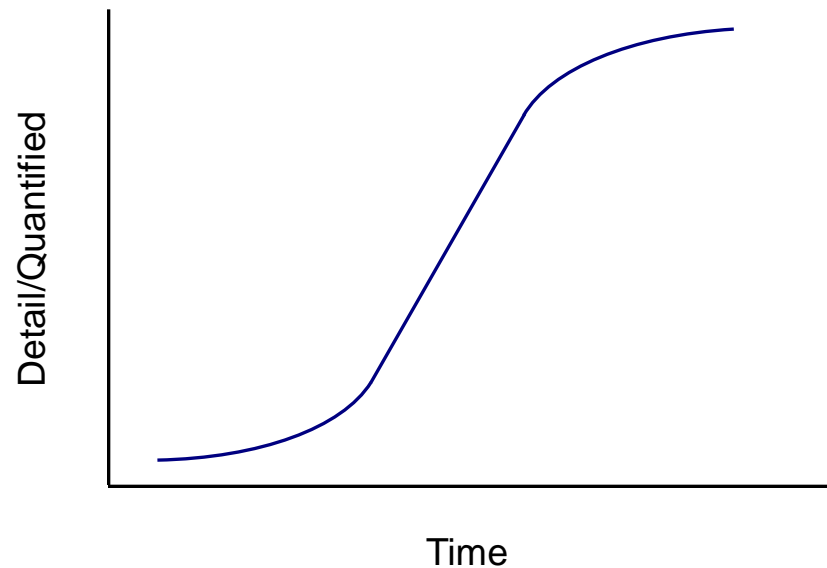
View impacts in terms of financial statements:



Evolution of Disclosure : Long-term

- Benchmarking in market segments
 - Compare risk and exposure as a portion of operating costs
 - Leads to development of climate change ratios (for example, water cost as a percentage of the cost of goods sold)
- Quantify impacts to and between market segments and companies:
 - Competitive advantage and strategy
 - Net Income/margins
 - Expenses
- Additionality of climate change
 - Impacts (costs) attributable to climate change vs. market forces;
(For example: Natural gas commodity costs increase due to climate change versus supply/demand)

Evolution of Disclosure



Short-term (one to five years)
Qualitative

Long-term (more than five years)
Little more quantitative

Uncertainty and reluctance to disclose what others are not likely to disclose
leads to market reaction (undesirable)

Conclusions and Reality

- Early variability in reporting
- Justification for qualitative disclosure
 - Real and legalese
- Qualitative, eventually quantitative
- Forces companies to truly quantify climate change risks
 - Internally then externally
 - Identify drivers and boundaries (geography, energy, water, natural resource use)
- Additionality
 - Attributable to climate change versus market forces

More Conclusions and Reality

- Much more in-depth analysis required to monetize impacts
 - No standards, just guidance
 - 65 percent of companies don't embed any sustainability data in communications with investors
- Carbon-intensive industries are ready; however, they will disclose little as to not “upset the market”
- Pass-throughs are important
- Capital expenditure will begin shifting
 - Amplified with higher climate change risk companies
- Asset valuations – extent of impact/reserves/ratings?

Contact Information



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