

2007 King County Building Summit



King County

Doug Howell, DNRP

Overview of Presentation

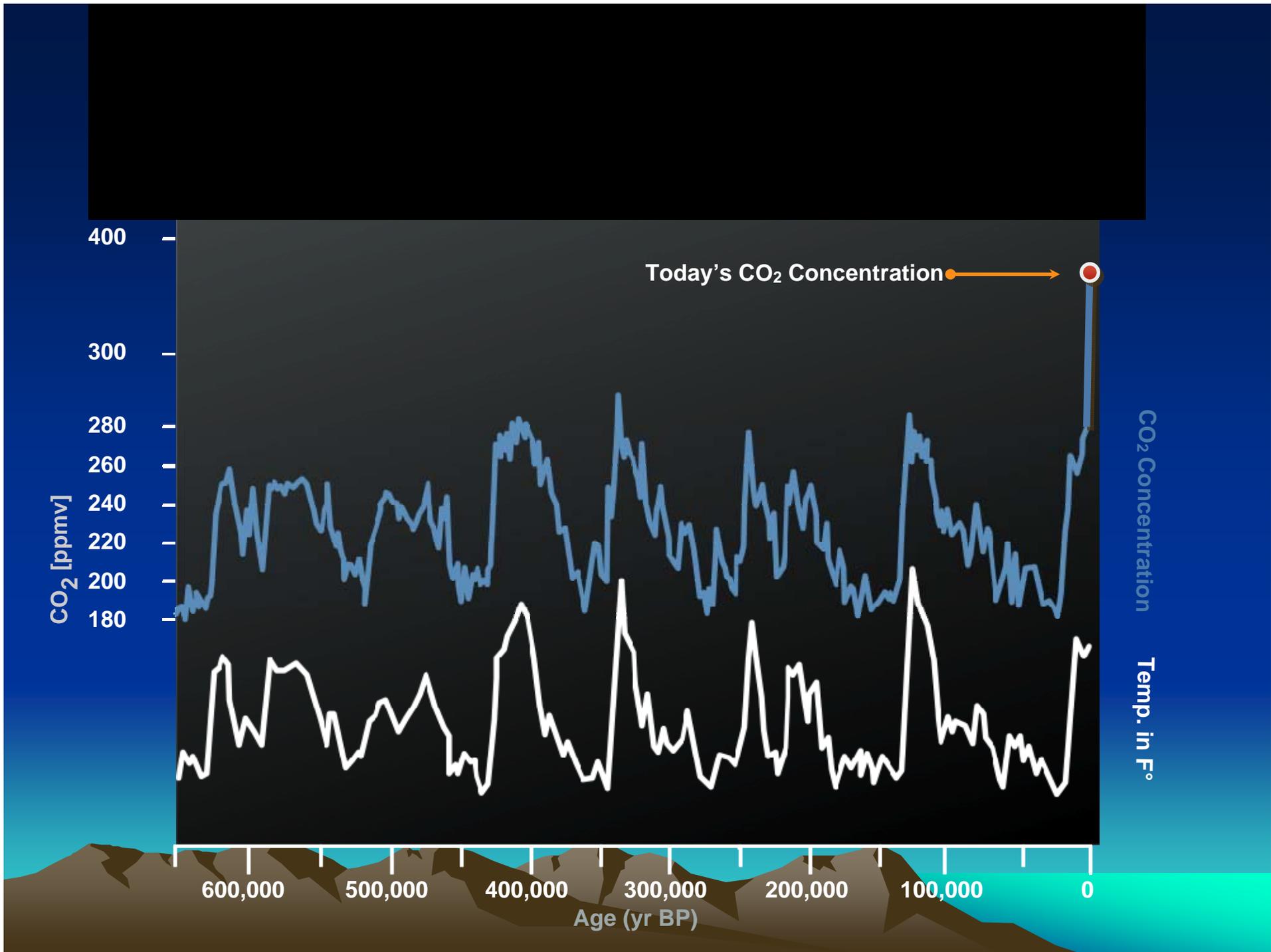
- Science, Impacts and Goals
- Relation to Green Building
- GHG intensity – Death by 1000 cuts
- Reframing issue: Social and Economic Transformation
- But first, that morning cup of coffee:
excerpt from agenda

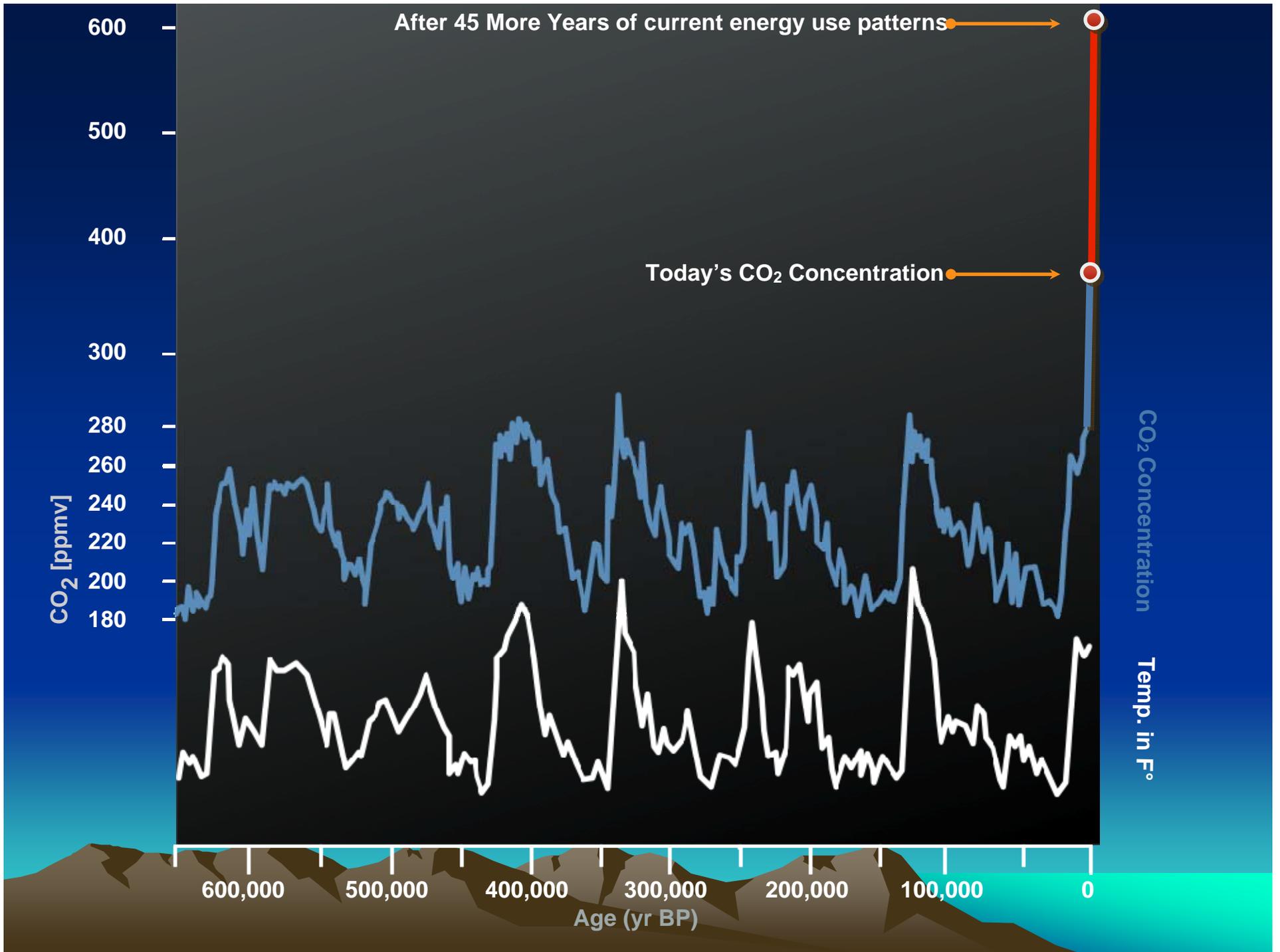


Global Warming is Everywhere

- **“Brazil coffee at risk from global warming – study” Feb 05, 2007, Source: Reuters**
- **“A 3-degree Celsius (5.4 Fahrenheit) rise in temperature would result in a 60 percent reduction in the arabica coffee area in Brazil, the world's biggest producer of the beverage.”**
- **“Award-winning French roast yields insights into emissions from coffee roasting” Source: Puget Sound Clean Air Agency**



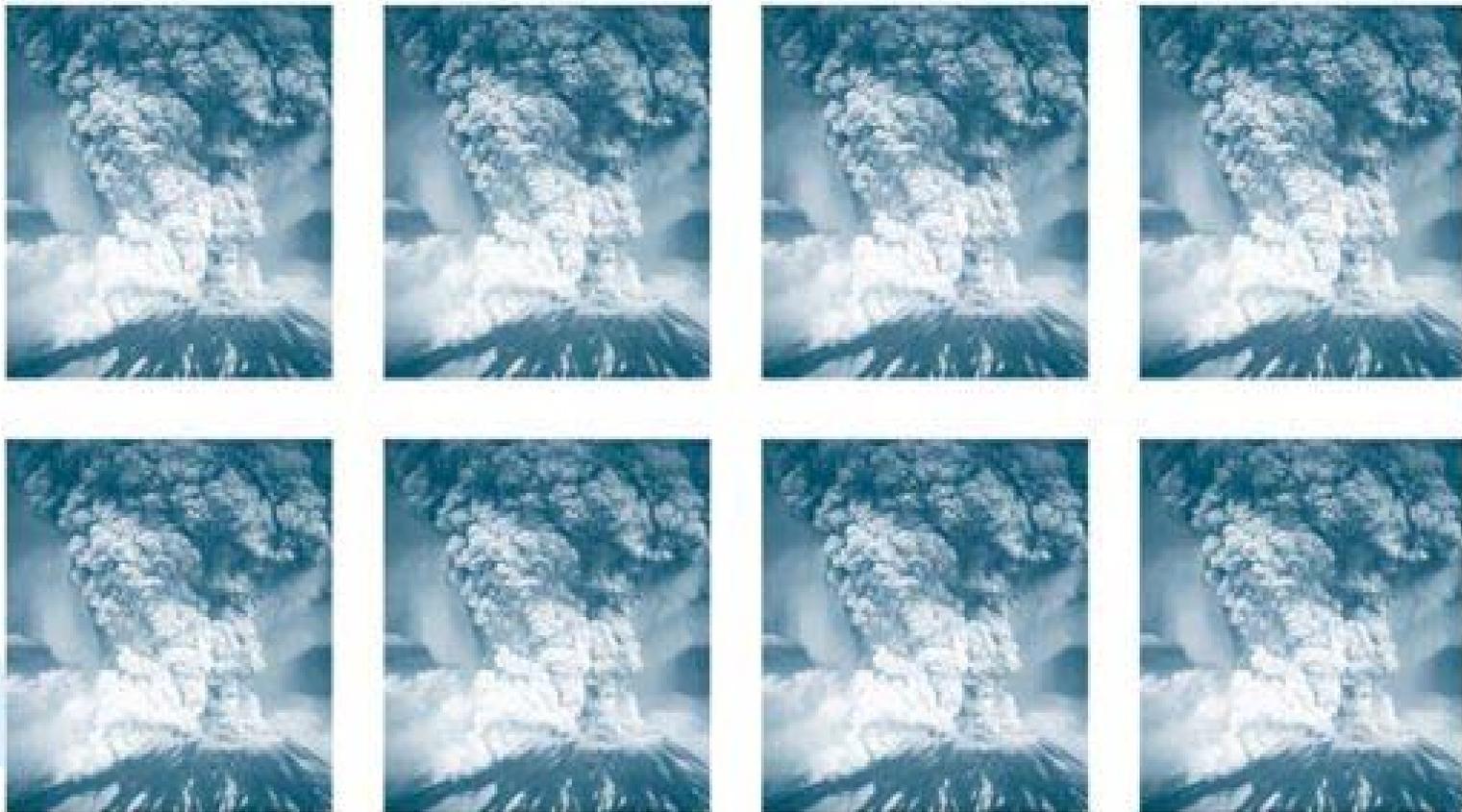






World-wide global warming emissions are equal to **EIGHT Mount St. Helen eruptions of carbon dioxide...EVERYDAY!**

In the Puget Sound region, transportation emissions are the number one culprit!



Some impacts are inevitable.

- Water Supply
- Salmon
- Forest
- Agriculture
- Stormwater, Flooding, Wastewater
- Public Health
- Hydropower
- Coastal



Types and %, GHGs in U.S.

Carbon Dioxide	84%
Methane	9%
Nitrous Oxide	5%
Other	2%



Global to Local GHG Emissions

Locations	(MTCO₂e)	Percent
World	27,000,000,000	100.0000%
United States	7,100,000,000	26.3000%
Washington	84,000,000	0.3100%
King County	23,000,000	0.0800%
KC Govt Ops	420,000	0.0015%



Climate Stabilization

- 80 percent reduction below current levels by 2050
- Some other targets
 - National enviro groups: 80% below 1990
 - Gov. Gregoire: 50% below 1990 (~= 70% below current)
 - Need to commit to binding near-term targets



King County GHG Emissions

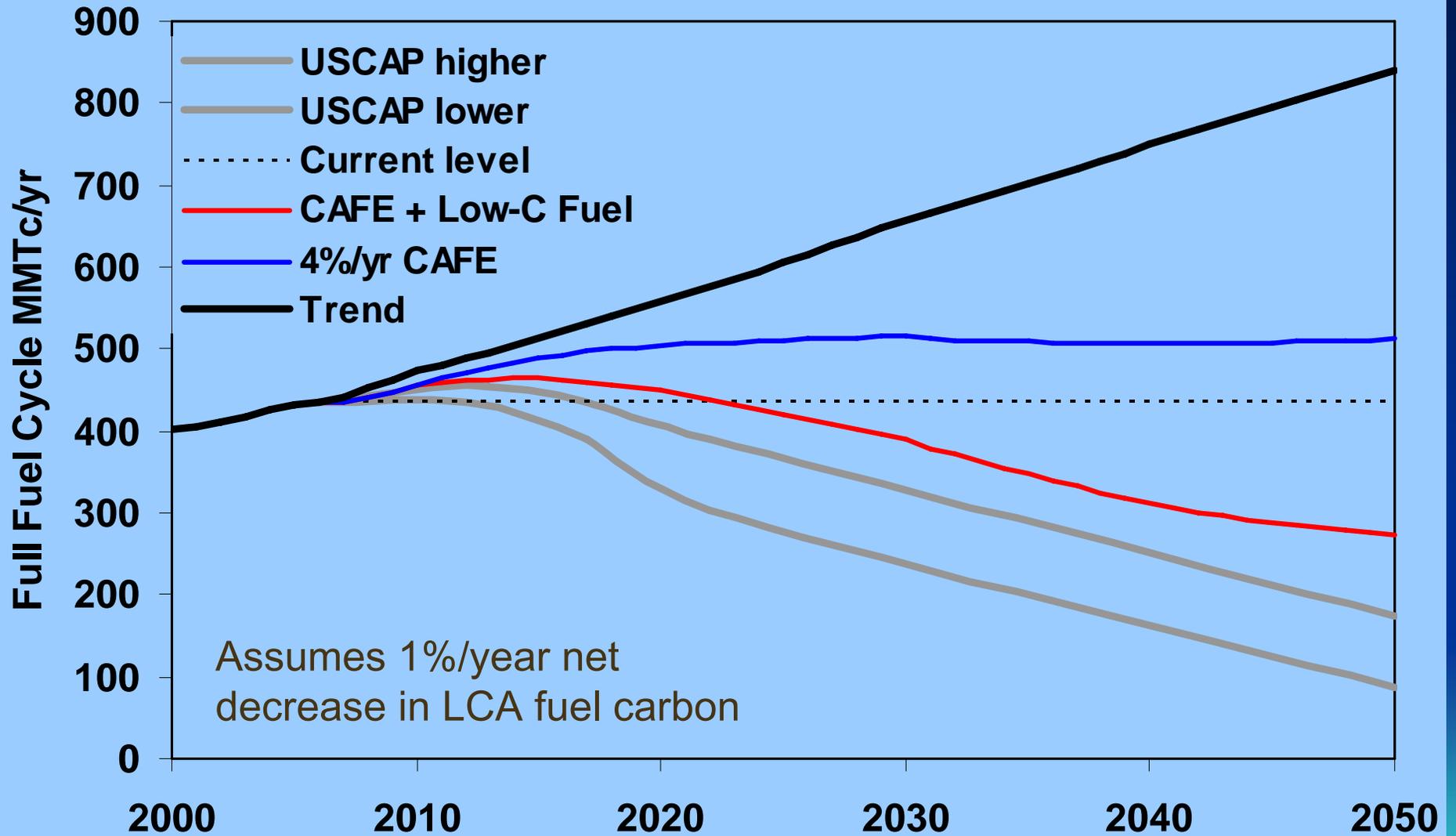
	Metric Tons	
• On-Road Transportation	11,500,000	50%
• Off-Road Transportation	2,300,000	10%
• Commercial / Residential	4,600,000	20%
• Industry or "Point Source"	2,300,000	10%
• Electricity	2,300,000	10%

2003 Total = 23,000,000

Stabilization = Zero Growth – 18,400,000 by 2050



Impacts of CAFE and other policies on auto sector GHG emissions



Lifecycle (cost) assessment

- **Upstream:** manufacturing and transport energy = GHG emissions = “Medium”
- **On-site:** construction energy = “Small”
- **Downstream:** Energy use for life of building = “Large”
- Comparison of an automobile (Upstream is 1/10th of downstream)



Materials, energy in Lifecycle

- Upstream: cement, steel, recycled materials
- On-site: mostly diesel equipment so efficiency and biodiesel
- Downstream:
 - Electricity = 1.2 pounds / kWh
 - Natural gas = 120 pounds / 1000 cf
 - Water, waste, landscape, compost
- Location, location, location



Next Steps

- Death by 1000 cuts
- Must aggressively pursue local efforts:
 - Individual action matters, but only if
 - Tied to understanding of system change
 - Laying groundwork for future
- Stop making problem worse
- Binding commitment to near-term targets
- Vision for Stabilization

