

# 2008 Green Retreat

## *“Determining your Company’s Carbon Footprint”*

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[www.ers-global.com](http://www.ers-global.com)

## Who We Are



ERS Global is a business advisory and technical consulting firm that helps executive teams lead their companies on a more sustainable path.

For over a decade, ERS teams have provided Fortune 200 companies full service consulting services – focused, principled strategies; education programs; analytics; metrics; and implementation support - that add value to business.

As pioneers in the sustainability consulting field, we are actively engaged in setting the standard for the industry. Our extensive experience in working with public, private, and non-governmental organizations uniquely positions ERS to innovate effective strategic solutions for our clients.

## Select Client List



- Lafarge (former Blue Circle)
- Caterpillar, Inc.
- The City of Atlanta
- The Coca-Cola Company
- Delta Air Lines
- EMS Technologies, Inc.
- FedEx Corporation
- Fort Benning, GA
- GA Dept of Natural Resources/P2AD
- Industrial Development International, Inc.
- Interface, Inc.
- Kellogg Foods
- Kimberly-Clark Corporation
- Kraft Foods
- Maxell
- PNM Resources
- Robins Air Force Base
- Sara Lee Corporation
- Skanska USA
- Southwire Company
- Unilever
- US Army Corp of Engineers
- US EPA
- Vulcan Materials
- Weston Solutions

## Polling Question



***Where is your company in the carbon footprinting process?***

*A) Evaluating action*

*B) Building or implementing a system*

*C) Have an established footprint*

*D) Determining how to use it*

## Agenda



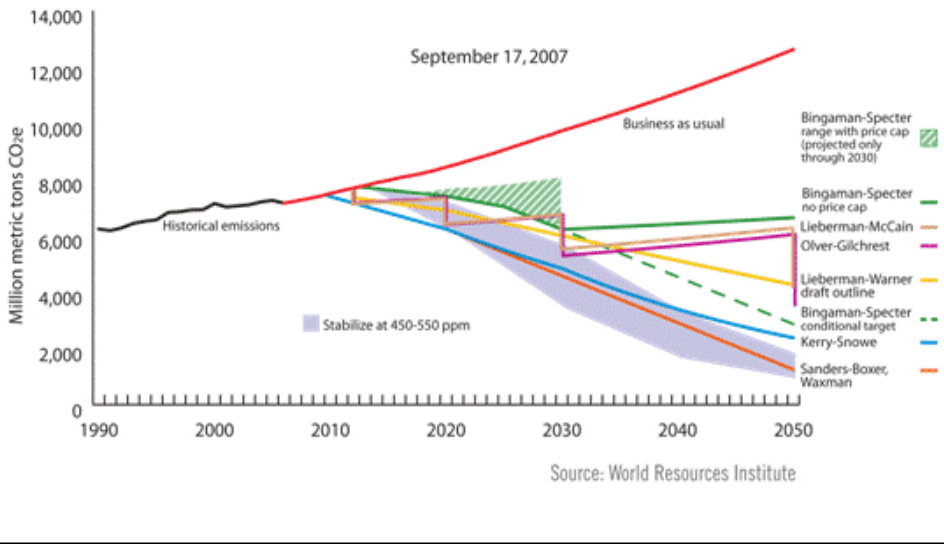
- **Why? – Strategy**
- **What? – Quick Background**
- **How? – The Process**
- **Examples**
- **Additional Resources**

## Why? – Stat's



- 57 Trillion Dollars - institutional investors back the Carbon Disclosure Project (CDP)
- 161 - Companies in the EPA Climate Leader Program
- 77% of the largest companies (FT500) responded to the CDP a questionnaire
- Pending government regulation – Cap & Trade OR Carbon Tax

# Legislative Climate Change Targets in the 110th Congress



# Sustainability as a Growth Strategy



## 6 Greenhouse Gases covered in the Kyoto Protocol



100-Year Global Warming Potential (GWP)	
Gas	Global Warming Potential
Carbon Dioxide (CO <sub>2</sub> )	1
Methane (CH <sub>4</sub> )	23
Nitrous Oxide (N <sub>2</sub> O)	296
HFC's	120 to 12,000
Perfluoromethane (CF <sub>4</sub> )	5,700
Perfluoroethane (C <sub>2</sub> F <sub>6</sub> )	11,900
Sulfur Hexafluoride (SF <sub>6</sub> )	22,200

Source: Comparison of 100-Year GWP Estimates from the IPCC's Third (2001) Assessment Reports

## Climate Strategy Development Steps:



- Assess emissions profile
- Gauge risks & opportunities
- Evaluate action options
- Set goals & targets

## Climate Strategy Benefits



### Tangible

- Improved energy management
- Operational efficiencies
- Increased revenues
- New markets

### Intangible

- Competitive positioning
- Improved shareholder relations
- Improved employee recruitment

## Sources



## The Process



- Plan
  - Assign resources - *Secure management support, Establish a team, Prepare a budget*
  - Design a GHG Inventory Boundaries – *Financial & Operational*
- Develop
  - Collect data
  - Calculate emissions
- Manage
  - Set target
  - Report results
  - Offset

## Plan - Boundaries



- Objective? - End Use
- Boundaries:
  - Financial vs. Operational
  - Own vs. Control



# GHG Protocol



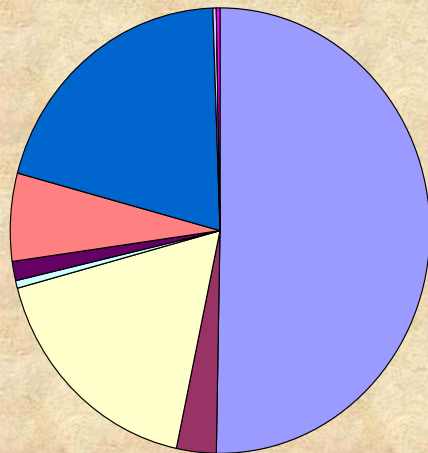
## • Scope 1 – Direct Emissions



## Scope 2 – Indirect Emissions



# Electric Grid Mix – US National



- Coal
- Oil
- Gas
- Other Fossil Fuel
- Biomass
- Hydro
- Nuclear
- Wind
- Solar
- Geo-thermal

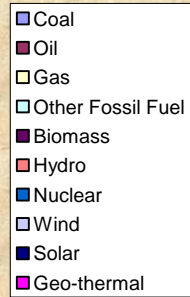
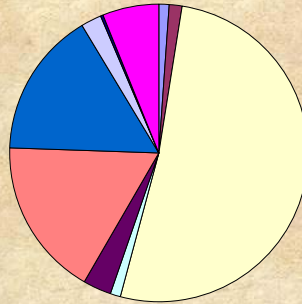
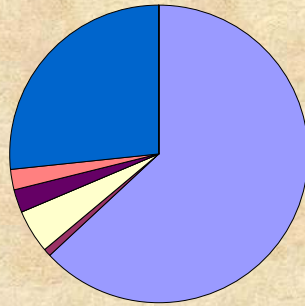
Source: US EPA – eGRID (Emissions and Generation Resource Integrated Database)  
eGRID2006 Version 2.1, April 2007

## Electric Grid Mix – GA & CA



### Georgia

### California



Source: US EPA – eGRID (Emissions and Generation Resource Integrated Database)  
eGRID2006 Version 2.1, April 2007

## GHG Protocol



### Scope 3 – Other Indirect Emissions



### Suggested Criteria:

- *Is scope 3 large relative to 1 & 2?*
- *Critical to your core business?*
- *Do your products require electricity to use?*
- *Can you get reliable accurate data and at what cost?*

## Develop – Collecting Data



- Utility Bills
- Fuel Bills
- Fleet & Car Mileage / Fuel
- Airline mileage



## Develop – Calculating Emissions



- 74 miles round trip from Atlanta
- Emission Factor: 9.0166 kg CO<sub>2</sub>e per gallon

- 23 miles per gallon (MPG)

$$74 \text{ miles} \left( \frac{1 \text{ gallon gasoline}}{23 \text{ miles}} \right) \left( \frac{9.0166 \text{ kg CO}_2\text{e}}{1 \text{ gallon gasoline}} \right) = 29 \text{ kg CO}_2\text{e}$$



- 46 miles per gallon (MPG)

$$74 \text{ miles} \left( \frac{1 \text{ gallon gasoline}}{46 \text{ miles}} \right) \left( \frac{9.0166 \text{ kg CO}_2\text{e}}{1 \text{ gallon gasoline}} \right) = 14.5 \text{ kg CO}_2\text{e}$$



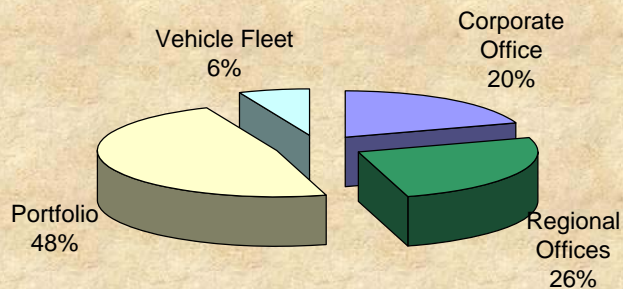
## Develop- Calculating Emissions



- Corporate Headquarters:
  - 920,000 kWh in 2007
  - 10,000 SF

$$920,000 \text{ kWh} \left( \frac{1 \text{ MWh}}{1000 \text{ kWh}} \right) \left( \frac{1490 \text{ pounds } CO_2e}{1 \text{ MWh}} \right) \left( \frac{1 \text{ metrictonnes } CO_2e}{2204.63 \text{ pounds } CO_2e} \right) = 621.7 \text{ metrictonnes } CO_2e$$

## Example – Company X's Emissions



## Example – Supply Chain of a Retailer



100% Renewable Energy



Zero Waste



Sustainable Products



8% of Wal-Mart's  
footprint is from direct  
operations

92% of Wal-Mart's  
footprint is from  
products

Align supply chain  
around sustainable  
product innovations

The WAL-MART  
Live Better  
Sustainability Summit

## A Few Groups Worth Knowing About



- Carbon Disclosure Project (CDP)
- Chicago Climate Exchange
- Climate Registry
- EPA Climate Leaders
- Energy Star
- Pew Center for Global Climate Change & BELC (Business Environmental Leadership Council)
- US CAP (US Climate Action Partnership)

More  
Information:



- Carbon Disclosure Project  
<http://www.cdproject.net/>
- EPA Climate Leaders  
<http://www.epa.gov/stateply/>
- GHG Protocol <http://www.ghgprotocol.org/>
- Fuel Economy <http://www.fueleconomy.gov/>
- EPA Power Profiler
- eGRID 2.1 (Emissions and Generation Resource Integrated Database)

“When we try to pick out anything by itself, we find it hitched to everything else in the universe” – John Muir



Questions, Answers,  
& Discussion



Contact  
Information



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