



Environmental Law Update

WEB CONFERENCE SERIES

**Spring Greening – From Innovation to Regulation:
Sustainability in Business**

Thursday, March 20, 2008
11:30 a.m. – 12:30 p.m. CST



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Welcome & Introductions



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Introductions



Gary S. Rovner



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Low Impact Development and Brownfields



Elizabeth A. Cason

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Emerging Legal Requirements and Incentives



Cherie S. Raidy

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Understanding Carbon – Regulatory Issues & Opportunities



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Emerging Trends in E-waste



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Low Impact Development and Brownfields

Elizabeth A. Cason



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What is Low Impact Development (LID)

- Innovative approach to stormwater management that attempts to duplicate the hydrologic regime of an undeveloped watershed
- Reduces negative impacts on resources
- Basic integrated management practices include
 - Conservation and minimization
 - Storage
 - Conveyance
 - Landscaping
 - Infiltration



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Key Elements of LID

- Stormwater management at a local scale to minimize impact of development on the local watershed
- Ecosystem based: design what you are building as a functioning part of the ecosystem, not apart from it
- Relies on advanced technologies more than conservation and growth management

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Conservation and Minimization

- Preservation of native trees, vegetation and soils
- Maintenance of natural drainage patterns
- Narrowing of residential streets
- Shared driveways and reduced setbacks
- Reduction of impervious sidewalks
- Grated infiltration systems
- Concave medians
- Porous pavement
- Landscaped calming features
- Parking groves

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Storage

- Rainwater capture and re-use (rain barrels, rain gardens)
- Pedestal sidewalks
- Roof top detention
- Green roofs
- Yard storage
- Subsurface storage
- Curb storage

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Conveyance

- Direct runoff to natural areas
 - Effective groundwater recharge areas
 - LID plans retain as much of the stormwater on site as possible
- Disconnection of impervious areas
- Eliminating curbs and gutters
- Controlling polluted runoff from impervious services, including street sweeping of roads and lots
- Porous pavement
- Grassed channels
 - Exfiltration
 - Bioretention
 - Infiltration

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Landscaping

- Allows for water removal through evapotranspiration and pollutant removal through nutrient cycling
- Native groundcover landscaping
- Bioretention: detains water long enough for infiltration and pollution removal to occur
 - Filter strips (collect flow from large impervious surfaces)
 - Rain gardens
 - Stormwater wetlands (treats stormwater runoff by slowing stormwater which traps pollutants)
 - Grass swales (reduce runoff velocity and allow filtration, function as alternatives to curb and gutter systems)



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Infiltration

- Promotes groundwater recharge and pollutant processing
- Reduces volume of rainfall runoff
- Methods used:
 - Infiltration trench
 - Below pavement infiltration basins
 - Exfiltration devices



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Maintaining Natural Buffer Areas

- Natural buffer areas such as woods or meadow exhibit better surface storage and infiltrative characteristics over turf grass
- By keeping these areas in their natural sustainable state, we also minimize the introduction of additional nutrients from excessive fertilizer application

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Where can I use LID

- New developments
- Urban retrofits
- Redevelopment
- Revitalization

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Potential Benefits and Risks

- Reduction in costs associated with site development, stormwater fees and maintenance
- Savings for developers in stormwater construction costs through reductions in clearing, grading, pipes, ponds, inlets, curbs and paving
- Aesthetically pleasing
- Increase in quality of water in local streams, rivers, lakes or bays



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Shared Stormwater Treatment

- Allows for higher density and more compact use on most buildable grounds
- Creates greenspace and recreational amenity
- Existing codes and regulatory framework may not be suited
- Typically requires large tract redevelopment
- Who operates and maintains these systems, and who is responsible for contamination from runoff
- Do we need covenants on the title associated with these issues



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Why Redevelop a Brownfield Site

- Existing infrastructure
- Existing economic incentives
- Workforce
- Historical commitment
- Location

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Intersection of Brownfields and LID

- Growth management strategies, that emphasize saving of green space and redevelopment of existing urban regions, can utilize retrofit capability of LID to promote ecologically-restorative infill and brownfields development in impaired stream areas
- Full LID process starts with many of the same conservation and impact minimization principles inherent in other strategies

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Intersection of Brownfields and LID (continued)

- Residual contamination on brownfield sites may complicate the application of LID techniques
 - How to mitigate stormwater problems and detail rainwater on site without furthering the spread of soil and groundwater pollutants
 - Some precedent cases where LID has been applied to brownfield sites, such as the Chicago Center for Green Technology and the Water Pollution Control Laboratory in Portland, Oregon



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Benefits of LID for Urban Development

- Micro-scale management practices and source control able to generate substantial benefits in existing urbanized watersheds
 - Most LID techniques, like rain gardens and tree planter boxes, use only a small amount of land on any given site
- Many LID practices, including bioretention, are good for urban retrofit projects since they are easily integrated into existing infrastructure
 - roads, parking areas, buildings and open space



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Issues with LID on Brownfields Sites

- Inherent tension between leaving in place contamination and water infiltration that needs to be managed because LID techniques may not work well within existing system of risk-based cleanup standards that prefer to cap everything
- Site planners will need to perform a thorough site analysis to balance cleanup, development and conservation goals

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Issues with LID on Brownfields Sites (continued)

- May need covenants on the title associated with these issues
- Sustainable practices may have higher maintenance costs
- How to allocate such costs in complicated brownfields arrangements
- Typical local ordinances designed before LID concepts in place
 - Variance or waiver may be necessary, creating delays

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What to Expect

- H.R. 5469, the Waterfront Brownfields Revitalization Act introduced on February 14, 2008, would authorize EPA to establish a waterfront brownfields pilot program to assist and showcase areas that are overcoming challenges of waterfront brownfields
 - Program intended to foster innovative approaches to waterfront brownfields, including use of LID, stormwater protection and green infrastructure
- EPA holding a conference to discuss LID application to brownfields sites
- LID will continue to gain acceptance and regulatory backing throughout the country

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Emerging Legal Requirements and Incentives

Cherie S. Raidy

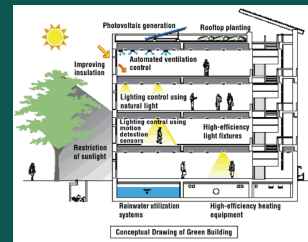
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What are Green Projects

- According to the U.S. Department of Energy, residential and commercial buildings account for one-third of the energy consumed and two-thirds of electricity consumed in the United States
- Green building practices offer an opportunity to:
 - Use energy efficient and effectively
 - Curtail water usage and pollution
 - Reduce wastes
 - Abate air pollution, and
 - Counter the negative effects of sprawl



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What are Green Projects *(continued)*

- Green projects (design or development) whether in the context of building construction or product design seeks to maximize energy efficiency, minimize resource use and waste production, reduce or eliminate toxic materials and reduce the overall impact of the building on the environment
- Green or sustainable building is the practice of creating healthier and more resource-efficient models of construction, renovation, operation, maintenance and demolition
- Research and experience demonstrate that when buildings are designed and operated with their lifecycle impacts in mind, they can provide great environmental, economic, and social benefits

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What are Green Projects *(continued)*

- Elements of green building include:
 - Energy efficiency and renewable energy
 - Water stewardship
 - Environmentally preferable building materials and specifications
 - Waste reduction
 - Toxics
 - Indoor environment
 - Smart growth and sustainable development



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U.S. Green Building Council (USGBC)

- U.S. Green Building Council (USGBC) is a private, nonprofit organization based in Washington, D.C. whose goal is the promotion and standardization of green building methods
 - It is the nation's foremost coalition of leaders from every sector of the building industry working to promote buildings that are environmentally responsible, profitable and healthy places to live and work
 - USGBC's core purpose is to transform the way buildings and communities are designed, built and operated enabling environmentally and socially responsible, healthy and prosperous environments that improve the quality of life

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USGBC *(continued)*

- USGBC has established a set of standards known as “Leadership in Energy and Environmental Design” (LEED)
 - LEED is the most widely recognized set of standards for green design in the U.S.
 - LEED standard for new construction (LEED-NC) and major renovations awards points for specific credits in a number of categories including water efficiency; energy and atmosphere; materials and resources; indoor environmental quality and innovation; and design quality
 - They have developed specific versions of the LEED rating system to assist specific building types in achieving certification
 - STANDARDS: Water efficiency, energy and atmosphere, waste and materials use reduction, indoor environmental quality
 - Indoor air quality is significant for attorneys. Liability for poor indoor air quality can arise in the context of worker’s compensation claims, intentional torts or even governmental regulatory violations



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Economics of Green Building

- Capital markets for green buildings are very small and in the early stages of development. Green structures represent a relatively small fraction of the overall building inventory and green structures held for investment purposes are a relatively small subset of the overall green building universe

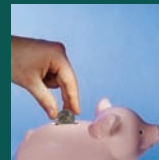


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Economics of Green Building *(continued)*

- There are only a few sources of debt and equity that specialize in financing green commercial real estate projects. There are some lenders that have green lending programs and several private equity funds that are focused on green property investment
 - SF-based Wells Fargo & Company has provided \$720 million in financing on 13 LEED-certified buildings located across the United States as of January 2007



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Economics of Green Building *(continued)*

- The State of California has explored the issue or whether green buildings are more expensive than standard construction through a study – *The Costs and Financial Benefits of Green Buildings: A Report to California's Sustainable Building Task Force*. This is the most rigorous study ever done on the costs and benefits of green buildings as defined by LEED

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Economics of Green Building *(continued)*

- The study found that sustainable buildings are a cost-effective investment. Financial benefits of green design run from \$50 to \$70 per square foot in a LEED building
- Major challenges to business acceptance of green building and sustainable development:
 - “Disconnect” between real estate and advocates of green building
 - Strong financial case has to be made



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Legal Implications

- Green design and building standards are currently generally voluntary
- For companies who have environmental enforcement actions brought against them by federal or state officials, a green building project can be sometimes used as part of the resolution of an enforcement case
 - Federal or state governments sometimes accept Supplemental Environmental Projects (SEPs) as means to mitigate penalties in environmental enforcement cases



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Outlook and Trends

- The pace of development and adoption of green building standards has occurred at a rapid pace
 - Level of acceptance has increased, and level of industry and public expectations have simultaneously increased as well
- The green building trend is not going away and is likely to be increasingly reflected in legal requirements and incentives
- Attorneys with clients in real estate, construction, development, building operation and management clients who are subject to certain environmental requirements should keep abreast of the developments in this area



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Outlook and Trends *(continued)*

- The Green Building Initiative (GBI) is a non-profit network of building industry leaders committed to bringing green to mainstream residential and commercial construction. The GBI believes in building approaches that are environmentally progressive, but also practical and affordable for builders to implement. The GBI has developed an easy to use, inexpensive and web-based rating tool called Green Globes, which is being upgraded in accordance with ANSI procedures.



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Outlook and Trends *(continued)*

- The U.S. Environmental Protection Agency's EnergyStar program rates commercial buildings for energy efficiency and provides EnergyStar qualifications for new homes that meet their standards for energy efficient building design.

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Outlook and Trends *(continued)*

- In 2005, Washington became the first state in the U.S. to enact green building legislation. According to the law, all major public agency facilities with a floor area exceeding 5,000 square feet (465 m²), including state funded school buildings, are required to meet or exceed LEED standards in construction or renovation. The projected benefits from this law are:
 - 20% annual savings in energy costs
 - 20% reduction in water costs
 - 38% reduction in waste water production
 - 22% reduction in construction waste

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Outlook and Trends *(continued)*

- In 2006, Charlottesville, VA became one of the first small towns in the U.S. to enact green building legislation. This presents a significant shift in construction and architecture as LEED regulations have formerly been focused on commercial construction. If U.S. homeowner interest grows in “green” residential construction, the companies involved in the production and manufacturing of LEED building materials will become likely candidates for tomorrow’s round of private equity and IPO investing.



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ARTICLES

8/27/2007
EMERGING LEGAL REQUIREMENTS AND INCENTIVES FOR GOING GREEN
California Real Estate Journal

Residential and commercial buildings account for 40 percent of total U.S. energy consumption. In response to high energy costs and dramatic environmental deterioration, developers are adopting “green building” methods. Green projects, also known as “sustainable” building, maximize energy efficiency while minimizing the overall negative impacts of buildings on the environment and human health. Local, state and federal governments increasingly are providing financial and legal incentives as well as requiring developers to build green.

Legal Incentives

The U.S. Green Building Council's Leadership in Energy and Environmental Design system is regarded as the national standard for green building design. It has motivated many organizations and individuals to construct green buildings and homes. The LEED system rates the effectiveness of “green” building across several categories to determine the certification of a building. The certification range from lowest to highest is certified silver, gold and platinum.

For attorneys, one of the most significant areas of interest in green building is the indoor air quality category of LEED. The U.S. Environmental Protection Agency classifies indoor air quality as one of the top five environmental health risks today, and evidence is growing that poor indoor air quality affects the health and performance of the people who work, live and study in buildings. Therefore, liability for poor indoor air quality can arise in the context of workers' compensation claims, intentional torts or even governmental regulatory violations.

The LEED standards mitigate the possibility of indoor air quality litigation by ensuring that ventilation and airflow are at a level that minimizes the potential for adverse health effects within a building. In addition, a building owner, manager or developer can argue against a claim of injury from poor indoor air quality by demonstrating that the building meets the LEED standard for indoor air quality, which could be powerful evidence against causation.

A green building project also can be used as part of the resolution for companies that have environmental enforcement actions brought against them. Federal or state governments sometimes accept supplemental environmental projects as means to mitigate penalties in environmental enforcement cases. For example, the EPA allows a supplemental environmental project penalty mitigation credit for those agreeing to use or support the use of green building methods at a nearby contaminated property.

Legal Requirements

Although obtaining LEED certification is primarily voluntary, local, state and federal

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governments are encouraging and requiring developers to build green by providing incentives. Therefore, knowledge of green standards, including LEED, is necessary for developers and builders because governmental entities increasingly are requiring that green standards be met for public building projects.

A recent trend is requiring green certification standards, both for public and private development. The Los Angeles Unified School District decided that all its new schools must be "high-performance schools," both academically and environmentally. The district therefore mandated that every school designed after the year 2003 will need to meet the tough sustainability standards set forth by the Collaborative for High Performance Schools, which is a green-rating program especially designed for schools. LAUSD was the first district to issue such a mandate.

In the private development arena, some cities require certain "green" elements as part of their standard conditions of approval for private projects. For example, the California cities of Pleasanton, Livermore and Novato all enacted mandatory residential green building ordinances, requiring LEED-based green building standards for private development. The city of Pleasanton was the first in the state and one of the first in the nation to require that large commercial buildings meet minimum LEED standards and that civic projects qualify for LEED silver certification.

On Dec. 14, 2005, California Gov. Arnold Schwarzenegger signed Executive Order S-20-04, creating a Green Building Action Plan to improve the energy performance of all state buildings and reduce grid-based energy usage in state buildings by 20 percent of 2003 levels by 2015. Under this order, all state-funded buildings must be rated to at least LEED silver-level certification.

The state Legislature has introduced a triumvirate of bills concerning green building projects and standards, referred to as Assembly Bill 888, Assembly Bill 35 and Assembly Bill 1058. These three bills, if adopted, would set standards for nonresidential commercial buildings, construction and renovation of state buildings and best practices for residential home construction.

Congress passed the Energy Policy Act of 2005 on Aug. 8, 2005. The act attempts to combat growing energy problems by providing tax incentives and loan guarantees for energy production of various types. Under the act, owners or designers of new or existing commercial buildings can claim a tax deduction of up to \$1.80 per square foot for structures that save at least 50 percent of the heating and cooling energy of a building that meets prescribed efficiency standards.

In addition, the Energy Star Program, created by the Environmental Protection Agency and Department of Energy in 1998, certifies buildings in the top quarter of comparable buildings for achieving energy efficiency, meeting certain performance criteria and satisfying minimum standards for healthy indoor air quality.

With the marketplace changing rapidly, the real estate industry needs to adapt promptly to these new regulations and incentives. "Going green" is no longer just the right thing to do. In more and more jurisdictions, it has become the only thing to do.

The development and adoption of green building standards has occurred rapidly. Given the increasing level of environmental awareness and the prospect of continued high energy costs, the green building movement, with its legal requirements and incentives, seems poised to become a long-term force in the real estate development and building industries. Attorneys with clients in real estate, construction, development, building operation and management should be alert to green building developments in order to maximize benefits and avoid liability.

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Understanding Carbon – Regulatory Issues & Opportunities

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Corporate Concern – McKinsey Quarterly 2008

- Survey on greenhouse gas:
 - 60% executives – climate change “important”
 - 70% executives – greenhouse gas a consideration for corporate reputation/brands
 - 50% CEOs – account for greenhouse gas in product development investments and supply chain
 - 33% executives – put greater emphasis on climate change than other global trends
 - 80% CEOs – anticipate greenhouse gas regulation in 5 years
 - However, a majority of executives find trading in greenhouse gas rights not important

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McKinsey Quarterly 2008 Survey

- Companies finding climate change important:
 - Energy companies
 - Publicly-owned enterprises
 - Organizations with revenues greater than \$1 billion
 - Located primarily in Europe and Asia

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Interpretation of Results – McKinsey Survey

- Companies responding to:
 - Corporate image
 - Customer preference
 - Media attention
- Slowly factoring greenhouse gas into decisionmaking
- Likely due to:
 - Revamp of Kyoto system
 - Lack of full participation of major greenhouse gas continues
 - Lack of U.S. greenhouse gas regulatory system

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U.S. – Greenhouse Gas Changing Perspective

- Regulation – likely a year away (2009)
- Substantial legal activity shaping future requirements – *Massachusetts v. U.S. EPA*
- Most companies not fully aware of issue and cost or opportunities

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Greenhouse Gas – Energy Regulations

- Changing U.S. EPA positions
 - September 2007 Clean Air Task Force – CO₂ new source review rule forthcoming
 - Fall 2007 – Nakayama confirms CO₂ new source review rule development
 - Administrator Johnson Congressional testimony, November 2007 – backs away from CO₂ new source review rule
 - Denial of California waiver, December 2007 – no CO₂ new source review rule

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California Waiver Denial (2/29/08)

www.epa.gov/otaq/url-fr/fr-waiver.pdf

- Denied based on lack of unique circumstances
- However, acknowledged greenhouse gas increase manmade and adverse affects occurring – sea level, precipitation and temperature changes

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Federal/State Action

- Congressional action
- State/regional – state-only requirement
 - RGGI (2009)
 - WCI (western states – 2010)
 - Midwest Governors Accord
 - Kansas CO₂ decision (Sunflower)
 - Minnesota – CO₂ offsets

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Massachusetts v. U.S. EPA

- Statutory focus – specific words used in Clean Air Act
- CO₂ – “air pollutant” under Clean Air Act
 - Air pollutant – “any air pollution agent . . . which is emitted into or otherwise enters the ambient air” [§ 7602(g)]
 - Endanger public, welfare – effects on weather and climate [§ 7602(h)]

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Court Holdings

- CO₂ emissions – found to contribute to climate change
- “Because greenhouse gases fit well within the Clean Air Act’s capacious definition of ‘air pollutant,’ **we hold that EPA has the statutory authority to regulate**”



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Massachusetts v. U.S. EPA: Title I – BACT Implications

- Section 7475(a) – “[n]o construction of a major source unless”
- Section 7475(a)(4) – “[t]he proposed facility is subject to best available control technology for each pollutant **subject to regulation** under this Act”
- Key aspect – is CO₂ “subject to regulation” after Massachusetts v. U.S. EPA decision?
- **Note** – if CO₂ subject to regulation, BACT de minimis is zero unless U.S. EPA rulemaking sets different level



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CO₂ – Regulatory Process Considerations

- EIS – numerous cases holding CO₂ to be considered for EIS purposes
- Not a regulatory requirement but procedural



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Practical Considerations – Energy Costs

Top US power companies: 2005

	Emissions disclosed tones, m	Cost of 25% cut in emissions at \$22.57* \$/m
Constellation Energy	22.09	124.64
Exelon	12.61	71.51
Southern Company	137.00	773.02
Public Service Enterprise Group	24.81	139.97
American Electric Power	146.47	826.43
FirstEnergy	45.36	255.94
FPL Group	47.35	267.17
PG&E	0.54	3.02
TXU	50.00	282.13
Progress Energy	58.06	327.60

Source: Trucost

*CO₂ price per tonne

The Economist (June 2, 2007)



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Addressing Energy – Greenhouse Gas Constrained World

- 2008 study – energy/manufacturing sector less than 50% of potential to reduce greenhouse gas worldwide assuming greenhouse gas cost set at 40 Euros per ton of greenhouse gas
- Energy efficiency likely manufacturing/business activity – greenhouse gas perspective
- Greenhouse gas and energy efficiency
 - Baseline needed – certification?
 - Whose credit is it?
 - Public perception
- Energy cost factors
 - Expansions
 - Acquisitions

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Emerging Trends in E-waste

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Emerging Trends in E-waste

- What is E-waste?
 - Waste consisting of any unwanted electrical or electronic appliance
- What may it include?
 - Televisions
 - Common office equipment (computers and various peripherals)
 - Cell Phones, PDAs
 - Other industry-specific technology



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E-waste Consequences

- May introduce toxins and carcinogens into the environment:
 - Lead, Mercury, Cadmium, Beryllium, PCBs, PVC, Brominated flame retardants
- Huge volume of waste not being recycled
- Loss of valuable commodities in electronics, including:
 - Gold, Platinum, Silver, Copper

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E-waste Handling

- E-waste handled improperly may result in contamination
- U.S. exports large quantities of e-waste to Asia and Africa:
 - Inadequate facilities
 - Inadequate training
 - Contamination of poor communities



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Tackling E-waste

- Dramatic increase in states regulating e-waste handling and disposal
- Ways e-waste has been addressed:
 - Comprehensive recycling programs
 - Ban on landfill disposal of e-waste
 - Voluntary/pilot recycling programs

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Comprehensive Recycling Programs

- Goals:
 - Establishment of financing system for recycling
 - Development of resources to make recycling more convenient
 - Reduction in cost of recycling

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Comprehensive Recycling Programs *(continued)*

- Advance recovery fee system
 - Burden on new consumers of electronics
- Extended producer responsibility system
 - Burden on producers of electronics

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Ban on Landfill Disposal

- Bans vary from state to state
 - Broad (“electronic devices”)
 - Narrow (“cathode ray tubes”)

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Voluntary/Pilot Programs

- EPA
 - Resource Conservation Challenge Program
 - EPEAT
- State
 - Florida Countywide Comprehensive Electronics Recycling Grant
- Non-profit
 - Electronics Recycler’s Pledge of True Stewardship

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Federal E-waste Policy

- Not immediately forthcoming
 - Difficulty building consensus on consumer versus manufacturer responsibility
- Means that businesses will have to continue to comply with a mishmash of state regulations
- Hazardous waste statutes may apply to types of e-waste, so need to be mindful of the kinds of wastes being generated

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Business Perspective

- Stay on top of state regulations where you operate
- Remember federal regulations of hazardous waste that may be implicated by e-waste
- Manage e-waste carefully
 - Know what you're generating
 - Know where it is going

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Business Perspective *(continued)*

- Look for “green” electronics
- Find ways to reuse electronics
 - In house
 - Distributing to a new user
- Recycle when reuse isn’t possible
 - Ensuring that products are recycled
 - Finding a reliable recycler
- Disposal as a last resort



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Business Perspective *(continued)*

- Anticipate increased costs for compliance – including possible future costs in states without current legislation

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Questions & Answers



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Upcoming Web Conferences

- Please mark your calendars for the remaining sessions of the 2008 Environmental Law Update Web Conference Series
 - **June 19, 2008**
 - **September 18, 2008**



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http://www.foley.com/news/event_detail.aspx?eventid=2071
- We welcome your feedback. Please take a few moments before you leave the web conference today to provide us with your feedback:
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