

Climate Change Mitigation – EPA Region 2 Efforts

Reema Loutan
Environmental Engineer
U.S. EPA Region 2

AAPA Climate Change Workshop
Kemah, Texas
January 27, 2011

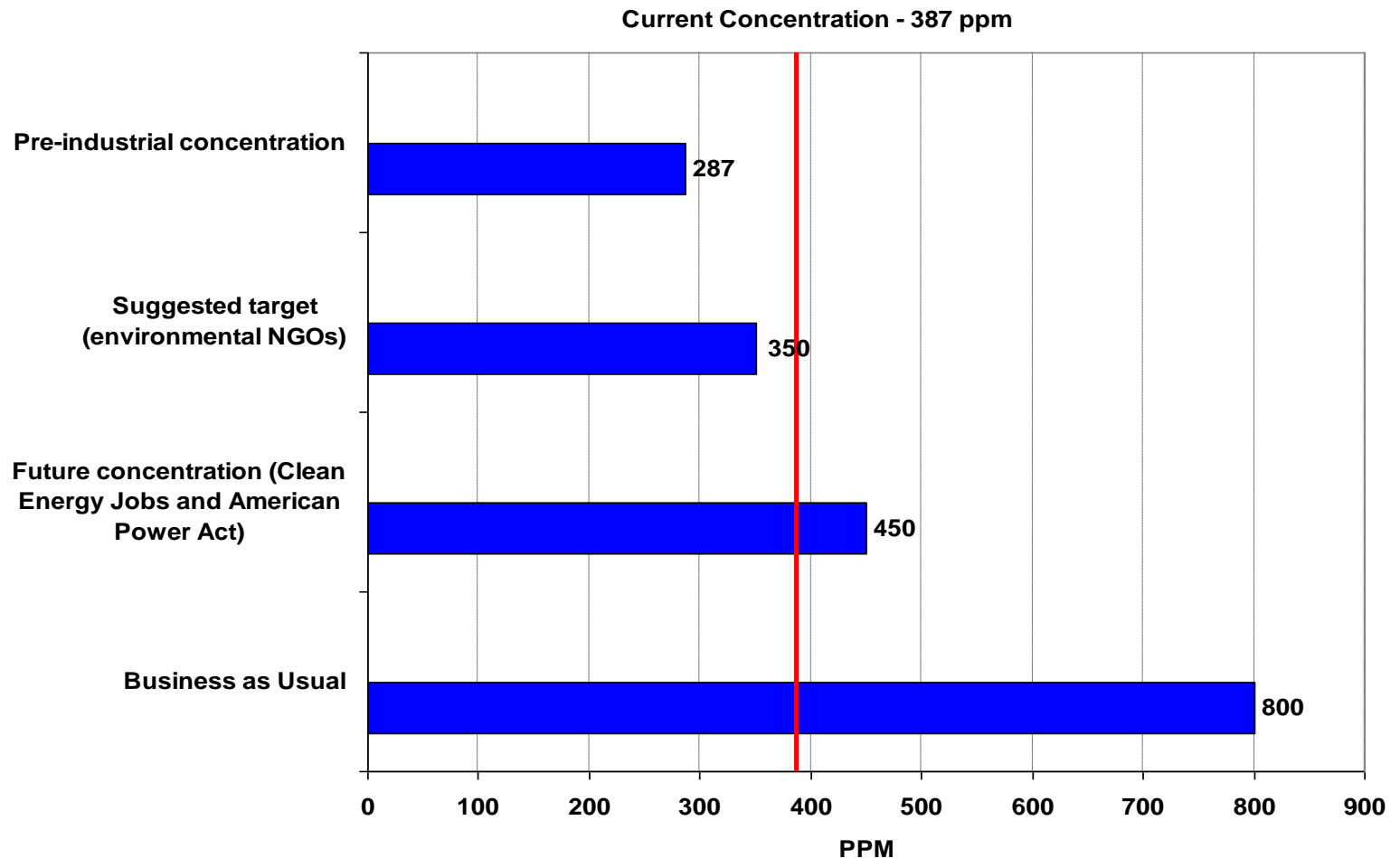




What is Climate Change Mitigation?

- Decreasing atmospheric concentrations of greenhouse gases through:
 - Reduction of GHG emissions
 - Enhancement of GHG sinks

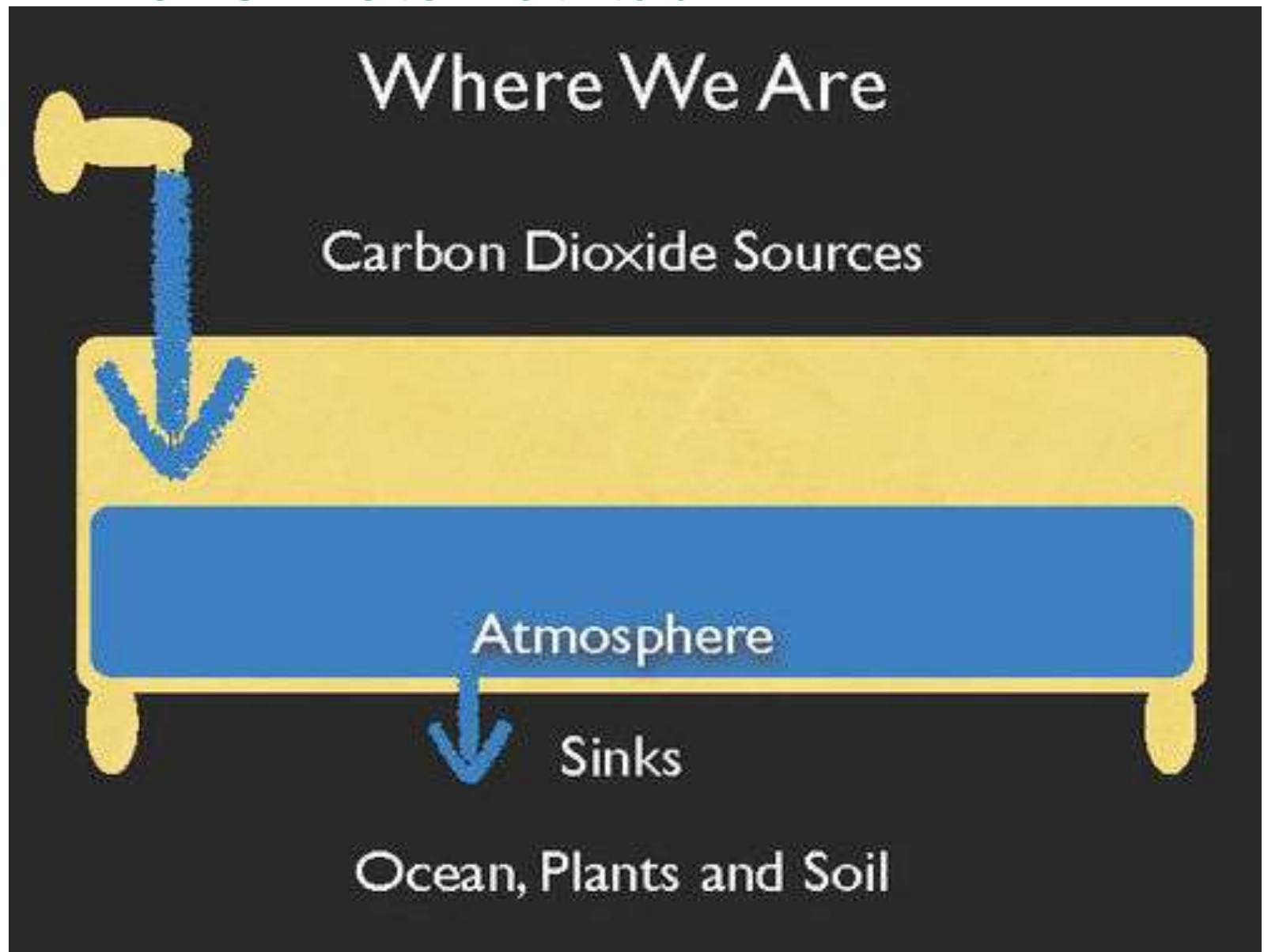
CO₂ concentration and targets



Business as usual scenario: 700 – 900 PPM by 2100.

The U.S. Climate Change Science Program (2007)

The “Climate Bathtub”



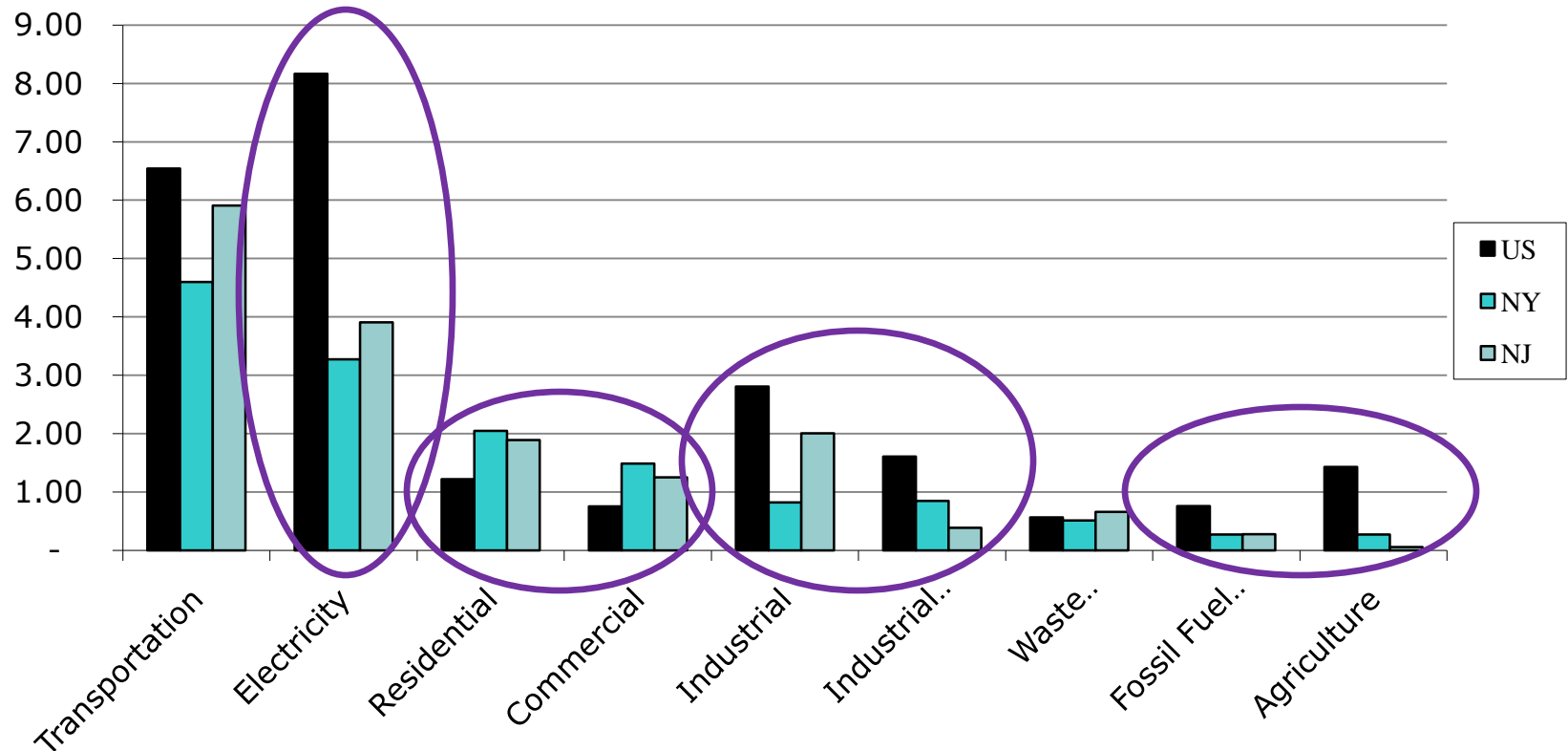


Efforts within Region 2

- Elevate your Climate IQ courses
- Action Plan Priorities
 - Sensible solutions for power plants
 - Finalize mobile source rules
 - Build on Energy Star
- Continue promoting clean diesel programs and grant opportunities
- Energy Star Buildings

What Makes Region 2 Special?

2005 Per Capita GHG Emissions (Mt CO₂e)



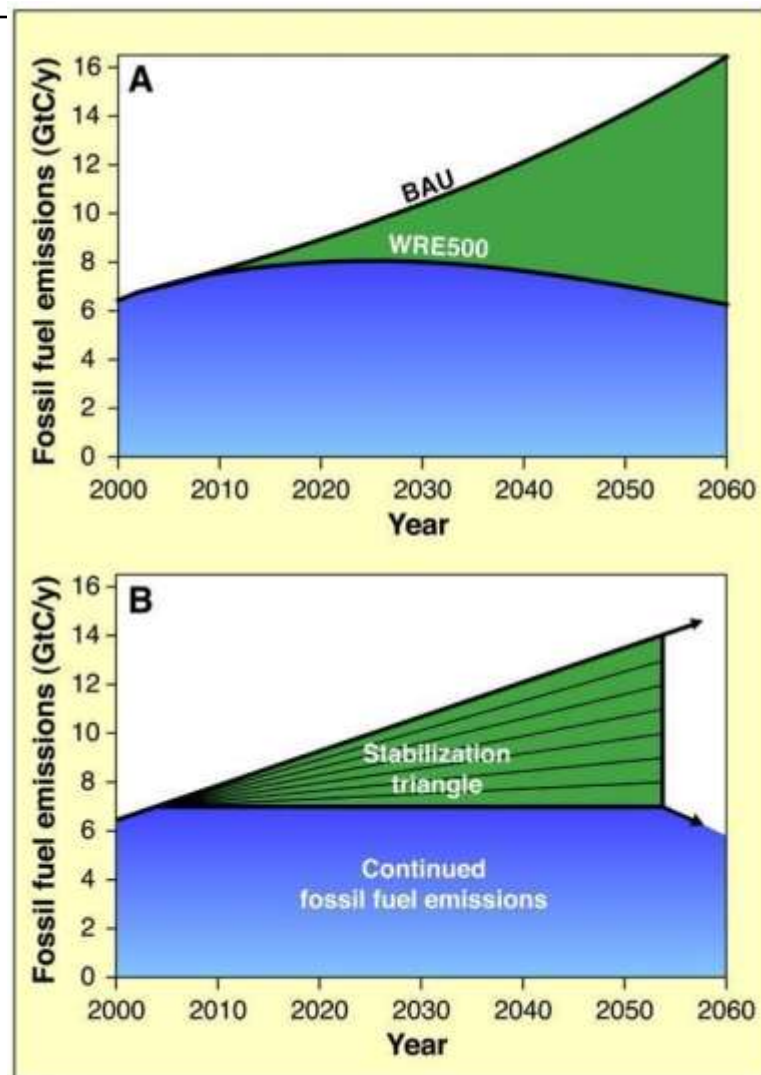
► Different priorities for GHG reductions

GHG reduction: Stabilization Wedges Exercise

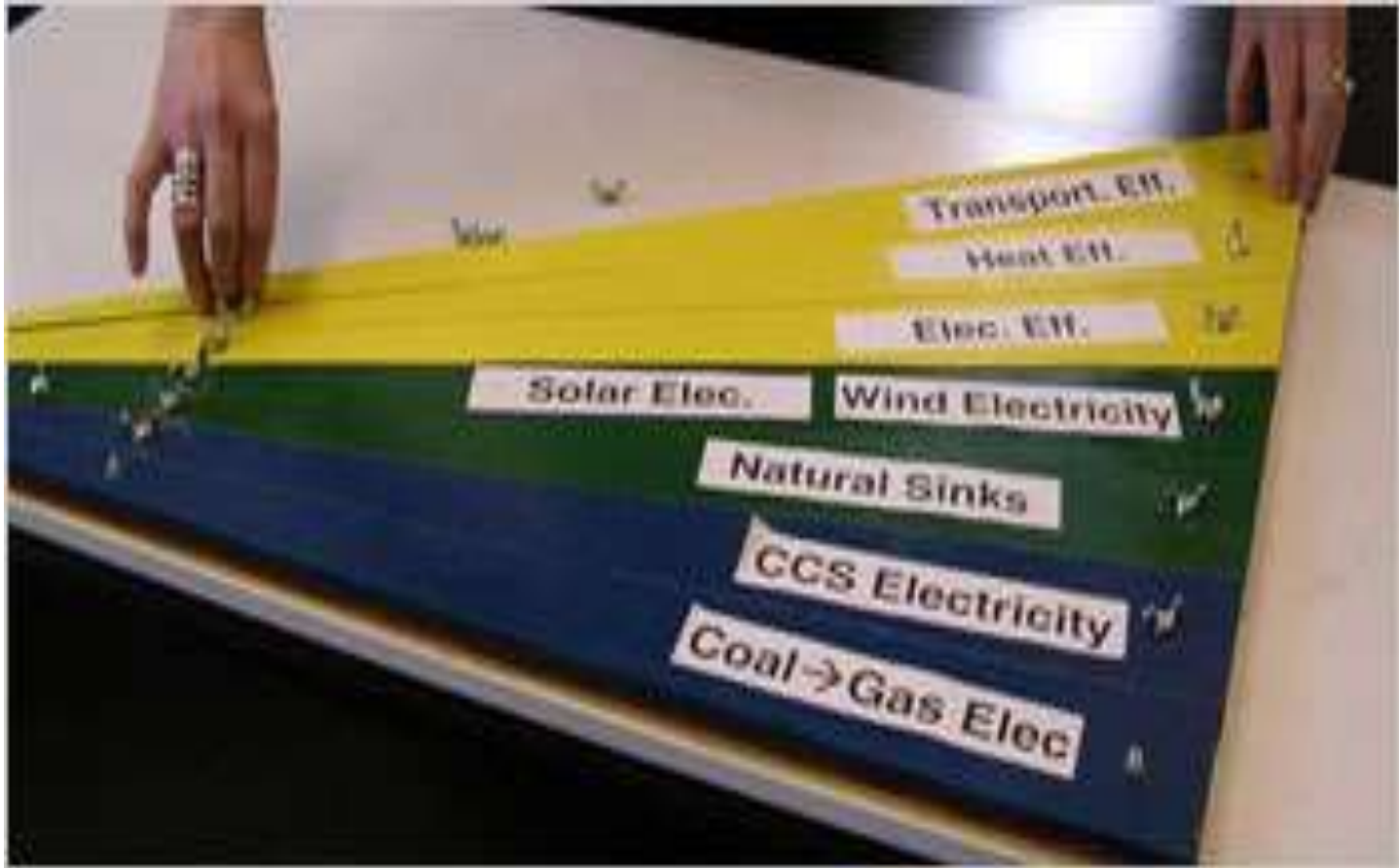
- 1 “wedge” represents a cumulative total of 25 gigatonne of reduced Carbon (GtC) emissions over 50 years
- Filling 7 wedges stabilizes fossil fuel emissions at 500 ppm of CO₂
- Each wedge represents an effort beyond what would occur under BAU

S. Pacala and R. Socolow. 2004. Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies.

Science 305 (5686): 968 – 972.



Climate Mitigation Initiative - Wedge Exercise



Source: <http://cmi.princeton.edu/wedges/game.php>



Mitigation Wedges

**Scaling up these options
could produce a wedge**

Energy efficiency:

- Efficient vehicles
- Reduced use of vehicles
- Efficient buildings
- Efficient baseload coal plants

Mitigation Wedges

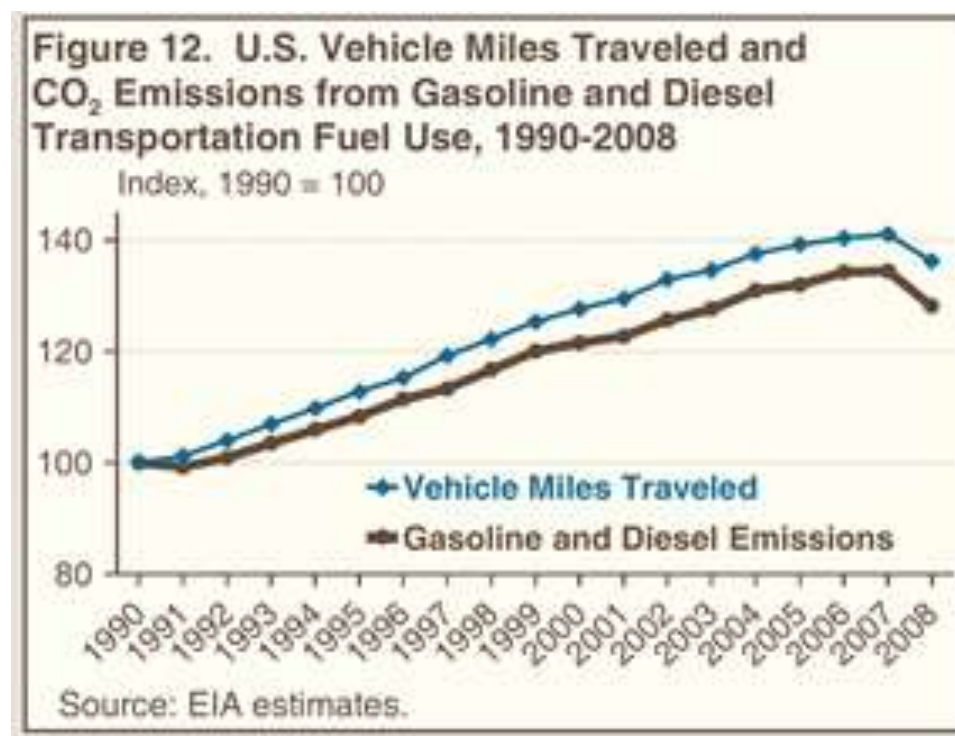
Shifts away from fossil fuels:

- Increase renewable fuel use
 - Wind
 - Solar
 - Renewable Hydrogen
 - Biomass
 - Tidal/Wave



Supporting Actions: Energy Efficiency and Transportation

- Less VMT growth
- Combined heat and power (CHP)
- Smart grids
- Encourage transit options



SmartWay Transport Partnership

- Based on current trends
 - By 2012 ground freight transportation will consume 45 billion gallons of diesel
 - Freight transport will produce 450 million metric tons of CO₂
- SmartWay aims to reduce
 - Fuel consumption and operating costs from freight delivery
 - CO₂ emissions
 - Emissions of NO_x, PM, and air toxics
- Savings
 - 3.3 to 6.6 billion gallons of fuel/year
 - \$10 billion in operating cost for partners

What EPA Region 2 is Doing and How to Partner with Us:

Find out about programs at EPA that promote fuel efficiency and other sustainable practices to conserve natural resources and decrease the emission of greenhouse gases.

- [Clean School Bus Program](#)
- [Northeast Diesel Collaborative](#) EXIT Disclaimer
- [Green Remediation](#)
- [Clean Marine Engines](#)
- [Electronics Recycling \(e-cycling\)](#)
- [Green Living](#)
- [Green Workplaces](#)
- [Green Communities](#)
- [Green Buildings](#)
- [Green Schools](#)
- [The "Green Team" – Promoting Green Construction & Operations](#)
- [Greenscaping](#)
- [Scrap Tires](#)
- [WasteWise](#)

What State and Local Governments in Region 2 are Doing:

State and local governments are actively assessing and addressing the impacts of climate change.

- [Regional Greenhouse Gas Initiative \(RGGI\)](#) EXIT Disclaimer
- [New Jersey's Climate Actions](#)
- [State of New Jersey's Global Warming Web Site](#) EXIT Disclaimer
- [New Jersey Department of Environmental Protection's Office of Climate & Energy](#) EXIT Disclaimer
- [Sustainable Jersey](#) EXIT Disclaimer
- [New York's Climate Actions](#)
- [New York City – PlaNYC – Climate Change](#) EXIT Disclaimer
- [New York City Department of Environmental Protection's Climate Change Program Assessment and Action Plan](#) EXIT Disclaimer
- [New York State Climate Action Council – Climate Action Plan Interim Report](#) EXIT Disclaimer
- [New York State Department of Environmental Conservation's Climate Change Web Site](#) EXIT Disclaimer
- [New York State Energy Research and Development Authority's Climate Change Web Site](#) EXIT Disclaimer
- [Caribbean Community Climate Change Centre](#) EXIT Disclaimer

<http://www.epa.gov/region2/climate/>



Resources

- EPA Methodology for Port Related Inventory, April 2009
 - <http://www.epa.gov/cleandiesel/documents/ports-emission-inv-april09.pdf>
- GHG Inventory
 - <http://www.epa.gov/statelocalclimate/local/activities/ghg-inventory.html>
- Webcasts
 - <http://www.epa.gov/statelocalclimate/web-podcasts/index.html>
- Greenhouse Gas Equivalency Calculator
 - <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>
- Regulatory Initiatives
 - <http://www.epa.gov/climatechange/initiatives/index.html>