Benchmarking Industry: Proactive GHG Management

Presented at
Alaska Forum on the Environment
Don Caniparoli
February 2006
Industrial GHG Activity Goals

**Investor/Community Pressure**
- Meet host government requirements
- Build community acceptance
- Meet investor expectations

**Competitiveness**
- Plan for effects of mega-trends
- Reduce operating costs
- New sources of revenue
- Inspire innovation
- Strengthen brand

**Access to Raw Materials**
- Develop new sources
- Protect existing sources
- Increase efficiency
- Reduce wastes

**Work within Regulations**
- Avoid regulatory action
- Plan for changing regulations (Kyoto, product stewardship, etc.)
- Benefit from regulatory and tax incentives

**Mission and Strategy**
- Actions align with environmental mission
- Align with security mission
- Align with other values
Case Study

¬ FORTUNE magazine America’s Most Admired Companies – first in Pipelines category
¬ One of the largest midstream energy companies in U.S.
¬ Developing GHG emissions inventory
¬ Technical leader in SW Regional Partnership for Carbon Sequestration
¬ Natural Gas Star Member, BMPs in place
¬ Pipeline and compression integrity programs
¬ Two power plants are CHP; others are gas
¬ Member of wildlife habitat council, replanting
¬ Reduced organic waste changing from paper to electronic paychecks
¬ Demand side management programs
¬ CO2 reduction/sequestration projects resulting in offset sales
Industry GHG Management-Actions

- Complete GHG inventory
- Report GHG emissions, energy emissions
- Voluntary program membership
- Set GHG emission reduction or related goals
- Implement specific internal GHG reduction actions
- Invest in GHG offsets
Actions -
Complete GHG Inventory

- Business units, geographies,
- Complete inventory – direct emissions
- Complete inventory – indirect emissions
- Verification
- Inventory Management Plan (IMP) (*EMS like*)
“Our vision for managing GHGs has become more robust, more concrete through the very process of crafting our inventory management plan. Through this process the pathway for achieving our overall goals is becoming far more clear.”

-Ben Packard
Director, Environmental Affairs and Corporate Social Responsibility
Starbucks Coffee Company
Actions – Reporting GHG Emissions

- Corporate sustainability reports
- Voluntary registries/partnerships
- Carbon Disclosure Project
- Shareholder initiative response reports

- 54% emissions data disclosure rate to CDP3
Public Inventory Reporting - examples

- Air Products US
- AstraZeneca UK
- Alcan US
- BASF Germany
- Bayer Germany
- Diageo UK
- Dow Chemicals US
- Encana, Canada
- FPL Group US
- GlaxoSmithKline UK
- International Paper US
- Kansai Electric Power Japan
- Mitsui Japan
- Motorola US
- Progress Energy US
- Qualcomm US
- Roche Switzerland
- Ricoh Japan
- ST Microelectronics France
- Starbucks Coffee US
- Suncor Energy Canada
- Unilever Netherlands/UK
- United Technologies US
Actions – Voluntary Program Membership

- **World Economic Forum Global Register**
- Regional Greenhouse Gas Registry
- **EPA Climate Leaders Partnership**
- DOE Climate Vision
- **DOE 1605(b)**
- Chicago Climate Exchange
- **California Climate Action Registry**
- The Climate Group
Membership Example:
EPA Climate Leaders
Actions – Set Emission Reduction Goals

- Total emissions versus rate based
- Time period
- Geography, Business Units

per...

barrel, square foot, pound of product, dollar of revenue, kWh, ton of product, unit of production value
### Emission Reduction Goals - Examples

<table>
<thead>
<tr>
<th>Company</th>
<th>Goal Description</th>
<th>Date Range</th>
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<tbody>
<tr>
<td>3M</td>
<td>30%</td>
<td>2002-2007</td>
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<tr>
<td>PSEG</td>
<td>18% per kWh</td>
<td>2000-2008</td>
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<td>General Electric</td>
<td>1%</td>
<td>2004-2012</td>
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<td>SC Johnson</td>
<td>23% per lb product</td>
<td>2000-2005</td>
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<tr>
<td>St. Lawrence Cement</td>
<td>15% per ton of cementitious product</td>
<td>2000-2010</td>
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### Actions – Implement GHG Reductions

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<tr>
<th>Energy and GHG Reduction Method</th>
<th>Diageo</th>
<th>SAB Miller</th>
<th>Anheuser Busch</th>
<th>Royal Nedalco</th>
<th>Allied Domecq</th>
<th>Suntory</th>
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<tbody>
<tr>
<td>Transportation Optimization</td>
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<td>Inventory Control</td>
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<td>Building Utility/Lighting Optimization</td>
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<td>Boiler Optimization</td>
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<td>Other Utility System Upgrade</td>
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<td>Steam/Thermal Energy Recovery Systems</td>
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<td>Use of Waste Steam from Neighboring Plant</td>
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<td>CO2 Advance Purification System</td>
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* Includes lithium-bromide and NH3 absorption and turbine back-pressure systems
Invest in GHG Offsets, Allowances

- Compliance
- Stewardship
- Market opportunity
- Experience

- Stimulate new technologies
- Protect natural resources
- Community investment

EUA price last 30 days
Point Carbon
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Questions????????

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