



Benchmarking Industry: Proactive GHG Management

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Industrial GHG Activity Goals

Investor/Community Pressure

- ◆ Meet host government requirements
- ◆ Build community acceptance
- ◆ Meet investor expectations

Access to Raw Materials

- ◆ Develop new sources
- ◆ Protect existing sources
- ◆ Increase efficiency
- ◆ Reduce wastes

Competitiveness

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

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

AMERICA'S
MOST
ADMIRED
COMPANIES

KINDER MORGAN
ENERGY PARTNERS, L.P.

- ◆ 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

3M	30%	2002-2007
PSEG	18% per kWh	2000-2008
General Electric	1%	2004-2012
SC Johnson	23% per lb product	2000-2005
St. Lawrence Cement	15% per ton of cementitious product	2000-2010

Actions - Implement GHG Reductions

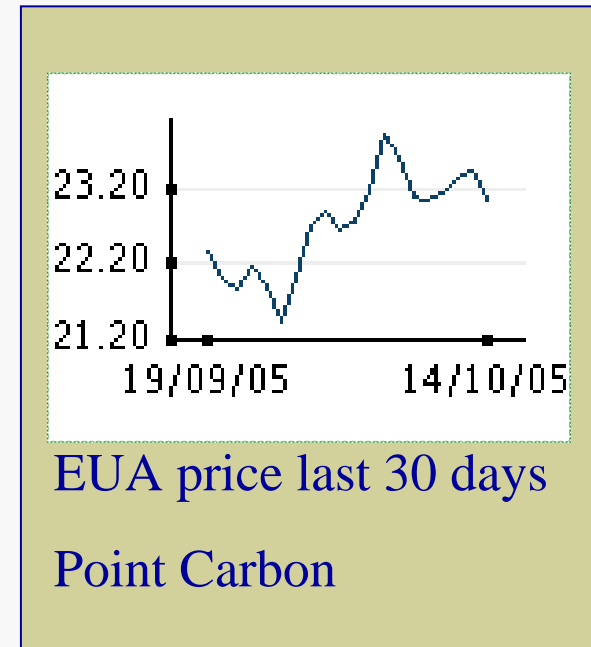
Energy and GHG Reduction Method	Number of Facilities Utilizing Method (Planned Installations)						
	Diageo	SAB Miller	Anheuser Busch	Royal Nedalco	Allied Domecq	Suntory	Asahi
Transportation Optimization	x		x		xx	xxx	xxx
Inventory Control			x		x		
Building Utility/Lighting Optimization		x(x)			xx		
Boiler Optimization		xx	x		x		
Other Utility System Upgrade	xxx	xx (xx)	x		x		
Steam/Thermal Energy Recovery Systems	xx	xx	x				xxx
Use of Waste Steam from Neighboring Plant			x				
Boiler Fuel Conversion	xx	xx			x	x	xxxxx
Combined Heat and Power	xxxx (xxxx)	x				x	xxxx
Waste to Fuel					xx		
Biogas Fuel System		x (x)	xxxxxxxx		x		xxxxxxxx
CO2 Advance Purification System			xx (xxx)			14x	xxxxxxxx
Nitrogen Gas Generators	x						xxxxxxxx
Significant Use of Wind or Solar Energy					x		x
Innovative Refrigeration Unit							xxxxxx
Thermal and Electrical Energy Storage System*					x		xxx
Photovoltaic Electricity Generation		(x)					x
Bioethanol Production				(xxx)			

* 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





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Questions???????

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