

U.S. Environmental Protection Agency's Climate Protection and Renewable Fuels Programs

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Cheryl L. Bynum

U.S. Environmental Protection Agency
Office of Transportation and Air Quality
SmartWay Transport Partnership®



The Green Rush

By the end of 2007, the market in “green” investing grew to \$1.3 trillion US worldwide... a 35% increase over 2006. This rise is due in large part to a growing awareness of climate change. What does this mean to individuals and organizations, and how is EPA advancing climate-friendly solutions?

*Market cite taken from
Dow Jones Financial News
January 14, 2008*

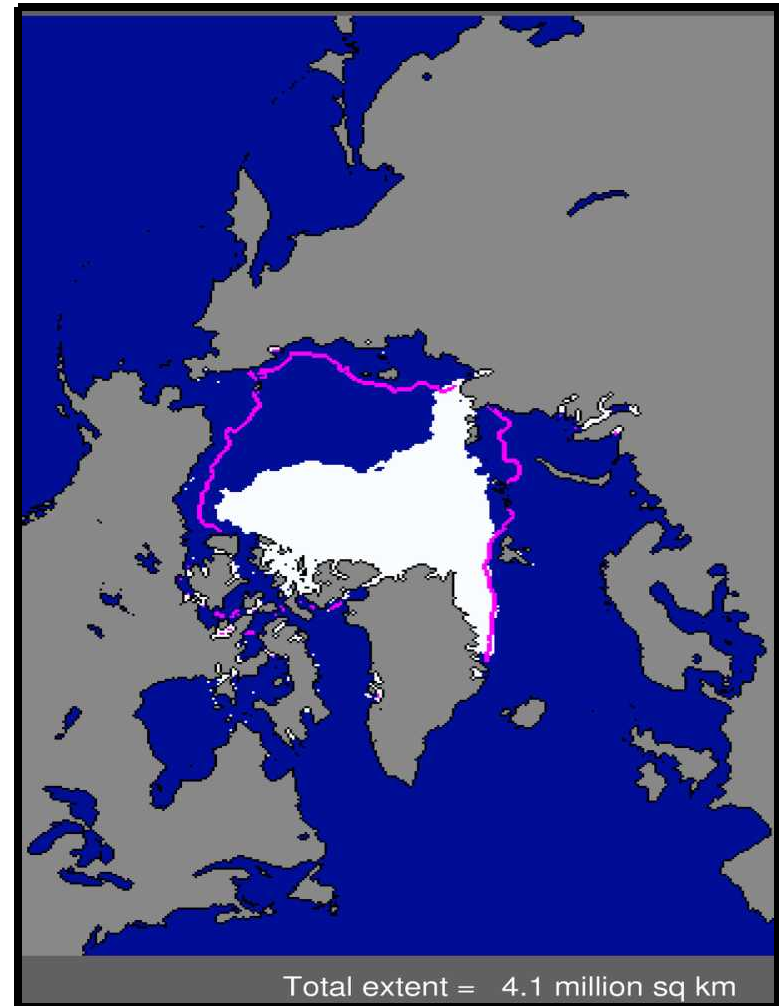
Today's Objectives

- **Overview of climate change, U.S. greenhouse gas emissions, and energy consumption**
- Overview of U.S. EPA
- Introduce selected EPA programs and resources to fight climate change
- Discuss EPA regulatory program for improve the environmental performance of vehicles and fuels
- Wrap Up

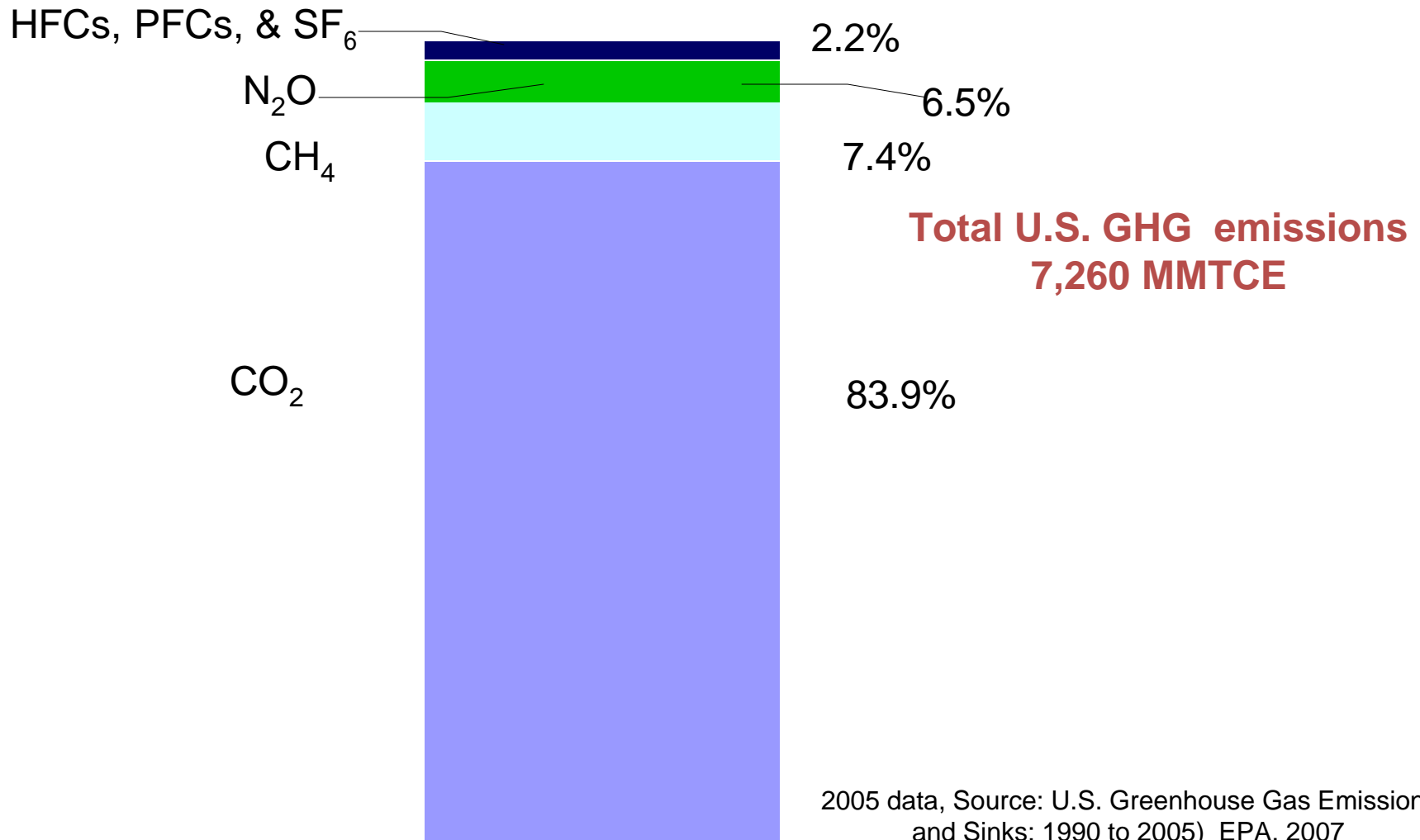
Arctic Ice Cap

- Mid-September 2007 Arctic sea ice cover is **39%** smaller than the 1979 to 2000 mid-September median
- Mid-September 2007 is **22%** smaller than mid-September 2005

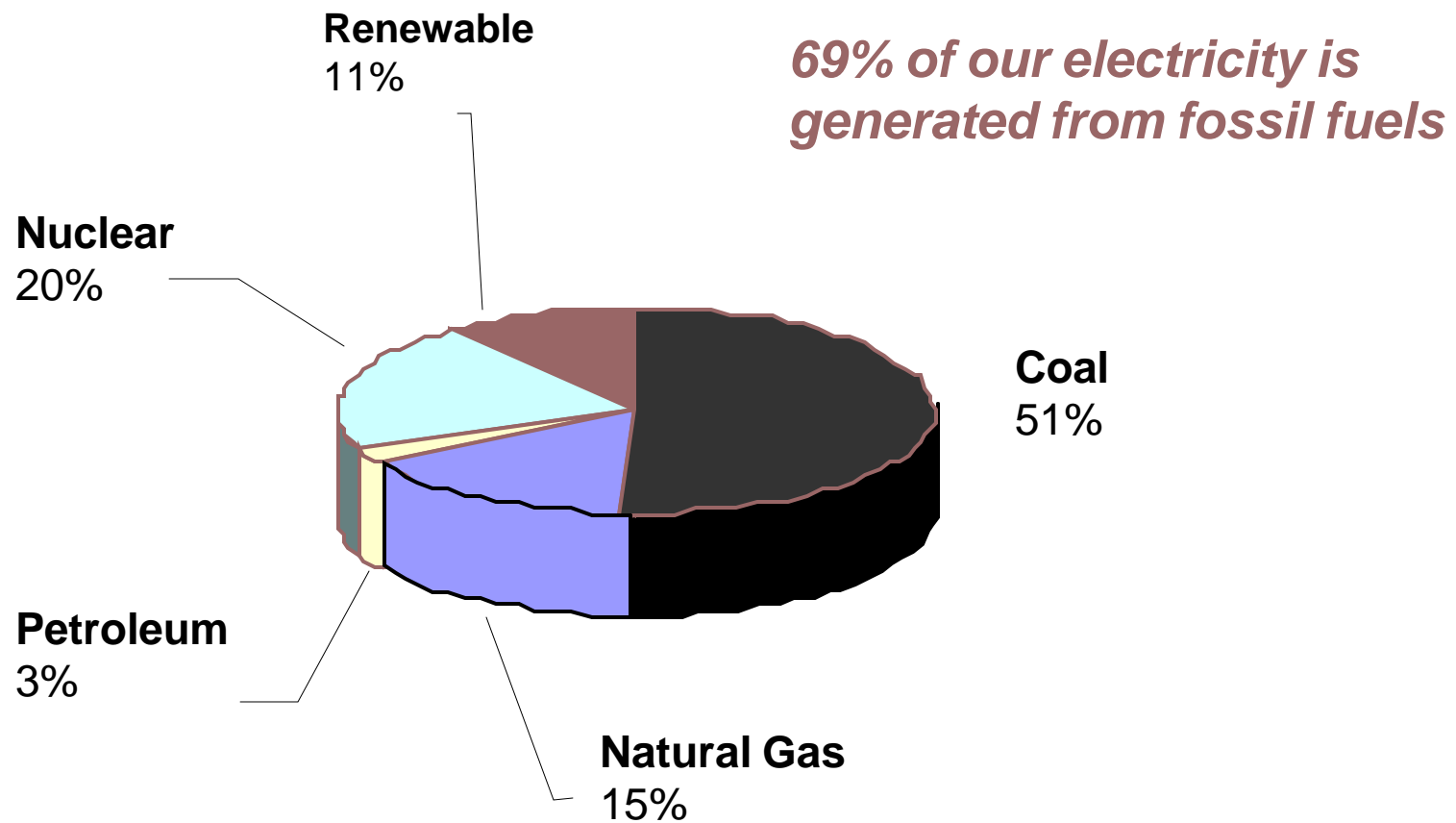
Source: National Snow and Ice Data Center



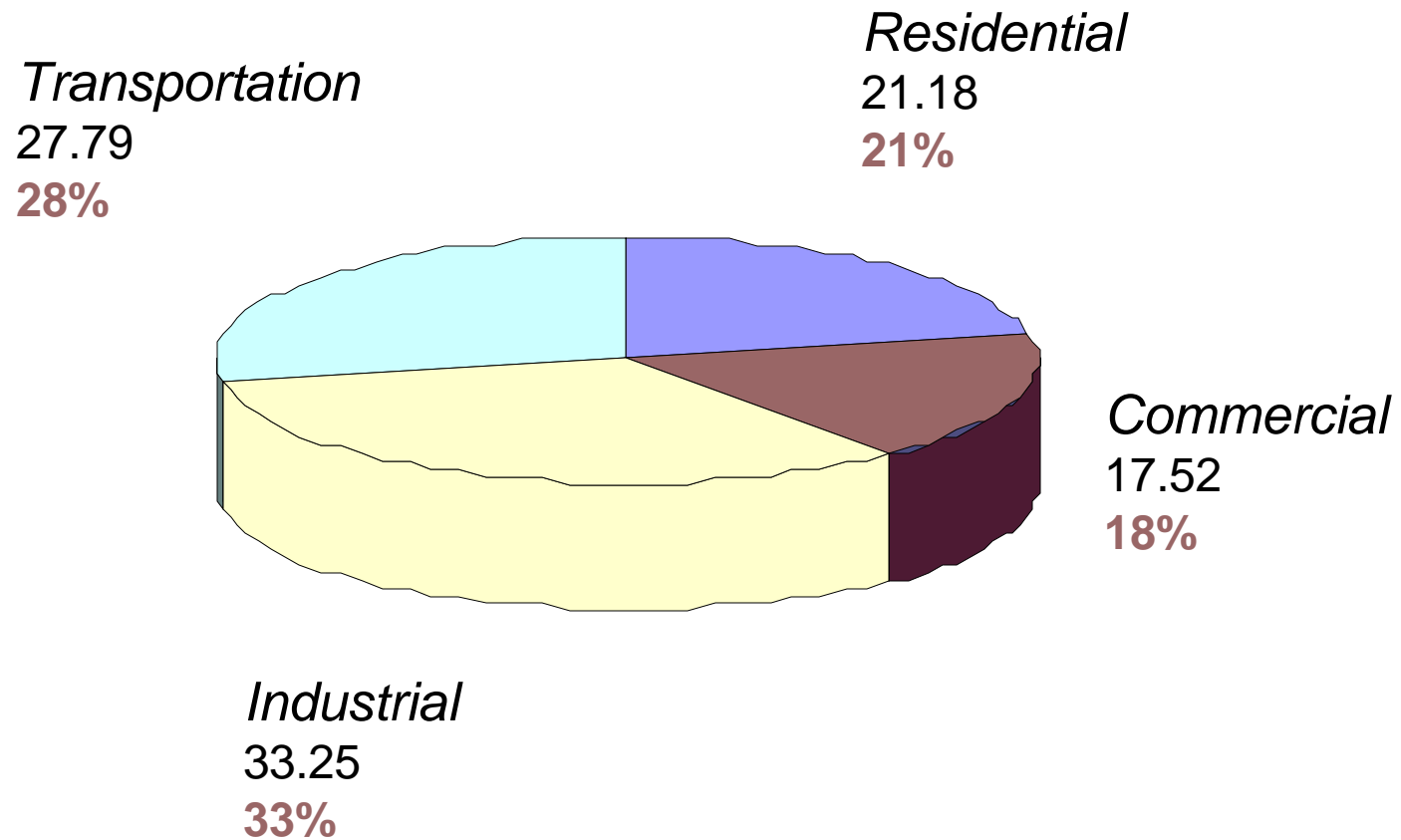
U.S. Greenhouse Gas Emissions



U.S. Electricity Production: 40.5 Quad Btu



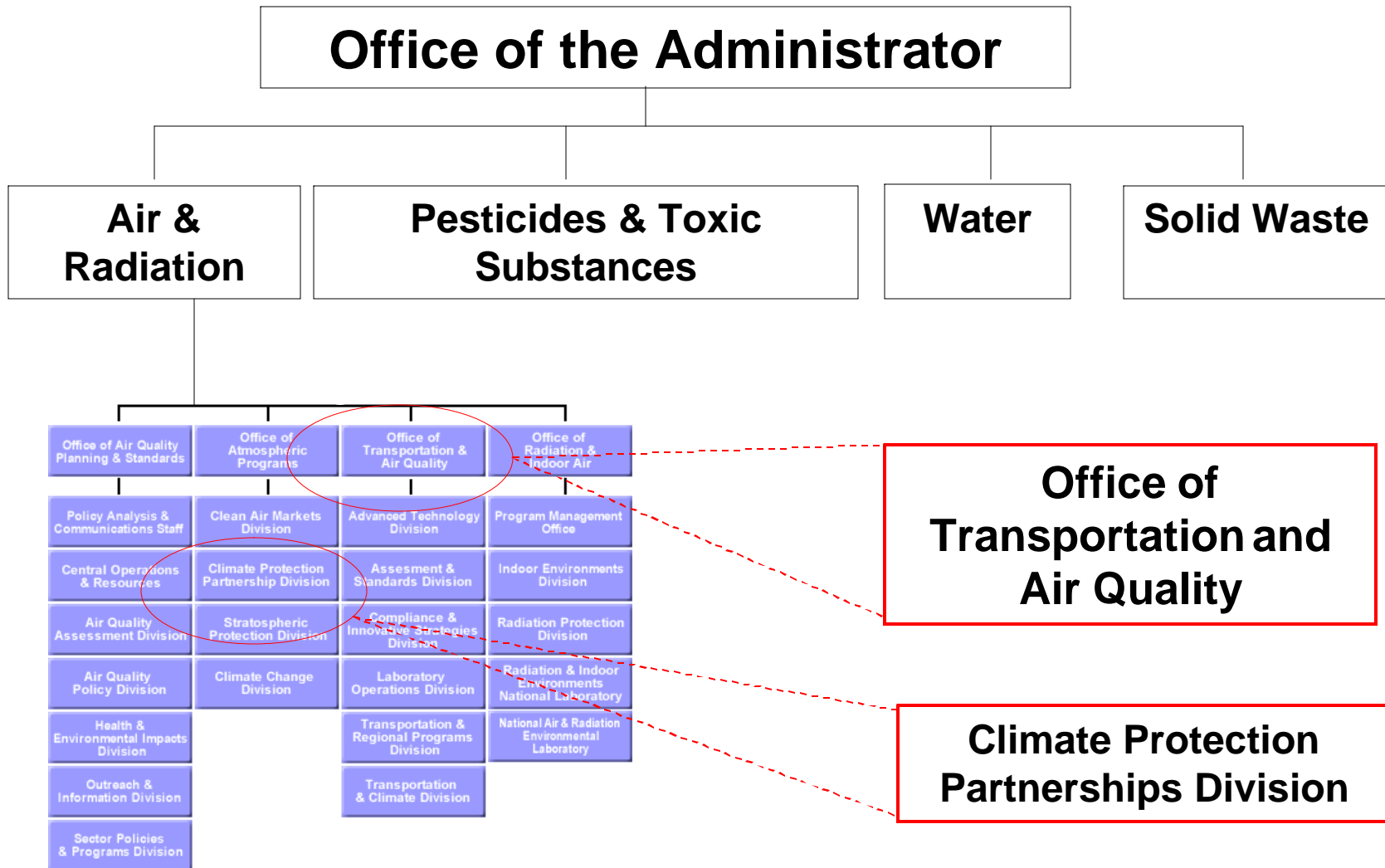
U.S. Gross Energy Consumption by Sector (Quad Btu)



Today's Objectives

- Overview of climate change, U.S. greenhouse gas emissions, and energy consumption
- ***Overview of U.S. EPA***
- Introduce U.S. EPA programs and resources to fight climate change
- Discuss EPA regulatory program for improve the environmental performance of vehicles and fuels
- Wrap Up

U.S. Environmental Protection Agency Overview



Why Partner With EPA?

- ***Unbiased:*** EPA is a trusted, unbiased source of research and technical analysis
- ***Best Practices:*** EPA coordinates with the commercial sector supply chain for identification of best practices
- ***Environmental and Financial Benefits:*** EPA brings to market resources and tools that result in verifiable, sustainable, and easily communicated environmental and financial benefits
- ***Carbon Mitigation:*** EPA can help to reduce your organization's environmental footprint and carbon impact

Why Partner With EPA?

Partner organizations receive –

- Technical assistance
- Tools and resources
- Communications support
- Networking opportunities
- Awards and recognition

Today's Objectives

- Overview of climate change, U.S. greenhouse gas emissions, and energy consumption
- Overview of U.S. EPA
- ***Introduce U.S. EPA programs and resources to fight climate change, reduce emissions, conserve energy and money***
- Discuss EPA regulatory program for improve the environmental performance of vehicles and fuels
- Wrap Up

EPA's Voluntary Programs

	 <small>U.S. Environmental Protection Agency</small>	 <small>LEARN MORE AT energystar.gov</small>	 <small>EPA GREEN POWER PARTNERSHIP</small>	 <small>EPA COMBINED HEAT AND POWER PARTNERSHIP</small>	 <small>EPA WASTE WISE</small>	 <small>EPA WaterSense</small>	 <small>SmartWay Transport Partnership U.S. ENVIRONMENTAL PROTECTION AGENCY</small>
Energy/ Climate/ Renewable Fuels	✓	✓	✓	✓	✓		✓
Water						✓	
Solid Waste	✓				✓		
Products		✓				✓	✓
Education	✓	✓	✓	✓	✓	✓	✓



- ***Inventory-based*** approach
 - Understand/quantify their sources of greenhouse gas (GHG) emissions
 - Establish/communicate corporate GHG reduction goals
 - Measure/promote progress toward goal achievement
- **Marriott International**
 - Goal: “Reduce U.S. GHG emissions by 6% per available room from 2004 – 2010”
 - Achieved 2% emissions reduction per available room in 2006 alone



LEARN MORE AT
energystar.gov

Products Program

- ***Certifies*** superior energy performance of products and equipment for residential and commercial use
 - More than 50 product categories
 - Over 1700 manufacturers and over 44,000 individual models
 - More than 2 billion qualified products purchased since 1992...300 million in 2006 alone
- Resources
 - Online calculators to demonstrate financial and environmental results of product purchases
 - Product purchasing and procurement specifications
 - Communications templates and campaigns



Commercial and Industrial Program

- Objective: Helps Partners *evaluate and assess* energy management implementation strategies and carbon performance
- Sample resources
 - Guidelines for Energy Management and new building design
 - Portfolio Manager tracks energy
- ENERGY STAR Team Building Guide
 - Building Upgrade Manual
 - Webinars, trainings, and peer networking opportunities
- Target markets: investors, end-users, utilities, regional efficiency programs, service and product providers, and associations



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energystar.gov

Residential Program

- ***Certification*** of new homes
 - Typically 20-30% more efficient than conventionally built homes
 - Sample resources
 - Builder guidance and communications tools
 - Qualification criteria
 - Consumer resources
 - Coordination with utility companies and lenders
- ***Implementation*** strategies for existing homes
 - Sample resources
 - Audit and performance evaluation tools
 - “Find a professional” directories
 - “How to” guides



- Gives companies *guidance* on how to...
 - Locate, select, and procure green power products
 - Communicate the environmental benefits of purchasing green power
- Sample Partners
 - **Whole Foods** purchasing over 509 million kWh per year (100% of its total electricity)
 - **Kohl's** purchasing over 201 million kWh per year (20% of its total electricity)
 - **Starbucks** purchasing 185 million kWh per year (20% of its total electricity)
 - **Staples** purchasing almost 122 million kWh per year (20% of its total electricity)



- Helps companies understand *how to*
 - Plan/implement cost-effective combined heat and power (CHP or “cogeneration”) projects
 - Improve operational efficiency/reliability and reduce energy costs
- Resources
 - Catalog of CHP technologies
 - Technical feasibility studies
 - Emissions calculators
 - Funding guidance
 - Regulatory/permitting support
- Example: Starwood’s Sheraton New York Hotel and Towers uses a 250 kW fuel cell, providing 10% of the 1750 room hotel’s electricity and water heating



- Helps partners *implement* strategies to...
 - Achieve continuous improvement toward waste reduction and minimization
 - Measure, track, and report progress
 - Identify/promote the GHG savings attributable to waste prevention and recycling
- Sample partners
 - McDonald's
 - Kohl's
 - Staples
 - Target
 - Walt Disney



- Performance *certification*
 - Help customers identify/choose products to achieve greater water efficiency and realize utility bill savings
 - Transform marketplace for water-efficient products and programs
- Coordinates with irrigation professionals to define and certify water efficient landscape irrigation practices
- Partners with manufacturers, retailers/distributors, utilities, and end-users



Partnership Program

- Helps shippers, carriers, logistics companies, others *implement* strategies to...
 - Quantify baseline emissions and fuel use; commit to improvements; track improvements
 - Locate/leverage innovative financing for fuel-efficient technologies
 - Reduce idling
 - Utilize intermodal and renewable fuels strategies
- Resources Include
 - FLEET (Fleet Logistics Energy and Environmental Tracking) Performance Model
 - Technology package savings calculator
 - Test results in technical papers and fact sheets
- Sample partners
 - Food Lion, H-E-B, Wal-Mart, Safeway, JCPenney, Lowe's, The Home Depot



Products Program

- Performance ***certification***
 - Help customers identify/choose vehicles to improve efficiency, reduce emissions and save fuel
 - Transform marketplace for cleaner, more efficient vehicles
- Coordinates with passenger vehicle and commercial vehicle manufacturers to define and certify vehicles with best environmental performances
- Partners with OE manufacturers, Tier I component suppliers, retailers/distributors, and end-users
- Moving to expand range of vehicles covered by SmartWay designation,
 - Developing new test methods, models, evaluation criteria and metrics
 - May move to identifying low-carbon renewable fuels



Grow and Go

- Helps partners ***implement*** strategies to...
 - Achieve continuous improvement toward increased use of renewable fuels
 - Measure, track, and report progress
 - Identify/promote the GHG savings attributable to the use of biofuels
- Recognizes partners for their achievements
 - Get Green Trucking Summit with NBB at GATS in 2007
- Sample partners
 - Anheuser-Busch
 - Coca-Cola Enterprises, Inc.
 - General Motors
 - Whole Foods
 - J. B. Hunt
 - Kimberly-Clark

Where to Start?

- Learn more about U.S. EPA voluntary programs and other collaborative initiatives
- Take advantage of these *free* resources
- Get started on a path to improving environmental performance and reducing carbon impact
- Use your success through EPA's programs to pursue *green* quantification/certification

Today's Objectives

- Outline the role of government partnerships in environmental achievement
- Introduce EPA programs and resources for sustainability
- *Discuss EPA regulatory program for improve the environmental performance of vehicles and fuels*
- Wrap Up

EPA Regulatory Program for Vehicles and Renewable Fuels

- Goal: Protect public health and the environment by regulating emissions from motor vehicles, engines, and fuels, and encouraging greener transport choices
- Achievements:
 - Passenger vehicle standards reduced NO_x, PM and HC by approx. 99% since the 1970s.
 - HD diesel engine standards will reduce NO_x and PM by 98% and HC by 89%, relative to the 1980's.
 - EPA motor fuels rules reduced sulfur, toxics, and NO_x from gasoline and diesel fuels, and eliminated lead
- EPA Alternative Fuels standard calls for 35B renewable fuels by 2017
 - Expands the 7.5B by 2012 aim of Renewable Fuels Standard

Potentially Qualifying Renewable Fuels

- Ethanol
 - Corn
 - Other starches
 - Cellulose
 - Sugar
- Biodiesel and Renewable Diesel
 - Veg Oils and Animal Fats
- Biocrude
 - Veg Oils and Animal Fats
- ETBE (if used)
- Biobutanol
- Fischer-Tropsch diesel/gasoline, MTBE (if used), Methanol
 - Biogas
 - Biomass gasification
 - Sewage plant
- Others

To Wrap Up...

- EPA innovative partnership programs are a trusted source of free and unbiased research, technical tools, and recognition opportunities for environmental excellence
- A range of program offerings help organizations achieve continuous improvement across all components of “sustainability”
- These programs complement EPA’s regulatory programs
- The future is looking **green!**

Questions?



www.epa.gov/smartway

Hot Line (734) 214-4767

Cheryl L. Bynum

734-214-4844

bynum.cheryl@epa.gov

Thank you.

