EPA Voluntary Climate Change Programs

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Well-designed Voluntary Programs Are An Important Part of Solution

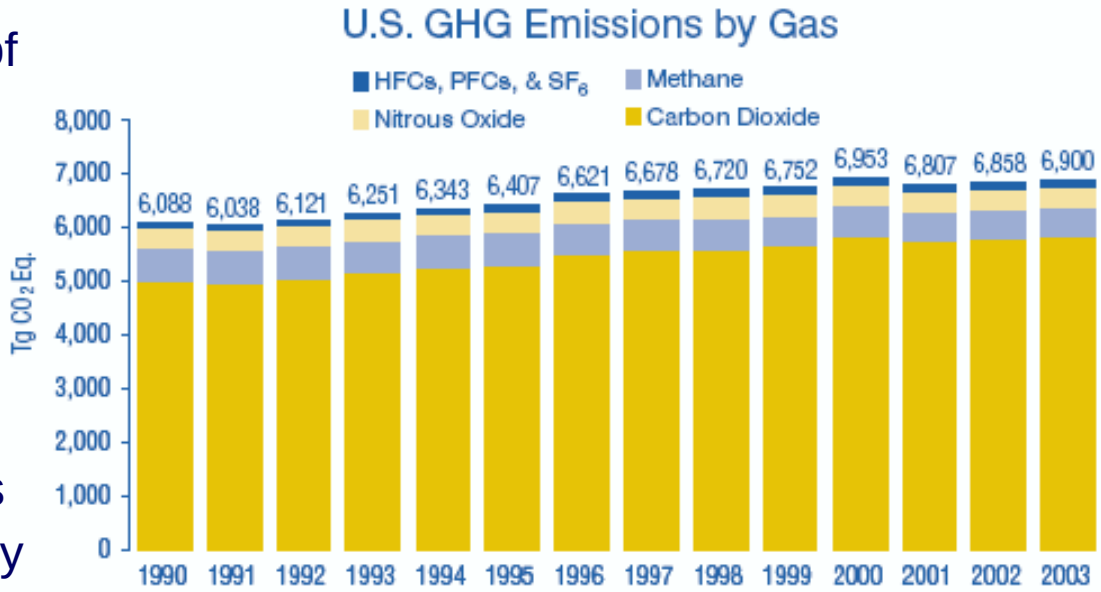
- Work NOW -- while R&D underway
  - more than a decade of experience
- Many underused cost-effective technologies/ practices offer:
  - sizable GHG reductions by 2012 and beyond
  - significant energy bill savings
  - enhanced economic growth
- Voluntary programs spur investment
  - focus on cost-effective opportunities
    - assessments of where markets not working
    - assessments of where largest environmental benefit
  - focus on action
    - audiences needing better information / assistance to make better decisions
    - reducing transaction costs to better investments

Strategic role of EPA's programs in U.S. climate change policy

- Reduce greenhouse gas emissions and contributes significantly to President Bush's goal of 18% reduction in GHG intensity by 2012
- Challenging businesses to reduce their emissions through voluntary partnerships
- Providing near-term solutions while others invest in long-term R&D programs such as hydrogen and fuel cells
- For every federal government dollar invested by EPA's voluntary climate change programs:
  - Reductions in GHG emissions of 1.0 MMTCE (3.7 tons CO_2)
  - Savings to businesses and consumers of more than $75 annually on their energy bills
  - Creation of more than $15 in private sector investment
  - The addition of over $60 into the economy

U.S. EPA GHG Inventory Program

- Leader in the development of GHG inventories both domestically and internationally
- Annual national level submissions required under the UNFCCC since 1994
- Supporting the development of the 2006 IPCC Guidelines
- Foundation for EPA voluntary programs



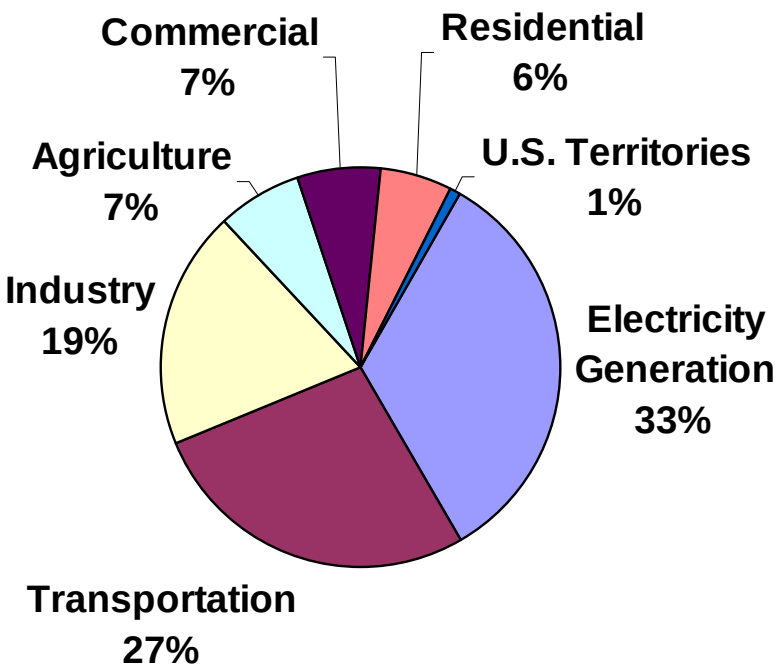
U.S. Greenhouse Gas Emissions and Sinks: 1990-2003 (EPA 2004)

- Total GHG emissions have risen 13 percent since 1990
- Dominant gas emitted was CO_2, mostly from fossil fuel combustion
- Nitrous oxide emissions decreased by 1 percent
- Methane, SF6, and PFC emissions decreased 10, 49, and 65 percent
- HFC emissions tripled

EPA Voluntary Climate Programs

- Energy Efficiency
  - ENERGY STAR (with DOE)
  - Green Power
  - Combined Heat and Power
- Non-CO_2
  - Methane
    - Landfill Methane
    - Coal Mine Methane
    - Agriculture
    - Natural Gas
  - High GWP
    - Electric Power Systems
    - Aluminum
- Transportation
  - SmartWay Transport
  - Best Workplaces for Commuters
- Broad Initiatives
  - Climate Leaders
  - State Energy-Environment Partnerships

Greenhouse Gas Emissions by Sector (2003)



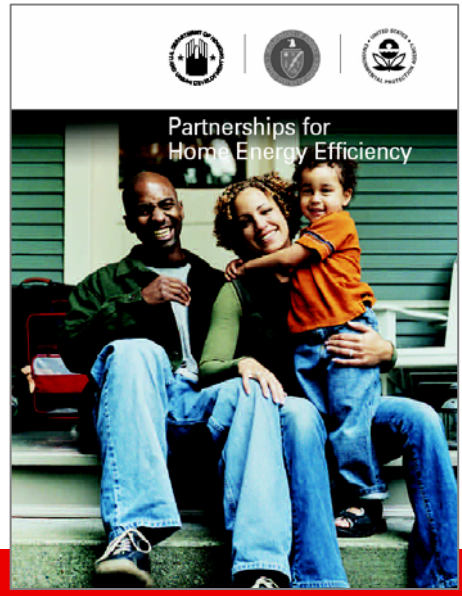
Source: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2003 (EPA 2005)

EPA Voluntary Energy Programs

- ENERGY STAR
  - Americans saved $10 billion on energy bills while preventing the equivalent annual emissions of 20 million vehicles in 2004
  - Saved 4% of US electricity demand
  - Delivered one-third of the total GHG emissions reductions from EPA's climate change programs
  - Consumers have purchased more than 1.5 billion qualified products from 1,400 manufacturers in 40 categories
  - Nearly 2,000 commercial buildings have earned the ENERGY STAR®, with 30-40 per cent energy savings
  - Nationwide, almost 10% of new housing starts are ENERGY STAR qualified

Broadened Efficiency Efforts

- New Commercial Building Challenge
  - Improve efficiency by 10 percent or more
  - Promote through key associations, utility programs
  - Engage many industries – hospitality, healthcare, commercial real estate, education (K-12, higher ed) and others
- New Residential Initiative
  - DOE, HUD, EPA
  - Goal: improve home efficiency by 10% or more by 2015
  - Four key strategies
    - Enhanced efforts to promote ENERGY STAR products
    - Use ENERGY STAR to improve quality of home improvement and installation of equipment
    - Deliver energy efficiency to affordable housing
    - Link to research



EPA Voluntary Energy Programs

- Green Power Partnership
  - Facilitates purchasing of environmentally friendly electricity products generated from renewable energy sources by addressing the market barriers
  - Has commitments by more than 600 partners that will result in the purchase of 3 billion kilowatt-hours of renewable electricity each year
- Combined Heat and Power (CHP) Partnership
  - Provides technical assistance to meet CHP project needs and make investments in CHP more attractive
  - Assisted in the development of more than 1,200 MW of new capacity in 2004

EPA's Voluntary Programs to Reduce Non-CO_2 Gases

Voluntary, public-private partnership programs target major sources

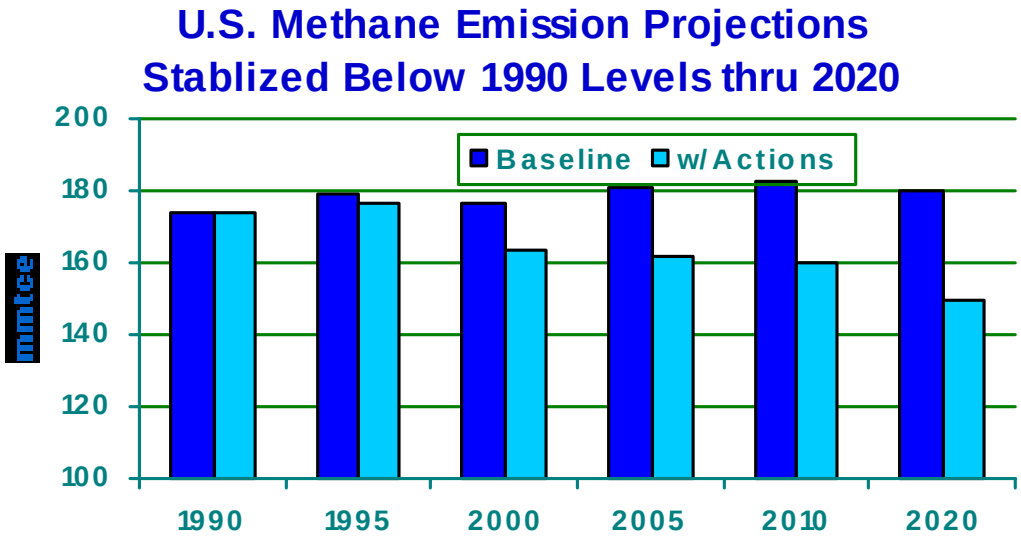
- Landfill Methane Outreach Program
- Coal Mine Methane Outreach Program
- Natural Gas STAR
- AgSTAR
- Voluntary Aluminum Industrial Partnership
- Semiconductor Partnership
- Utility SF_6 Partnership
- Magnesium Partnership
- HFC-23 Reduction Partnership
- HFCs in Mobile Air Conditioning

Avoid High GWP Emissions by stratospheric ozone regulation

- Refrigerants (no venting, mandatory recovery and recycling)
- ODS Substitutes "SNAP" Program (Ban or limit use where more environmentally friendly substitutes exist)

Non-CO_2 Voluntary Program Results

- CH_4 emissions in the US are currently 10 percent below 1990 levels, largely due to voluntary efforts (natural gas & oil, coal mines, landfills, manure mgt)
- US Emissions of High GWP gases (PFC, HFC, and SF_6) are expected to be maintained below 1990 levels in key industry sectors



- Non-CO_2 voluntary programs demonstrate potential and establish foundation for international partnerships

International Methane Initiatives: Methane to Markets Partnership

- Advances recovery and use of methane as a valuable clean energy source
- Encourages development of ***cost-effective*** methane recovery and use opportunities in
  - coal mines
  - landfills
  - oil and gas systems and
  - agriculture (manure waste management)

- Private companies, multilateral development banks and other relevant organizations participate by joining the Project Network – *over 170 organizations now participating*

- 17 Partners

Argentina	**Japan**
Australia	**Korea**
Brazil	**Mexico**
Canada	**Nigeria**
Colombia	**Russia**
China	**Ukraine**
Ecuador	**United Kingdom**
India	**United States**
Italy	

Transportation

- SmartWay Transport Partnership
  - Launched in Feb 2004: Designed to reduce fuel consumption and emissions, and improve energy security by encouraging freight shippers and carriers to improve their overall environmental performance
  - By 2012, this initiative aims to reduce between 33 - 66 million metric tons of carbon dioxide (CO_2) emissions and up to 200,000 tons of nitrogen oxide (NOx) emissions per year, and 5,000 tons of particulate matter
- Best Workplaces for Commuters
  - Highlights the efforts of many top employers to help get employees to work safely, on time, and free of commute-related stress
  - Provides the tools, guidance, and promotion necessary to help U.S. employers of any size incorporate commuter benefits into their standard benefits plan, reap financial benefits, and gain national recognition
  - On average, an employer with 1,000 employees that qualifies for Best Workplaces for Commuters can take credit for reducing travel by over 1 million miles per year, saving over 50,000 gallons of gasoline per yea

Broad Initiatives: Climate Leaders

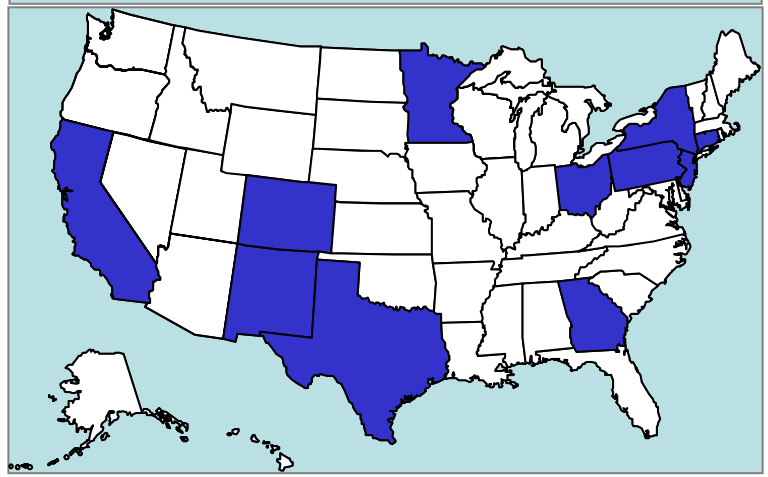
- Announced Spring 2002
- Encourages corporate leadership
- Complements Climate VISION (association-based)
- Key requirements
  - Complete GHG inventories
  - Establish aggressive GHG reduction goal
  - Report on progress toward goal
- Now
  - 70 companies – from diverse industries representing 8% of US emissions
  - 39 have announced aggressive goals (50/50 absolute vs intensity-based)
  - 2 have met their goals and are renegotiating
- Goals add up to 8 MMTCE above business as usual

CLIMATE LEADERS
U.S. Environmental Protection Agency

Broad Initiatives: State Clean Energy-Environment Partnership

- Opportunity
  - Many state policies affect energy efficiency / renewables / air quality
  - States can learn from each other
  - Greenhouse gas reduction benefits
- Announced in February of 2005
  - With 11 Charter States
- Develop state-specific clean energy action plans
  - Investigate state policies
  - Establish clean energy goals
  - Help states share success with others
- Help States assess energy efficiency and renewable energy policies
- With assistance from DOE

State Partners:
CA, CO, CT, GA, MN, NJ, NM, NY, OH, PA, TX



September, 2005

Clean EnergyEnvironment STATE PARTNERSHIP

Lessons Learned

- EPA programs on track to deliver major portion of 18 percent GHG intensity improvement goal
- Domestic program success spurs major international initiatives – e.g. Methane to Markets Partnership
- Annual report with latest (2004) savings available:

For every federal $ spent

- 1 metric ton of carbon equivalent avoided
- $15 private sector investment
- $60 in net savings

Energy Star

- Savings of 4% electricity demand in 2004
- Savings of $10 Billion annually

Smartway Transport

- Savings of 163,000 gallons fuel/yr
- Savings of $407 Million annually

Merci – Thank you

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