

State Tax Incentives for Going Green

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June 11, 2008

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Agenda

- ▶ Context for **Green**
- ▶ **Green** building basics
- ▶ Incentives for Energy Efficiency of Buildings
 - ▶ Federal
 - ▶ State/Local
 - ▶ Utilities
- ▶ Other **Green** Credits and Incentives: Operations, Alternative Fuel Vehicles, Recycling, Renewable Energy
- ▶ **Green** Tax Policy and Economic Development Best Practices
- ▶ Questions

Notice

These slides are for educational purposes only and are not intended, and should not be relied upon, as accounting advice.

Any tax advice contained herein was not intended or written to be used, and cannot be used, for the purpose of avoiding penalties that may be imposed under the Internal Revenue Code or applicable state or local tax law provisions.

Green In Context: The Headlines



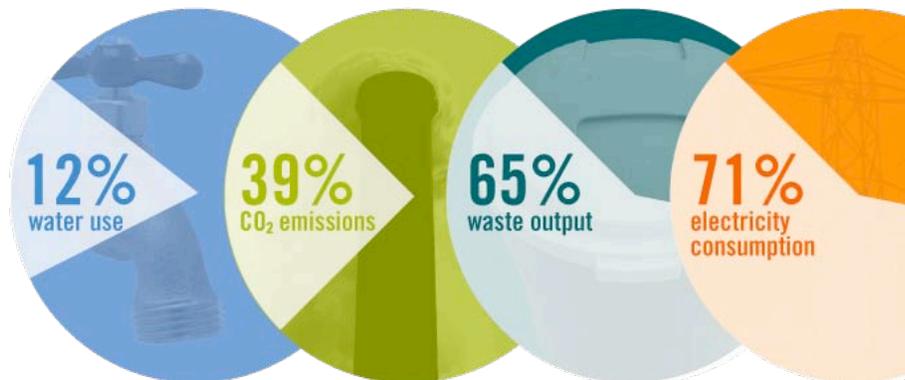
Green In Context: Issues across all industries

- **Financial services** - We are considering LEED Certification for our buildings. How can we obtain this certification? What are the business and tax incentive benefits?
- **Healthcare** - We are considering putting solar panels on the roof of our new hospital. The vendor has provided a summary of cost savings, including business and tax incentives. How can we validate this summary and know what else may be available?
- **Manufacturing** – We are looking to introduce an electric car into select European and North American markets, can you tell us which U.S. States offer substantial electric car incentives and tax credits for both fleet and individuals?
- **Manufacturing** - We are considering a \$10 million investment in licensing technology to produce wind turbines. Are there Federal, State and/or Local Incentives available?
- **Retail/logistics** – We are re-lamping all of our offices, retail stores and distribution centers with more energy efficient units. We are developing a payback model to determine ROI. Are there tax benefits that should be built into the model?
- **Manufacturing** – We are looking to open a new U.S. production plant for solar panels. Which U.S. state offer the best tax situation to improve our cost of production model versus overseas locations?
- **Consumer products** – We want to double the sales volume of our green products. Would it be possible to incorporate incentives into our sales pitch to customers?

Green in Context: Initiatives driven by Tax Policy

- Renewable Energy Production
- Energy Efficient Buildings
- Energy Efficient Manufacturing
- Alternative Fuel and Energy Efficient Vehicles
- Recycling
- Commuting/Ridesharing
- Brownfield Reclamation
- Pollution Control Initiatives
- R&D Investment in Clean Technologies
- Green Collar Job Creation

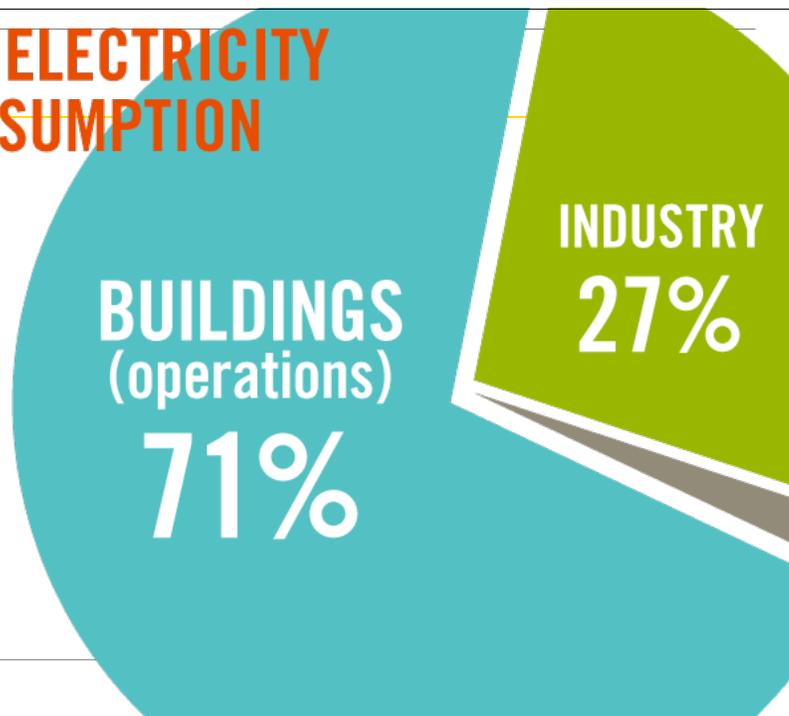
**U.S. Building
Impacts:**



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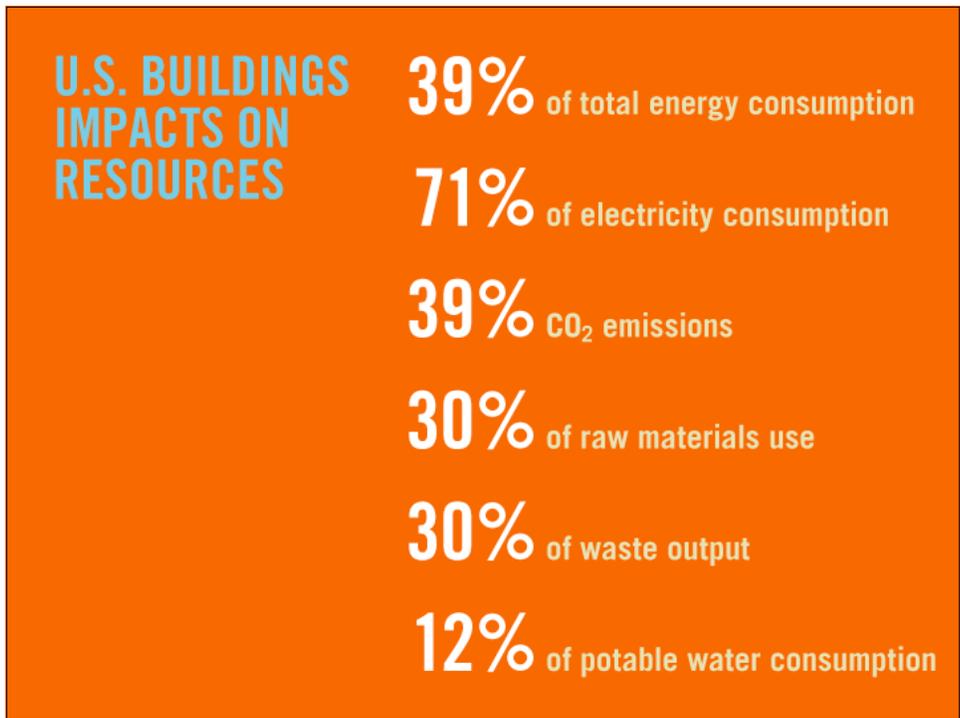
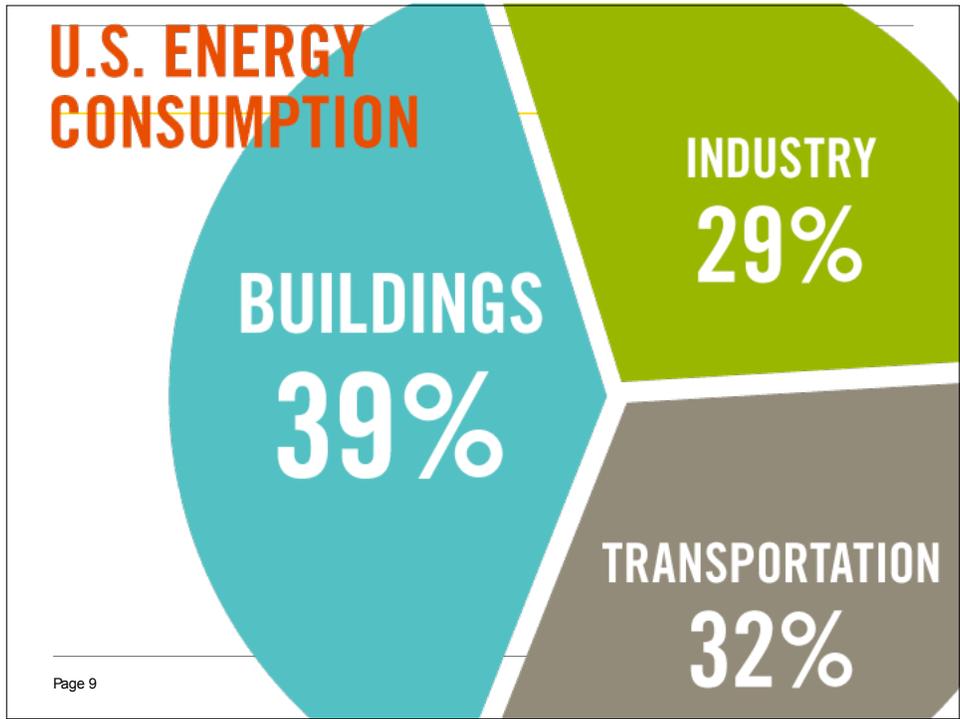
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**U.S. ELECTRICITY
CONSUMPTION**



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WORLDWIDE, BUILDINGS ACCOUNT FOR...

17% fresh water withdrawals

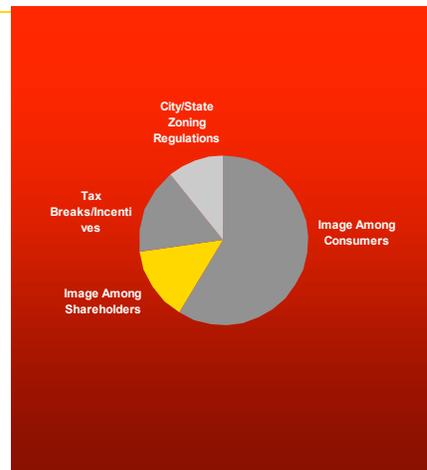
25% wood harvest

33% CO₂ emissions

40% material and energy use
45% in china

Green in Context: Motivators

- ▶ “When asked to identify the greatest motivator for their company to pursue environmentally friendly practices, two-thirds of the CFOs [of retail companies] cited the company’s corporate image (54 percent cited “image among consumers” and 13 percent cited “image among shareholders”). **Tax breaks or tax incentives was the greatest “green” motivator among 15 percent of the CFOs**, followed by 10 percent citing city/state or zoning regulations.”¹



¹These findings are from the most recent edition of the *BDO Seidman Retail Compass Survey*

Green Building Basics



Leadership in Energy & Environmental Design

A leading-edge system for designing, constructing, operating and certifying the world's greenest buildings.

Green Building

- ▶ Green building is a field that uses environmentally sustainable materials to construct buildings that conserve resources and provide a healthy living and working space
- ▶ The many elements of green building include
 - ▶ **energy efficiency**
 - ▶ the use of renewable energy,
 - ▶ water efficiency,
 - ▶ the use of building materials that have a minimal effect on the environment,
 - ▶ reduction of waste,
 - ▶ the design and operation of buildings that are healthy for the occupants of such buildings

Economics

- ▶ Green buildings, energy efficiency in buildings comes at an increased cost

- ▶ Incentives help to offset that cost
 - ▶ Federal Energy Efficiency tax deductions
 - ▶ Federal Solar tax credits
 - ▶ State Sustainability, LEED, solar and energy tax credits
 - ▶ State exemptions from property tax, sales and use tax
 - ▶ Utility incentives for solar, energy efficiency, LEED

Green Building Incentives Federal Tax Incentives - Section 179D

- ▶ **Purpose** - To encourage energy efficiency investment under the Energy Policy Act of 2005
- ▶ **Mechanism** – Between \$0.30 and \$1.80 times the square footage of the building up to the total costs of the energy efficient property placed in service
- ▶ **Tax Effect** – Accelerated depreciation of property that would otherwise be treated as 39 year property
- ▶ **Qualification** – Property must be installed as part of a plan designed to reduce the total annual energy and power costs with respect to the interior lighting systems, heating, cooling, ventilation, and hot water systems of the building by 50 percent or more in comparison to a reference building which meets the minimum requirements of Standard 90.1–2001(ASHRAE). Partial deduction available for individual systems.

Federal Energy Efficiency Tax Deductions

IRS Section 179D

- ▶ Lighting system – must be indoor fixture replacements with a capital spend that is depreciable
- ▶ HVAC equipment – that has an exceptional energy efficiency as a system usually involving some sort of waste heat recovery or renewable energy features
- ▶ Building envelope is the walls, roof, doors and windows that must be exceptionally energy efficient.

Federal Energy Efficiency Tax Deductions

Fulfilling the requirements

- ▶ Lighting technology has changed significantly, same light output and better light quality with significantly less power
 - ▶ 10 x longer life (up to 12,000 hours), 75% less energy
- ▶ Light fixture technology has changed
 - ▶ Reflective or lensed fixtures with fewer lamps
- ▶ Extensive use of fluorescent technology
 - ▶ T8/T5 fixtures

ASHRAE Standards

- ▶ ASHRAE (American Society of Heating Refrigeration and Air-conditioning Engineers) sets the standards which become the basis for most building codes
- ▶ ASHRAE 90.1 – 2001 Energy efficiency standard for commercial buildings
- ▶ This standard is the basis for most building codes
- ▶ The standard has “mandatory” and “prescriptive” requirements
- ▶ Energy cost savings are benchmarked to a computer model of the building “as if” it met the requirements of the ASHRAE standard both mandatory and prescriptive
- ▶ Proposed changes will result in significant upgrades to building codes

Sample Green Building State Incentives

- ▶ Many states offer energy incentives and credits directly in an effort to reduce the rate at which energy infrastructure needs to be expanded.
 - ▶ **Oregon Business Energy Tax Credit** - 50% of eligible project costs, distributed over five years (10% per year), total of \$20m for renewable energy equipment manufacturing facilities and \$10m for other, buildings must be Silver LEED certified.
 - ▶ **Arizona Solar and Wind Corporate Tax Credit** - 10% of installed cost up to \$25,000.
 - ▶ **California Grants** - LEED certified buildings from \$20K to \$35K, \$2.50/W AC for commercial solar systems.
 - ▶ **New York's Green Building Tax Credit** - up to \$2M per green building.
 - ▶ **Nevada** - 35% - 50% property tax reduction for 5 - 10 years if LEED certified.
 - ▶ **Georgia** – Effective July 2008 - Clean Energy Property Tax Credit of up to 35% of cost for solar, wind, biomass, energy star certified geothermal heat pumps
 - ▶ **Georgia** – Energy Efficient Buildings- Up to \$1.80 per sq. foot for cost of energy efficient products and \$.060 per sq. ft. for lighting retrofit
 - ▶ Also see: **Hawaii Energy Conservation Credit, New Mexico Sustainable building Credit** etc., as well as : <http://www.dsireusa.org/>

Sample Green Building Utility Incentives

- ▶ Utilities offer incentives that can be prescriptive based upon technology or custom based upon systems installed or the level of LEED certification achieved
 - ▶ **Pacific Gas and Electric** – California – New Construction Cash Incentives and Design Incentives Program offers rebates for technical assistance and design when building energy efficient facilities. A design team can receive up to \$50,000 for energy efficient design, while an owner can receive up to \$150,000 per facility
 - ▶ **Kansas City Power and Light** – Kansas – Energy efficiency improvements the lesser of a buydown to a two year payback, or 50% of the incremental cost
 - ▶ **Arizona Public Service** – Arizona - 75% of the prescriptive measure cost, up to \$300,000 per year

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Sample Operations Incentives

- ▶ **Efficiency and Alternatives Fuel/Energy**
 - ▶ **Federal Business Energy Tax Credit:** For equipment placed in service from January 1, 2006 until December 31, 2008, the credit is 30% for solar, solar hybrid lighting, and fuel cells, and 10% for microturbines. The geothermal credit remains at 10%
 - ▶ **Indiana** – Individual and small businesses tax credit of 20% up to \$100 for expenditures of energy star heating and cooling equipment. Eff. Dec. 31, 2008
 - ▶ **California Property Tax Exemption for Solar Systems:** property tax exemption for certain types of solar energy systems installed on or before December 31, 2009. Pipes and ducts that are used to carry both solar energy and energy derived from other sources qualify for the exemption only to the extent of 75% of their full cash value. Likewise, dual-use equipment for solar-electric systems qualifies for the exemption only to the extent of 75% of its value.

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Sample Alternative Fuel Vehicle Incentives

▶ Renewable/Alternative Fuel/Low Emissions/No Emissions

- ▶ **Georgia ZEV Credit:** purchase/lease, 20% of cost or \$5,000 per vehicle
- ▶ **Georgia AFV Credit:** 10% of cost or \$2,500 per vehicle
- ▶ **Colorado:** The credit ranges from 50% to 85% of incremental cost for purchase of clean fuel vehicles and replacing power sources over a traditional vehicle or power source
- ▶ **Kansas –** Tax credit of up to 40% of cost of vehicle, subject to limitations
- ▶ **Oklahoma –** 50% of the cost of qualified property or 10% of the cost of vehicle, not to exceed \$1,500
- ▶ **South Carolina-** 20% of the federal income tax credit claimed under IRC Sec. 30B

Sample Recycling Incentives

▶ Recycling

- ▶ **Arizona:** 10% income tax credit for individuals and corporations based on installed cost of equipment that processes postconsumer recyclables or produces finished products composed of at least 25% postconsumer recycled materials.
- ▶ **Arkansas:** 30% income tax credit equal to 30% of equipment costs, which must handle 10% postconsumer solid waste.
- ▶ **Delaware:** \$500 tax credit for each \$100,000 invested and tax credit of \$500 for each new employee added due to incorporating recycled products for at least 25% of materials
- ▶ Up to 25 states with some form of Recycling Equipment Incentive or Credits for individuals and corporations
 - ▶ <http://www.epa.gov/jtr/bizasst/rec-tax.htm>

Renewable Energy Production Incentives

- ▶ Federal Production Incentives
 - ▶ IRC Sec 40 - BioFuels Production Credit
 - ▶ IRC Sec. 45 - Renewable Energy Production Tax Credit
 - ▶ IRC Sec. 48 - Renewable Energy Investment Tax Credit
 - ▶ Provisions for accelerated depreciation

- ▶ State incentives
 - ▶ 28 states + District of Columbia have adopted Renewable Portfolio Standards (RPS)

State Renewable Portfolio Standards

Summary of State Renewable Portfolio Standards

The table gives a summary overview of state renewable portfolio standards. Percentages refer to a portion of electricity sales and megawatts (MW) to absolute capacity requirements. Most of these standards phase in over years, and the date refers to when the full requirement takes effect.

State	Amount	Year
Arizona	15%	2025
California	20%	2010
Colorado	20%	2020
Connecticut	23%	2020
District of Columbia	11%	2022
Delaware	20%	2019
Hawaii	20%	2020
Iowa	105 MW	
Illinois	25%	2025
Massachusetts	4%	2009
Maryland	9.5%	2022
Maine	10%	2017
Minnesota	25%	2025
Missouri**	11%	2020

State	Amount	Year
Montana	15%	2015
New Hampshire	16%	2025
New Jersey	22.5%	2021
New Mexico	20%	2020
Nevada	20%	2015
New York	24%	2013
North Carolina	12.5%	2021
Oregon	25%	2025
Pennsylvania	18%	2020
Rhode Island	15%	2020
Texas	5,880 MW	2015
Vermont*	10%	2013
Virginia*	12%	2022
Washington	15%	2020
Wisconsin	10%	2015

Renewable Energy Incentives

- ▶ State Tax Credits and Incentives – Trends
 - ▶ Credit per gallon produced for Production of Alternative fuels (Ky. example \$1 per gallon of biodiesel produced or blended)
 - ▶ Credit per kilowatt hour produced Production (IA. example 1 cent per kilowatt hours for wind energy sold by the owner during taxable year)
 - ▶ Federal Investment Credit Piggyback (MT example – 35% of IRC Sec. 48 expenditures, reduced by the amount of the federal credits)
- ▶ State Tax Credits and Incentives: other Issues
 - ▶ Tax Policy could be key to establishing “green collar” clusters
 - ▶ Careful if choosing a specific technology (e.g. ethanol, biodiesel)
 - ▶ Refundable or saleable Credits important to start-ups
 - ▶ Consider incentives for efficiency to reduce demand to meet RPS

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Federal Energy Efficiency Tax Credit Section 48

- ▶ Established in the Energy Policy Act of 2005
- ▶ Applies to the purchase of fuel cell power plants, solar energy property, and fiber-optic property used to illuminate the inside of a structure
- ▶ Tax **CREDIT**
- ▶ After December 31, 2008, the credit reverts to a permanent 10-percent level.
- ▶ The credit is set at 30% of expenditures for solar technologies and solar hybrid lighting

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Federal Energy Efficiency Tax Credit Section 48

- ▶ Solar energy property includes equipment that uses solar energy to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat.
- ▶ Hybrid solar lighting systems are those that use solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight.
- ▶ Energy property does not include public utility property, passive solar systems, or pool heating equipment.

Federal Energy Efficiency Tax Credit MACRS

- ▶ Accelerated Depreciation:
 - ▶ The federal government offers a 5-year accelerated depreciation option (MACRS) for certain solar energy equipment and systems
 - ▶ Without this legal provision for solar equipment, depreciation for such equipment would be taken over the standard 20-year period.
 - ▶ Year 1 20.00%
 - ▶ Year 2 32.00%
 - ▶ Year 3 19.20%
 - ▶ Year 4 11.52%
 - ▶ Year 5 11.52%
 - ▶ Year 6 5.76%

Put it all together Solar Example – 100kW System

\$8.95 per Watt initial cost mounted on an existing roof	\$
	895,000
Utility incentive of \$4.50 per Watt	\$
	(450,000)
Federal Tax on Utility Rebate	\$
	157,500
State Tax credit \$25,000 (Net of FIT)	\$
	(16,250)
Federal Tax credit of 30%	\$
	(268,500)
Exemption from property tax on equipment	TBD
Tax benefit of depreciation of system (5 year MACRS)	\$
	(251,060)
Net after tax cost	\$
	66,690
Annual savings from system both usage and demand	\$
	30,488
<i>Simple payback approximately 2 years</i>	

Business Going Green

- ▶ **Nike To Use LNG For Port-Related Trucking Needs**
 - ▶ Nike and its affiliate Converse are switching a portion of their Los Angeles area harbor drayage fleet from diesel to new Liquefied Natural Gas fueled vehicles. The "green fleet" announcement was made in conjunction with news that Nike had joined the Coalition for Responsible Transportation, a group that encourages the use of cleaner truck technologies in port communities.
 - ▶ Nike estimated the new LNG trucks will emit 18 percent less CO₂, 88 percent less NO_x and 96 percent less particulate matter per mile when compared to their diesel counterparts.
- ▶ **GE To Spend \$1 Billion On Ecomagination R&D**
 - ▶ General Electric has pledged to invest \$1.5 billion annually on ecomagination R&D by 2010. One of four GE ecomagination commitments originally made in 2005, R&D investment has reached a total of more than \$2.5 billion since the program's inception.
 - ▶ General Electric announced it has doubled sales from environmentally friendly products to \$12 billion
- ▶ **Google**
 - ▶ \$10 million program to fund commercialization of electric cars
 - ▶ Plans to build solar power plants, invest in renewable energy companies and sell or license energy technology
- ▶ **Pier 1 Installs CFLs In 120 California Stores**
 - ▶ PG&E's Energy Fitness Program, which analyzes a company's lighting use and replaces fixture housings helped Pier 1 Imports in Chico, California. The store's traditional lights - all 474 of them and their housings - were replaced with 219 compact fluorescent bulbs.
 - ▶ The company decided to change all of its 120 stores in California.
 - ▶ A tax paid by all PG&E customers for "public purpose programs" actually funds the conversions, but it means the businesses generally pay nothing for the improvements that include new lights and fixtures, among other elements.

Tax policy for consideration

- ▶ Establishing enhanced property and sales tax abatements for construction and renovation of LEED or ENERGY STAR certified buildings (commercial and residential)
- ▶ Establishing enhanced corporate and personal income tax credits for purchase of alternative fuel or zero emission vehicles
- ▶ Establishing personal income recycling credits equal to fees paid to waste haulers
- ▶ Establishing individual income tax credits for investments in renewable energy
 - ▶ Capital
 - ▶ Personal Production
- ▶ Tax Policy could be key to establishing “green collar” clusters
 - ▶ Careful if choosing a specific technology (e.g. ethanol, biodiesel)
 - ▶ Refundable or saleable Credits important to start-ups
 - ▶ Consider incentives for efficiency to reduce demand to meet RPS
- ▶ <http://www.pewclimate.org/states-regions>

Economic Development Approach

- ▶ Economic Development Agencies can be key coordinator for green incentives
- ▶ Lack of understanding or awareness that many “green” incentives reside with the State’s equivalent of the EPA or DOE
- ▶ Key is for cohesiveness and collaboration among the agencies and the programs
- ▶ Economic Development Success
 - ▶ Focus more on investment rather than jobs
 - ▶ Consider programs from other agencies and how they interact with your efforts
 - ▶ Can make offer more attractive
 - ▶ Ensure requirements don’t compete
- ▶ Include all jurisdiction “green” offerings in marketing messages (e.g. an aggressive RPS for a state could help in attracting renewable energy efforts)

Green Questions to Ask

- Does a company in your area operate and occupy a single piece of real estate that is at least 500,000 sq feet?
- Is there an entity who will be constructing multiple buildings to the same energy efficient design?
- Do you know of companies that have a program or initiative to reduce energy or increase sustainability that is funded, underway or about to begin?
- Are you located in a state or states that have high utility costs, a Renewable Portfolio Standard and/or significant state, local and utility incentives
- Are businesses in your jurisdiction:
 - Involved in green R&D?
 - Involved in manufacturing green technology?
 - Making capital investments in renewable energies or fuels?
 - Involved in a recycling program?
 - The owners or lessee of a fleet of alternative vehicles
 - Utilizing alternative fuels?

Case History Example - Lighting

- ▶ Warehouse Lighting retrofit
- ▶ Warehouse operates two shifts, 365 days a year
- ▶ 528,780 square feet
- ▶ Replace 1059 400 W Metal Halide fixtures
- ▶ Install T5 fixtures – High output linear fluorescents
- ▶ 425 fixtures have integral occupancy sensors
- ▶ Total installed cost of fixtures, lamps, sensors and labor is \$222,523

Case History Example - Lighting

- ▶ Federal Incentives:
 - ▶ Must meet LPD requirements
 - ▶ ASHRAE 90.1-2001 for warehouses under the whole building approach is 1.2W per sq foot
 - ▶ Building must be 50% more efficient or less than 0.60 W/sqft
- ▶ 248,088 Watts / 528,780 sq ft = 0.47W per sq ft

Building Qualifies!

Case History Example - Lighting

- ▶ Maximum allowable deduction
 - ▶ $\$0.60 \times 528,780 \text{ sq ft} = \$317,268$
- ▶ Tax deduction capped at depreciable basis of \$222,523
- ▶ Utility Incentive of \$91,359
 - ▶ \$79,425 for Lighting
 - ▶ \$11,934 for Occupancy Sensors
- ▶ If Utility incentive is counted as income, then the income is subject to tax at both a state and federal level and there is no reduction in basis
- ▶ The tax deduction is \$222,523

Case History Example - Lighting

Income from Utility	\$ 91,359
179D Deduction	<u>\$222,523</u>
Net deduction*	\$131,164
Net impact to bottom line (35% tax rate)	\$ 45,907
Utility benefits	<u>\$ 91,359</u>
	\$137,266
Energy savings annually	\$134,917

▶ *Return on investment in 10 months then ongoing reduced operating costs*

*Note: Must be paying taxes to receive this benefit

Questions