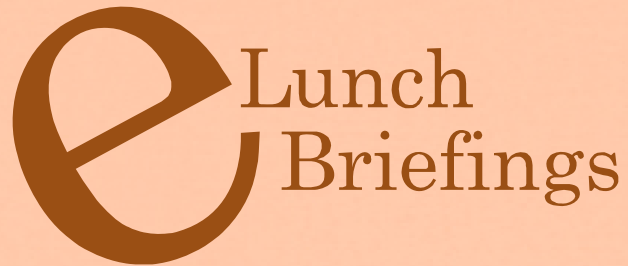


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Climate Change – Recent Developments and Recommendations for Energy Users

Brought to you by Winston & Strawn's
Environmental department

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Today's eLunch Presenters



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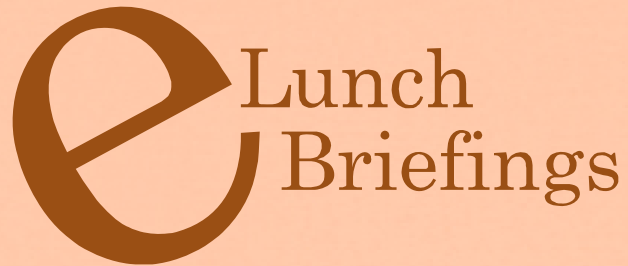


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Summary of Key Climate Change Provisions in House-Passed Clean Energy and Security Act ("ACES") - H.R. 2454

Bill Hall

ACES Background - 2009

- On February 24, 2009, President Obama asked Congress for cap and trade legislation on carbon pollution
- On March 31, 2009, 648-page discussion draft of ACES released by House Energy and Commerce Committee Chair, Henry Waxman (D-CA), and Energy and Environment Subcommittee Chair, Edward Markey (D-MA)
- On May 21, 2009, 946-page bill reported out of Waxman's Committee by 33 to 25 vote
- On June 22, 2009, 1201-page substitute bill filed with House Rules Committee
- On June 26, 2009, 1428-page ACES Act passed House by 219-212 vote, with 44 Democrats opposing and only 8 Republicans supporting
- Senate hearings and consideration starting in September 2009

Declining Cap on GHG Emissions

- ACES sets declining cap on greenhouse gas (GHG) emissions from 2005 national baseline of 7.2 billion metric tons and 2005 large emitter baseline of 6.1 billion metric tons
 - ❖ 2012 – 3% reduction (7.0 billion tons allowed national target)
 - ❖ 2020 – 20% reduction (5.76 billion tons allowed nationally) and 17% reduction for large emitters
 - ❖ 2030 – 42% reduction (4.2 billion tons allowed)
 - ❖ 2050 – 83% reduction (1.2 billion tons allowed)

GHGs Covered and CO₂e

- Seven GHGs are covered: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃)
- GHG emissions expressed as "CO₂e"
- Each GHG is designated an equivalent amount of CO₂ emissions that have same global warming impact
 - ❖ *E.g.*, metric ton of methane emissions is equivalent to 25 metric tons of CO₂ emissions

Large Emitters – Cap and Trade Requirements

- Under phase-in schedule, large emitters of CO₂e are subject to cap and trade requirements and must hold an allowance or offset credit (emission authorization) for each capped ton of CO₂e emitted annually
- An allowance is issued for a specified year ("vintage year") and normally must be used for emissions in that year, subject to borrowing
- Questions to answer:
 - ❖ Is my facility a "covered entity"?
 - ❖ When must it comply?
 - ❖ How many tons of "capped" CO₂e emissions does my "covered entity(ies)" release for which I need allowances or offset credits?

Large Emitters – Cap and Trade Requirements

- By April 1, 2013, emission authorizations required for capped 2012 emissions from:
 - ❖ Fuel producer/importers in 2008 or thereafter of petroleum-based or coal-based liquid fuel, petroleum coke, or natural gas liquid, the combustion of which would emit 25,000 tpy of CO₂e
 - Authorization for each CO₂ tpy from combustion of such fuels
 - ❖ Electric power facilities – authorization for each ton CO₂e emissions, except those from combustion of fuel or materials identified above and renewable biomass
 - ❖ Producers and importers of 25,000 tpy CO₂e in 2008 or thereafter of specified GHG fluorinated gases (e.g., fossil-fuel based CO₂, nitrous oxide, perfluorocarbons, sulfur hexafluoride, but not nitrogen trifluoride)
 - Authorization for each ton CO₂e produced or imported
 - ❖ Facilities emitting 25,000 tpy CO₂e in 2008 or thereafter of nitrogen trifluoride (1.45 tons) - authorization for each ton CO₂e of NF
 - Geologic sequestration sites - authorization for each ton CO₂e emitted

Large Emitters – Cap and Trade Requirements

- By April 1, 2015, emission authorizations required for capped 2014 emissions from:
 - ❖ Facilities in specified industrial sectors regardless of CO₂e emissions amount (e.g., primary aluminum production, ammonia manufacturing, cement production, petroleum refining, titanium dioxide production)
 - ❖ Facilities in chemical or petrochemical sectors that produce specified chemicals (e.g., carbon black, ethylene, methanol) or emitted 25,000 tpy of CO₂e in production of chemical or petrochemical products in 2008 or thereafter
 - ❖ Facilities in specified industry sectors (e.g., food processing, glass, iron and steel, lead, pulp and paper, zinc) and emitted 25,000 tpy of CO₂e in 2008 or thereafter

Large Emitters – Cap and Trade Requirements

- ❖ Facilities that emitted 25,000 tpy CO₂ in other industrial sectors from fossil fuel-fired combustion devices (petroleum, coal or natural gas fuels but not renewable biomass)
- ❖ For above four categories, authorization for each ton CO₂e emissions, except those from combustion of petroleum-based or coal-based liquid fuel, natural gas liquid, renewable biomass, or petroleum coke
- By April 1, 2017, emission authorizations for covered 2016 deliveries from:
 - ❖ Any natural gas local distribution company that delivered 460 million cubic ft. or more of natural gas in 2008 or thereafter
 - Authorization for each ton CO₂e emissions from combustion of natural gas delivered to customers that are not covered entities subject to cap and trade requirements

Medium Emitters – 10,000-24,999 TPY

- EPA required to promulgate performance standards based on phase-in schedule (3-10 yrs. after ACES enactment) for facilities that individually emit more than 10,000 tpy of uncapped CO₂e emissions and, in the aggregate, are in industry categories that emit at least 20% of annual uncapped CO₂e emissions
- Performance standards and cap and trade requirements must cover facilities with 95% of GHG emissions in an industrial sector
- Performance standards may consist of design, equipment, work practice, and operational standards
- Marginal cost of compliance with the performance standards cannot exceed EPA's projected cost for allowances if the facility was subject to cap and trade requirements

Compliance with Cap and Trade Requirements

- Compliance with capped CO₂e emissions requirements
 - ❖ Receive free allowances based on ACES allowance allocation
 - ❖ Buy allowances in auction
 - ❖ Buy offset credits
 - ❖ Reduce capped CO₂ emissions
- Declining amount of allowances allocated
 - ❖ 2012 – 4.63 billion tons
 - ❖ 2016 – 5.48 billion tons
 - ❖ 2020 – 5.06 billion tons
 - ❖ 2030 – 3.53 billion tons
 - ❖ 2040 – 2.28 billion tons
 - ❖ 2050 and thereafter – 1.035 billion tons

Allowance Allocation

- Electricity Local Distribution Companies (LDCs) for exclusive benefit of retail ratepayers –
 - ❖ 2012 and 2013 – 43.75%; 2016-2025 – 35.0%; 2029 – 7.0% after which allocation ends
- Natural Gas LDCs for exclusive benefit of retail ratepayers
 - ❖ 2016-2025 – 9.0%; 2026 – 7.2%; 2029 – 1.8%
- Oil refiners – 2% for domestic refiners and .25% for small business refiners (2014-2026)
- Energy intensive, trade vulnerable industries
 - ❖ High energy intensity (5%) or GHG intensity (5%), and trade intensity (15%)
 - ❖ 2012-2013 – 2%; 2014 – 15%; 2016-2025 – 13.4%; 2030 – 6.7%; 2033 – 1.3%

Allowance Allocation

- Early action allowances
 - ❖ Exchange of offset credits issued before January 1, 2009 by state or voluntary offset program - .75%
 - ❖ Documented early reduction or avoidance of GHG emissions before January 1, 2009 - .25%
- State-issued allowances
 - ❖ Exchange of allowances issued before December 31, 2011 by California, Western Climate Initiative, or Regional Greenhouse Gas Initiative

Allowance Allocation

- Others
 - ❖ States for investment in energy efficiency and renewable energy and home heating and propane customers
 - ❖ Low income consumers - auction value of 15% of allowances each year
 - ❖ Deployment of carbon capture and sequestration technology
 - ❖ Investment in clean vehicle technology
 - ❖ Investment in workers
 - ❖ Agriculture and renewable energy incentives programs
 - ❖ Climate change consumer refunds - leftover allowances
 - ❖ Deficit reduction - leftover allowances

Allowance Auctions and Use

- Allowance auctions held quarterly starting in March 2011 and open to any party (not just covered entities)
- Minimum allowance price of \$10/ton in 2012 increasing at 5% above inflation each year
- Normally must use allowances with vintage year that is same year as when capped emissions occurred, subject to borrowing:
 - ❖ No interest or limit on using allowances with vintage year which is one year later than emission year (2016 vintage year allowance used for 2015 compliance)
 - ❖ Up to 15% of emission year compliance can be satisfied by allowances with vintage years that are 1-5 years after emission year (2016-2021 vintage year allowances used for 2015 compliance); 8% annual interest fee
- No limit on banking of allowances

Strategic Reserve and International Allowances

- Strategic Reserve
 - ❖ Established to cushion allowance price increases and only available to covered entities
 - Consists of: 1% of 2012 – 2019 allowances; 2% of 2020 – 2029 allowances; and 3% of 2030 – 2050 allowances
 - Minimum price
 - 2012 - \$28/ton
 - 2013-2014 - 2012 price plus 5% above inflation
 - 2015 and thereafter – 60% above rolling 36-month average price for vintage year
 - Covered entities may purchase up to 20% of annual allowances from Reserve
- International allowances
 - ❖ EPA may allow covered entities to use allowances from foreign countries with GHG programs at least as stringent as ACES

Offset Credits

- Offset projects
 - ❖ Must represent "additional" (beyond legally required) and verifiable GHG emission reductions, avoidance, or sequestration
 - ❖ Complex rules about qualifications for domestic agricultural and forest offset projects and international offset projects in developing countries
- No more than 2 billion tons of offsets annually may be used for compliance
- Only a certain percentage of a covered entity's compliance obligation may be satisfied by offsets - 30% in 2012 and increases to 66% in 2050
- International offsets may be used
 - ❖ 2012-2017 - 1 international offset : 1 allowance
 - ❖ 2018 and thereafter - 1.25 international offset : 1 allowance

Cost to Comply

- For energy users, the compliance expenses consist of the costs of allowances and offset credits and increased energy costs
 - ❖ EPA estimated \$13 – 16/allowance
 - ❖ Energy Information Administration (EIA) predicted this week \$32/allowance in 2020 (range \$20 - \$93) and \$65/allowance in 2030 (range \$41 - \$191)
 - ❖ EIA projected \$566 billion decrease in GDP from 2012 – 2030 (.3%) with a high estimate of \$1.9 trillion GDP loss (.9%)
 - ❖ Using EIA 2020 allowance estimate, a facility with 40,000 tons of capped emissions would pay \$1.3 million/yr. for allowances

Senate Prospects for ACES

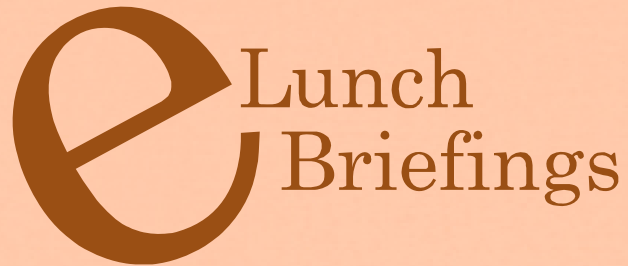
- Uncertain this year because of:
 - ❖ Economy and health care reform is current no. 1 priority
 - ❖ 60 votes needed to avoid filibuster and not all Democrats supportive because of regional concerns (e.g., coal states, mid-west industrial states, agricultural states)
 - ❖ Several key Senators want nuclear energy incentives - Lincoln (D-AR), Landrieu (D-LA), McCain (R-AZ), Alexander (R-TN)
 - ❖ China, India, and Brazil have not committed to needed GHG reductions (50% by 2050) and Copenhagen UN Climate Change Conference not until December 7-18, 2009
- Flip a coin



What Should My Organization Do Now?

- Develop GHG emissions profile for company facilities
- Determine likely applicability of ACES
- Determine lobbying needs in Senate debate for industry sector and/or individual company
- Reduce GHG emissions from facilities

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Update on Greenhouse Gases: *Massachusetts v. EPA* and EPA's Recent Endangerment Finding

Jay Holloway

Liz Williamson



Setting the Stage for Regulation of Greenhouse Gases (GHGs)

- 1999: International Center for Technology Assessment (a group of 19 private organizations) filed a Petition with EPA to regulate greenhouse gases
- Petition was under Section 202(a)(1) of the Clean Air Act that regulates new motor vehicles
- 2001: EPA denied the Petition on the grounds that the CAA does not provide it with authority to regulate greenhouse gases



Setting the Stage for Regulation of Greenhouse Gases (GHGs)

- Massachusetts and other states and local governments sought review of EPA's finding that GHGs are not regulated under the CAA in the D.C. Circuit
- 2005: D.C. Circuit denied review of the Petition, leaving EPA's finding in place
- States and environmental groups appeal to U.S. Supreme Court
- U.S. Supreme Court decides to hear the case

Massachusetts v. EPA

- GHGs at issue: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride
- Considered CAA, Section 202(a)(1):
- “The [EPA] Administrator shall by regulation prescribe . . . Standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare”

Massachusetts v. EPA

- Found that the Petitioners did have standing to sue EPA
- Evidence that states and local governments suffered an injury associated with climate change:
 - ❖ The NRC Report identified global environmental harms such as “retreat of mountain glaciers, reductions in snow-cover extent, the earlier spring melting of rivers and lakes, [and] the accelerated rate of sea levels during the 20th century relative to the past few thousand years....” *Id.* at 18 (citing NRC Report at 16).
 - ❖ Climate Scientist MacCracken: “Strong consensus” that global warming causes “irreversible changes to natural ecosystems,” “significant reduction in water storage in winter snowpack in mountainous regions,” and “increase in spread of disease.” *Id.* at 18.

Massachusetts v. EPA

- Court found Clean Air Act's definition of "air pollutant" very broad, encompassing "any air pollution agent or combination of such agents...."
- Court determined that the "sweeping" definition "embraces all airborne compounds of whatever stripe, and underscores that intent through the repeated use of the word 'any'"
- Since GHGs are physical and chemical substances emitted into the air, they are air pollutants regulated by the CAA

Massachusetts v. EPA

Outcome

- April 2, 2007: Court directs EPA to reconsider GHG Petition
- With regard to question of whether GHGs “cause[], or contribute[] to, air pollution which may reasonably be anticipated to endanger public health or welfare,” – the “endangerment question” – EPA has three options:
 - ❖ Find that GHGs do endanger public health or welfare
 - ❖ Find that GHGs do not endanger public health or welfare
 - ❖ Decline to make a finding and provide an explanation for “why it cannot or will not exercise its discretion to determine whether they do.”

Post-*Massachusetts v. EPA*

- EPA must act at the Court's direction
- 2007-2008:
 - ❖ Proposed endangerment finding for welfare only developed but never signed in late 2007
 - ❖ Advance notice of proposed rulemaking on regulation of GHGs in July 2008
 - ❖ Sought comments from the public on ANPR
- 2009: EPA issues Proposed Endangerment Finding on April 17, 2009 (published on April 24, 2009 in Fed. Reg.)

EPA's Proposed Endangerment Findings for GHGs

- Full text: issued as a proposed rule; See 74 Fed. Reg. 18886 (Apr. 24, 2009)
- Public hearings held on May 18 and 21, 2009.
- 60-day period to comment on the Proposed Endangerment ended on June 23, 2009
- EPA indicates that it will try to consider late comments when developing the final rule
- See EPA's website for the Proposed Endangerment:
- <http://www.epa.gov/climatechange/endangerment.html>

EPA's Proposed Endangerment Findings for GHGs

- Two proposed findings:
 - ❖ 1. Six GHGs endanger public health and welfare: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride
 - ❖ 2. Combined emissions of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons from new motor vehicles and new motor vehicle engines contribute to air pollution that is endangering public health and welfare

EPA's Proposed Endangerment Findings for GHGs

- Administrator will make two separate determinations in the Final Rule:
 - ❖ 1. Whether air pollution (GHGs) may reasonably be anticipated to endanger public health or welfare; and
 - ❖ 2. Whether emissions of any air pollutant from new motor vehicles or engines cause or contribute to this air pollution
- Proposed endangerment finding answers “yes” to both questions

EPA's Proposed Endangerment Findings for GHGs

- The Proposed Endangerment notes that EPA does not need to have scientific certainty to make endangerment finding but “must exercise reasoned decision making, and avoid speculative or crystal ball inquiries.” 74 Fed. Reg. at 18890, 18893
- Although contribution does not need to be significant under Section 202, “a truly trivial or *de minimis* ‘contribution’ might not count as such.” 74 Fed. Reg. at 18892-93

EPA's Proposed Endangerment Findings for GHGs

- How EPA supported the Proposed Endangerment for six GHGs in combination:
 - ❖ All share common physical properties relevant to climate change:
 - Long-lived in the atmosphere
 - Become globally well mixed in the atmosphere regardless of where emitted
 - Trap outgoing heat that would otherwise escape to space
 - Directly emitted as GHGs rather than forming as a GHG in the atmosphere after emission of a precursor gas
 - ❖ The six GHGs are at unprecedented levels in the atmosphere
 - ❖ These six GHGs are the “root cause” of observed climate change

EPA's Proposed Endangerment Findings for GHGs

- EPA's evidence of currently observed climatic and related effects:
 - ❖ Changes occurring in the amount, intensity, frequency, and type of precipitation
 - ❖ Sea level rose in 20th century and continues to rise at an increased rate
 - ❖ Globally, cold days, nights, and frost are less frequent; hot days, nights, and heat waves are more frequent
 - ❖ Arctic sea ice has shrunk
 - ❖ U.S. annual average temperatures are now approximately 1.25°F warmer than the start of the 20th century, accelerating the past 30 years

EPA's Proposed Endangerment Findings for GHGs

- How could a decision impacting motor vehicles impact your industry?
 - ❖ CAA, Section 108 authorizes the U.S. EPA to establish National Ambient Air Quality Standards (NAAQS) for criteria air pollutants to protect public health and the environment. Criteria air pollutants must meet the following criteria:
 - 1. Emissions cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare
 - 2. Presence in the ambient air results from numerous or diverse mobile or stationary sources
 - ❖ Presently, criteria pollutants are: ozone, carbon monoxide (CO), nitrogen oxides (NO_x), sulfur oxides (SO_x), particulate matter (PM₁₀), and lead. NOT GHGs

EPA's Proposed Endangerment Findings for GHGs

- ❖ CAA, Section 108 (criteria pollutants) has endangerment language that is almost identical to the Section 202
- ❖ Prevention of Significant Deterioration (PSD) would be triggered for GHGs once GHGs are “regulated air pollutants”
- ❖ Section 115 (international petitions), Section 615 (stratospheric ozone protection)



Status of Greenhouse Gas (GHG) Litigation

- Three Basic Types of Cases
 - ❖ Litigation against EPA to force action on GHG (Clean Air Act, ESA)
 - ❖ Litigation against corporations for contribution to climate change
 - ❖ Permit challenges against new coal plants



Forcing EPA Action under the CAA

- *Massachusetts v. EPA*
- *New York v. EPA*
- Post- *Massachusetts v. EPA*, these cases now remanded to EPA Endangerment Rulemaking

Forcing EPA Action under ESA

- Cases to date center around ESA listings and alleged “takings” from climate change resulting from CO₂ emissions from industry
- Examples include:
 - ❖ Polar bears
 - ❖ Penguins
 - ❖ Sea birds
 - ❖ Walruses
 - ❖ Sea turtles

Litigation against Corporations

- *Comer, et al. v. Murphy Oil USA, et al.*, 2006
 - ❖ Post-Katrina filed in the Southern District of Mississippi
 - ❖ Dismissed on political question grounds August 2007
 - ❖ On appeal since September 2007
 - ❖ Other defendants:
 - Universal Oil, Shell Oil, Chevron , ChevronTexaco , Exxonmobil, ConocoPhillips, BP, American Petroleum Institute, AEP, Southern, TVA, Xcel, TXU (Luminant), Cinergy, Reliant, Edison International, E.On, Progress Energy, Ameren, Scottish Power PLC, Entergy, Allegheny Energy, Duke Energy, Firstenergy, Dominion Resources, DTE, FPL, Mirant, AES, Dupont, Honeywell, Dow Chemical, American Chemistry Council, Arch

Litigation against Corporations

- *Native Village of Kivalina, et al. v. Exxonmobil Corporation, et al.* (Feb. 2008)
 - ❖ Village alleging damage from loss of ice and rise of ocean levels
 - ❖ Federal common law and state nuisance claims
 - ❖ Civil conspiracy claim based on:
 - Exploitation of scientific studies
 - Denial of consensus on global warming
 - Misleading advertising
 - Funding global warming critics

Litigation against Corporations

- ❖ Kivalena
- ❖ Other defendants:
 - BP, Chevron, ConocoPhillips, Royal Dutch Shell, Peabody
 - AES, AEP, DTE, Duke, Dynegy, Edison Intl, Midamerican, Mirant, NRG, Pinnacle West, Reliant, Southern, Xcel
- ❖ Multiple rounds of Motions to Dismiss pending



Citizen Group's Stated Position on Coal-fired Power – Sierra Club's Speech to ABA Meeting in March, 2009

- The environmental community will seek to shut down coal-fired power and replace it with alternative energy and conservation programs
- Shut down will be forced by arguing for installation of expensive air quality, water quality and waste management projects
- The lethal combination for coal plants is enforcement of air toxics requirements and CO₂ controls. "Billions would have to be spent to retrofit the dinosaurs." David Bookbinder, Sierra Club
- New, more strict NAAQS for air emissions, more strict clean water discharge limitations, and classification of coal ash as hazardous waste under the Resource Conservation and Recovery Act, will be supported and pressure will be placed on EPA to establish new regulations and policies, and enforcement actions

Litigation to Stop New Coal Plants

- Sierra Club challenging every new coal plant
 - ❖ CO₂ increasingly used as part of these challenges
 - ❖ Success relies on ability to persuade state agencies/governors to back CO₂ challenge
 - ❖ Successful in Kansas, Georgia, Florida, Montana
 - ❖ Unsuccessful in Kentucky, Illinois, Virginia, South Dakota

In Re Desert Power Electric Cooperative

- 110 MW coal-fired CFB unit on Indian lands
- EPA Region 8 is lead permitting agency
- Permit Issued (2007), Remanded on CO₂ Grounds by EAB
- EPA Administrator Johnson upheld permit finding CO₂ not a CAA pollutant
- EPA Administrator Jackson granted the Sierra Club's Request for Reconsideration of the Johnson finding pending endangerment rulemaking

Desert Rock Case

- Desert Rock Energy Facility, Navajo Nation, N.M.: July 31, 2008, EPA issued a final PSD Permit for a new 1500 MW coal-fired project
- Sierra Club argued EPA should have required Integrated Gasification Combined Cycle (IGCC) technology as a result of BACT analysis
- In January, Region 9 withdrew the portion of the Bush Administration EPA's response to comments that explained the basis for not evaluating CO₂ emissions in the BACT analysis. Region 9 requested more time to file Surreply Brief on these issues (by April, 2009)
- April 27, 2009, EPA Region 9 filed a Motion for Voluntary Remand with EAB to reconsider CO₂ issue (likely primary issue) and other issues
- Status: EPA's Motion has in effect reopened EPA's decision process on many issues: PM_{2.5}, mercury controls, use of IGCC in BACT analysis, ESA issues, sufficiency of additional impact analysis and others
- Possible outcome: If permit remanded back to EPA, EPA would further analyze the permit, could reverse Bush Administration PSD findings, and put permit back out for public comment (likely many months)

Sunflower Electric Coop

- On October 18, 2007, Kansas Secretary of Health and Environment Bremby vetoed a Clean Air Title V permit for Sunflower, despite the approval of his staff and General Counsel, citing the United Nations report on Global Warming
- In 2007, 2008 and 2009 the Kansas Legislature passed bills to over-ride the veto of Secretary Bremby
- In 2007, 2008 and 2009, then-Governor Kathleen Sebelius vetoed the Kansas Legislation
- April 28, 2009, Kathleen Sebelius was sworn in as Secretary of Dept. of Health and Human Services, and resigned as Governor the same day

Sunflower Electric Coop

- May 5, 2009, Governor Parkinson and Earl Watkins, CEO, Sunflower Electric announced a "comprehensive energy plan" for Kansas with provisions for wind, biomass and transmission development; and a 895 MW coal-fired power plant with "an unprecedented level of carbon mitigation"
- Sierra Club stated "We're just disappointed that the state is still going to be building a coal-fired power plant. That means a model for building coal plants in the rest of the county."
- May 8, 2009, actions were still pending involving the Sunflower plant in U.S. District Court, Wichita and the Kansas Supreme Court. Sierra Club is an intervener or has petitioned to intervene in both.
- May 5, 2009, Sunflower indicated in a statement that the permitting process will resume after an 18-month delay

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Addressing the Risks and Opportunities of GHG Requirements

May Wall



Why Develop a GHG Profile

- U.S. is moving toward mandatory GHG monitoring and emissions limits
- Carbon and other GHG-intensive economic sectors will be impacted
- Significant GHG emissions in a company's value chain could result in increased upstream costs or reduced downstream sales



Constraints on Carbon and other GHGs

- The cost of carbon and other GHG regulation will ultimately affect the cost to do business
 - ❖ Increased energy and raw material costs
- Need to "green" the supply chain at demand of customers and shareholders
 - ❖ Preserve (and enhance) market share
- Important public relations opportunities



Supply Chain Implications

- "We see our carbon footprint as extending beyond our own buildings and trucks to include our suppliers and customers."
 - ❖ For example, Wal-Mart is working with suppliers to reduce packaging by 5% by 2013
 - ❖ Wal-Mart Sustainability Progress Report for 2007-2008



Sustainability Initiatives

- Consumer equipment manufacturers involved in the Carbon Disclosure Project are beginning to evaluate financial risk associated with carbon intensive operations and products
 - ❖ Investing in development of appliances with improved energy and water efficiency recognizing "had we not invested in [these development projects] or invested it in the "wrong" products, there could be substantial risk of shareholder value."
 - Whirlpool Corporation response to CDP



Investor Interest

- NGO's and others are assessing implications of climate change on shareholder value and commercial operations
 - ❖ Collecting and publishing company-specific data
 - ❖ Sustainable manufacturing and development has become central to climate change debate

Disclosure Demands

- CERES Investor Network on Climate Risk (coalition of investors, environmental, and public interest organizations) petitions to and recent meetings with SEC
 - ❖ Wants disclosure of the financial risk of current/probable future laws regarding climate risk; litigation and judicial decisions that may have material financial effect; physical impacts of climate change (sea level increases, changes in weather patterns); and Company's current strategic position on emissions management and corporate governance concerning climate change and related financial risks

Disclosure Obligations

- SEC requires disclosure of known and contingent material environmental liabilities;
- No "bright line" test for materiality; U.S. Supreme Court has held that a matter is material if a "reasonable investor" would view it as significantly altering the total mix of information available to the investor" *TSC Indus. Inc. v. Northway, Inc.*, 426 U.S. 438, 448 (1976)
- SEC has said that a matter is material if a reasonable investor would consider it important
 - ❖ SEC Staff Accounting Bulletin Release No. 99 (August 12, 1999)



Disclosure Obligations

- With respect to climate change risks, it is arguable that climate change impacts are material because investors want to know that the company has assessed them
- Given the multitude of shareholder resolutions, the legislative activity, the petitions to the SEC, and now, SEC attention to the issue, it is clear that investors want to know



Climate Risk Analysis

- Attorney General Cuomo subpoenas to 5 large energy companies; settlement with 2 largely parallels the CERES disclosure framework
- While each of these risks are not likely to be material to all, or even many, companies, investors want both to know that management has evaluated the risks and the benefit of management's analysis

Insurance Implications

- National Association of Insurance Commissioners adoption of climate risk disclosure requirement, March 2009, effective March 2010
 - ❖ Carriers w/premiums in excess of \$500 MM- annual disclosure of financial risk and actions taken to mitigate risk; carriers w/premiums in excess of \$300 MM, report one year later



Insurance Implications

- Scope of carriers' disclosure obligation is broad:
 - ❖ Impact of climate change; how carrier is altering risk management and risk modeling to reflect climate change; steps taken to educate regulators, policy makers, and policy holders on risk; and how carrier is changing its investment strategies in response to climate change



Insurance Implications

- Insurers now targeting their products to spur use of new technologies and practices to adjust to and combat climate change
 - ❖ Green building products; discounts for drivers with lower annual mileage; products for carbon capture and storage and renewable energy projects; reduced premiums for carbon off-set projects certified by the Gold Standard rating service; discounts on workers compensation and environmental coverage for customers with sustainable practices and products



Developing a GHG Profile: Emissions Protocols

- Voluntary protocols--accounting for and reporting GHG emissions have been developed by, among others
 - ❖ The WRI/WBCSD Greenhouse Gas Protocol Initiative (corporate standard; project accounting protocol and guidelines; product standard in development)
 - ❖ ISO 14064-1 (specification with guidance at the corporate level for quantifying and reporting GHG emissions and removals)

GHG Reporting Guidelines

- Guidelines for reporting GHG emissions and climate change risks also being developed by
 - ❖ The CDP and the Climate Disclosure Standards Board ("CDSB Reporting Framework"—officially launched May 25, 2009 in Copenhagen at the World Business Summit on Climate Change);
 - ❖ ASTM (draft standard on "Financial Disclosures Attributed to Climate Change")



GHG Protocol as Standard Measurement System

- The Carbon Disclosure Project and the Supply Chain Leadership Collaboration
 - ❖ Uses the GHG Protocol as basis for disclosures; 72% of Fortune 500 companies reported to the CDP in 2008 regarding corporate GHG profile
 - ❖ Working on standardizing a process for supply chain reporting of carbon emissions, risks, opportunities and strategies
 - ❖ CDP claims its process is the established global system for disclosing carbon emissions embedded in individual and shared supply chains

GHG Policies and Business Opportunities

- Cost savings; risk prevention; market opportunities
- Cost savings from managing energy use (energy efficiency measures; renewable generation resources)
 - ❖ Investment in green technology to improve energy efficiency and reduce emissions
 - ❖ Large energy users --combined heat and power technologies – used with both fossil fuels and locally sourced and renewable fuels like landfill gas, biomass or digester gas
 - ❖ Distributed energy generation – rooftop solar

Opportunities

- Supplemental revenue stream from sale of excess electricity
- Tax benefits
 - ❖ Tax incentives for energy efficiency and alternative, non-fossil fuel energy sources
 - ❖ The American Recovery and Reinvestment Act of 2009 – tax incentives to reduce energy consumption and lower GHG emissions including, among other things:

Tax Incentives

- Immediate tax deduction of the cost of "energy efficient commercial building property" (up to \$1.80 per square foot) for systems like interior lighting, HVAC or building envelope systems
 - ❖ Immediate write-off of the cost of these systems (assuming marginal corporate income tax rate of 35%) would be worth \$0.35 per \$1.00 spent

Tax Incentives

- Numerous enhanced tax credits for using CHP technology, solar, wind, and geothermal energy generation
 - ❖ Investment tax credit of 10% is available to the owner, lessor, or lessee of qualifying CHP projects placed in service before January 1, 2017
 - ❖ And a 30% investment tax credit is available for qualifying solar heating and cooling generation assets placed in service by January 1, 2017 and for wind generation assets placed in service before January 1, 2013

Tax Incentives

- Tax credits available to encourage the conversion of corporate auto fleets to cleaner or more efficient energy use
 - ❖ Incremental cost of the conversion may be offset by the tax credits
 - ❖ Allows you to think of your company's federal income tax liability (including future tax liability) as an "asset" to be used to offset the cost of the associated energy measures



How to Develop a Carbon Profile: WRI/WBCSD GHG Protocol

- Components of an inventory:
 - ❖ Direct emissions for production processes
 - ❖ Carbon from electricity used in the business (carbon content of fuel used to generate the electricity given amount of electricity consumed)
 - ❖ Embodied emissions in raw materials being used, including transportation of raw and waste materials and products, fugitive emissions, and employee travel



Emissions to be Counted Include:

- Direct emissions from the generation of electricity, heat, or steam, as well as from physical or chemical processing
- Indirect emissions from the generation of purchased electricity consumed in processes
- Indirect emissions also include upstream GHGs embodied in the extraction or production of purchased materials and fuels; transport-related activities both upstream and downstream; and waste disposal as well as the use of sold products and services

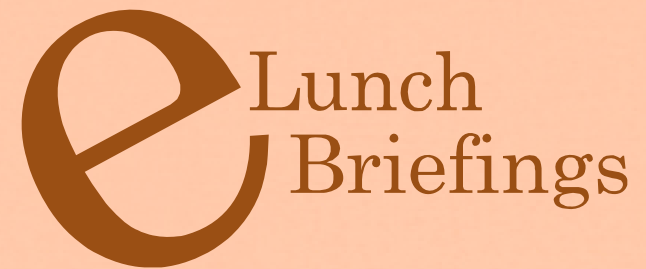
Sector Specific Protocols

- Sector specific protocols by industry associations, including, among others:
 - ❖ The International Aluminum Institute
 - ❖ The International Council of Forest and Paper Associations
 - ❖ The International Iron and Steel Institute
 - ❖ The WBCSD Cement Sustainability Initiative
 - ❖ The International Petroleum Industry Environmental Conservation Association

In conclusion....

- Companies that act now to identify, manage, and reduce its GHG emissions will be in the best position to save money on energy consumption, obtain marketing advantages, effect policy alternatives, and meet anticipated federal and state regulations

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Questions?

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