

EPA Activities on Greenhouse Gas Emissions

U.S. EPA

Office of Regional Counsel

Robert Kaplan, Regional Counsel

Carbon Management and the Law Conference

William Mitchell College of Law

February 10, 2011

Eco-Travel

TGV Lyria

TRAVELLER'S INFORMATION
Normal traffic conditions.

Valais, Neuchâtel, Bern, Basel, Lake Geneva, Geneva, Lausanne, Montreux, Zurich

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to France
I'm travelling to Switzerland

Co2 balance
Co2 in kg

Eco-travel Lyria

Co2 balance
Co2 in kg

Mode	Co2 in kg
TGV Lyria	7.13
Car	101.32
Airplane	739.2

Summary of your demand

Your travel :
Paris - Zurich / Zurich - Paris :
1372 km with TGV Lyria

NEW COMPARISON

Comparison of one return trip :
- TGV Lyria : 8h40
- Car : 5 CV (fiscal horsepower) | Gasoline | 12h10
- Airplane : Business class | 3h20

Number of travellers : 2 persons

RESERVATION

Collect your tickets
in France

single return
Leaving from: Choose: Going to: Choose:
outward: dd/mm/yyyy 00h inward: dd/mm/yyyy 00h
Class: 1st 2nd
Adult: 1 Senior: 0 Young: 0 Child: 0

Pursue the order

Did you know ?

In France, only 1% of tap water is used for drinking, while 140 litres of bottled water are consumed per inhabitant per year.

50 % der CO2-Emissionen entstehen durch privaten Energieverbrauch ...

1 degree less ...
= 7% energy saving
1 degree less for everyone would save the equivalent of the annual electricity consumption of Marseille!

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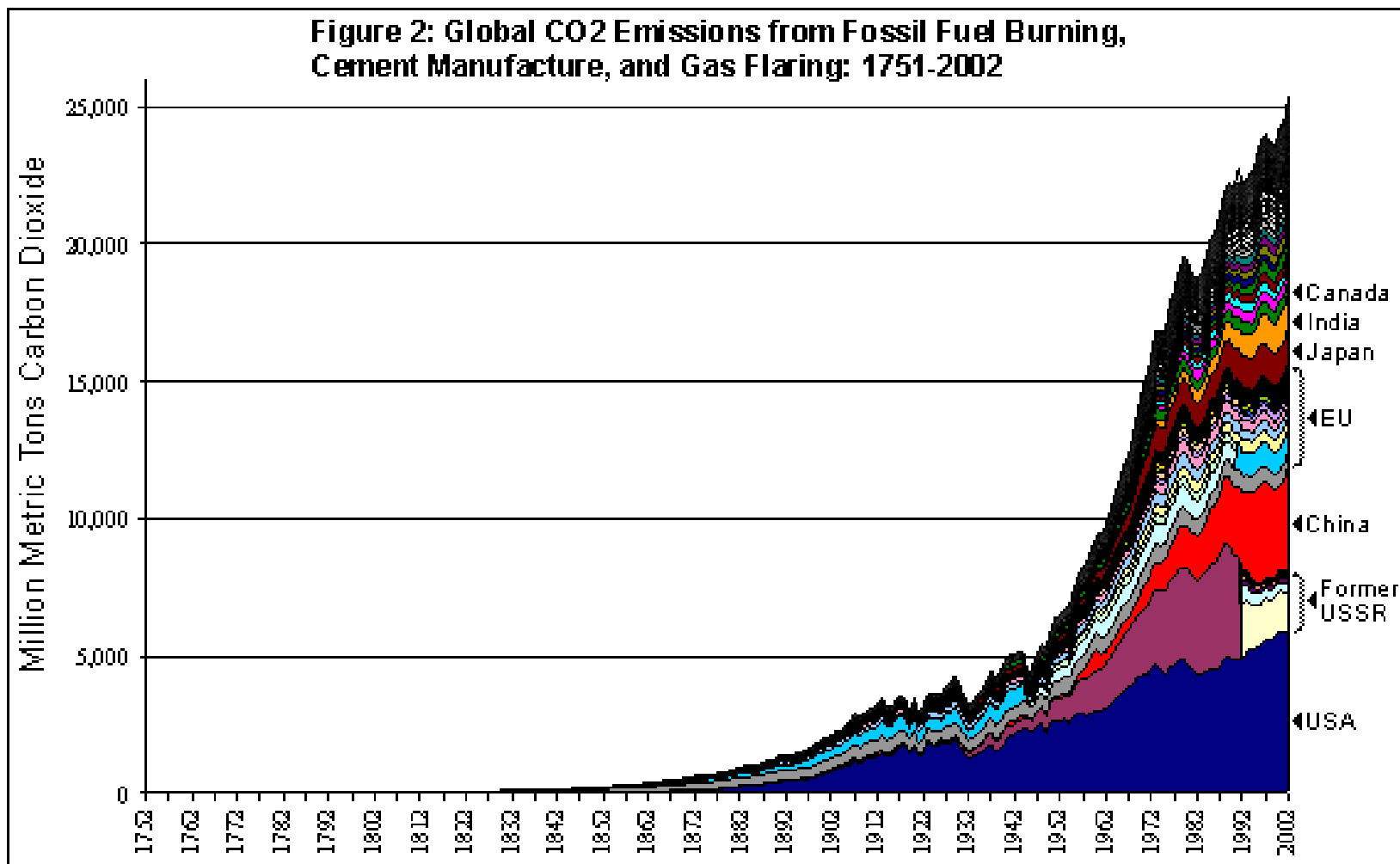
Oiled Vegetation and Wildlife



AP/The Battle Creek Enquirer

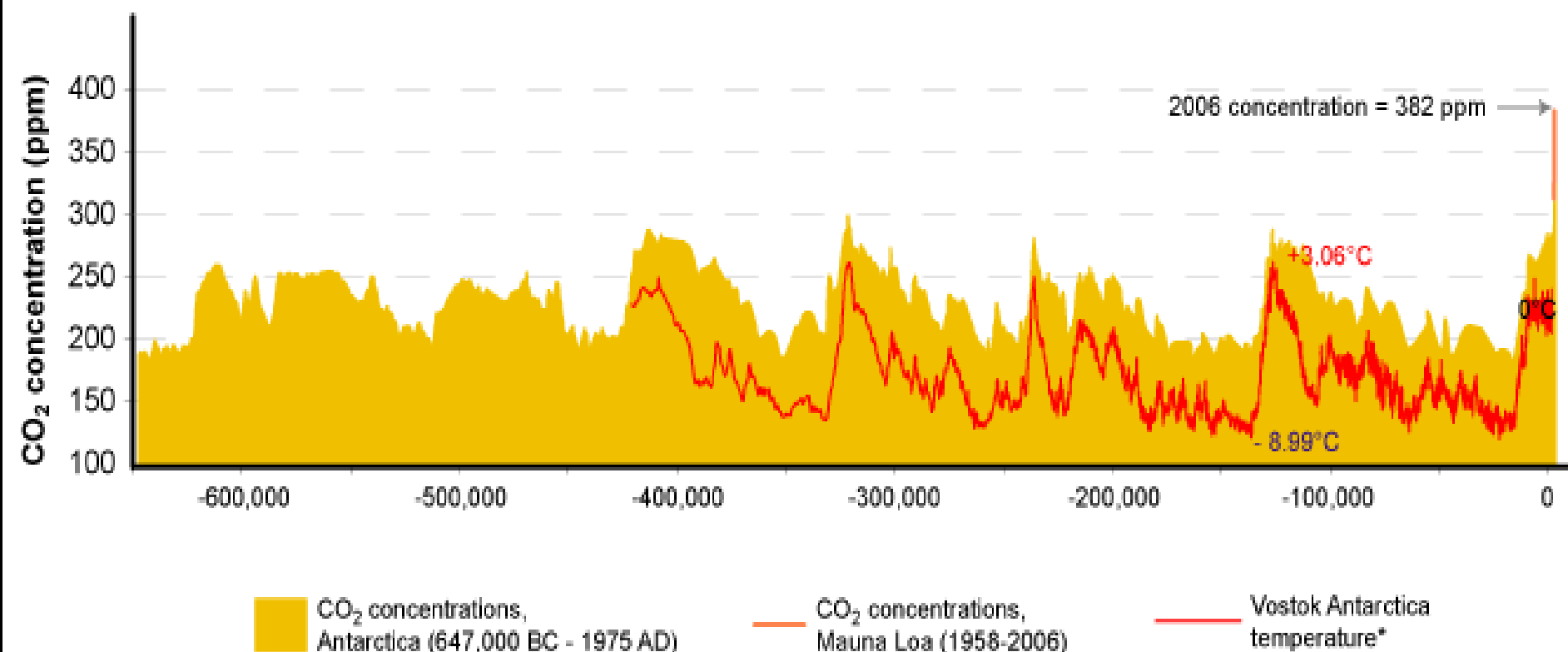


Figure 2: Global CO₂ Emissions from Fossil Fuel Burning, Cement Manufacture, and Gas Flaring: 1751-2002



Changes in Carbon Dioxide and Temperature

CO₂ concentrations 647,000 BC to 2006 AD
Antarctic temperature 421,000 BC to 2000 AD*

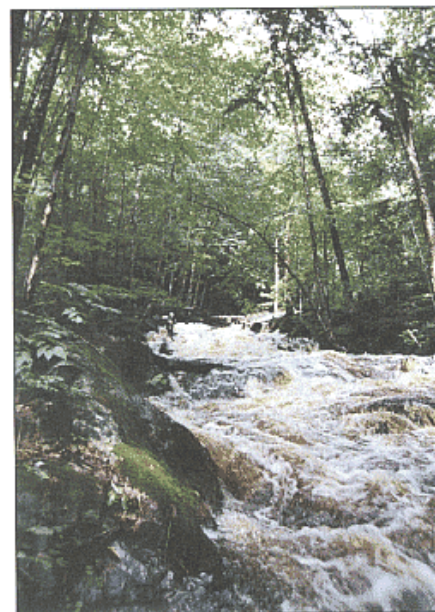


* Antarctic temperature is measured as the change from average conditions for the period 1850 AD - 2000 AD

Menominee Forest



Menominee Tribal Enterprises
Maeqtekuahkihkiw Kew Kanāhwihtahquaq
“The Forest Keepers”

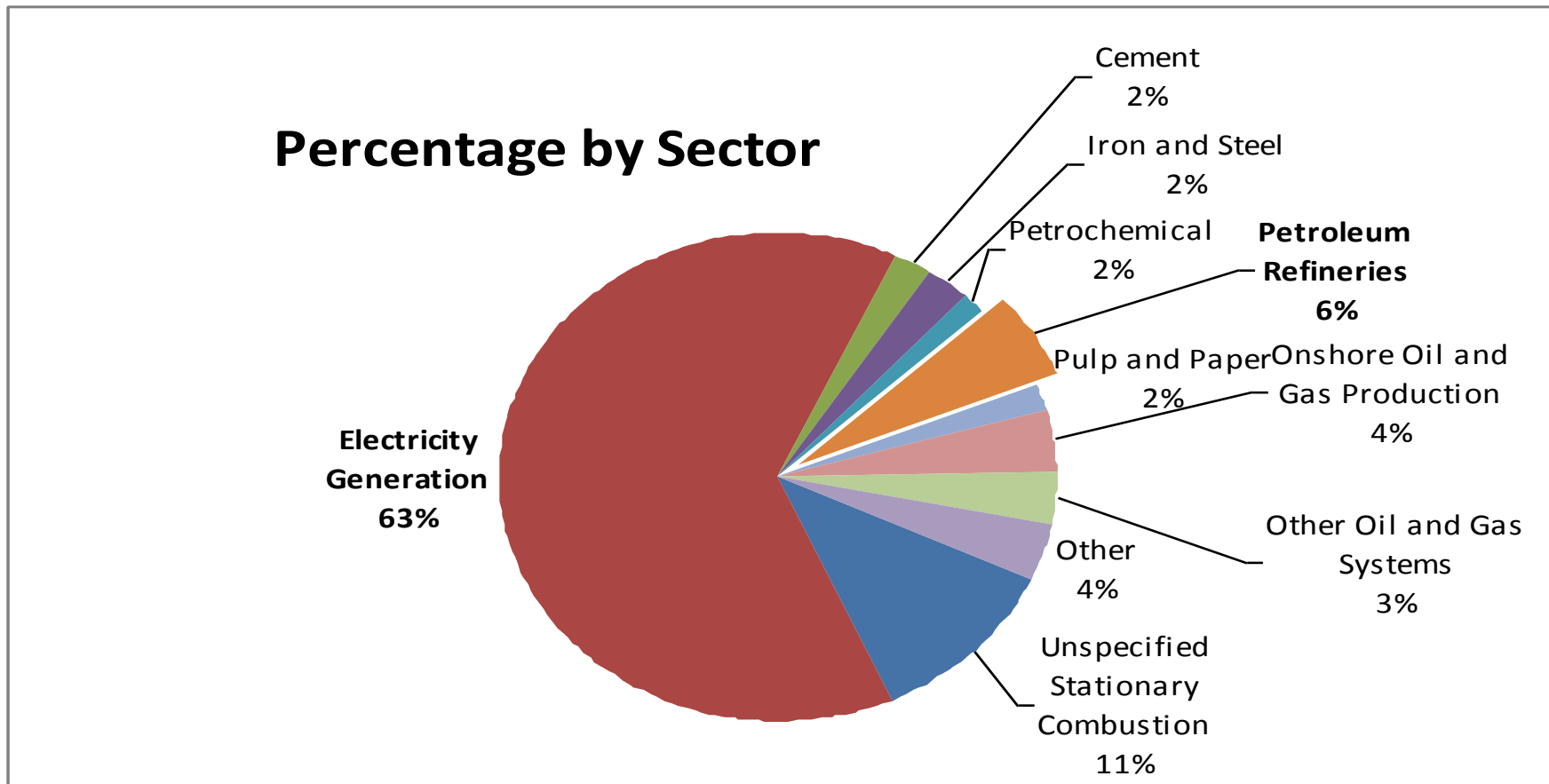


The Menominee Forest-Based Sustainable Development Tradition

Administrator's Principles

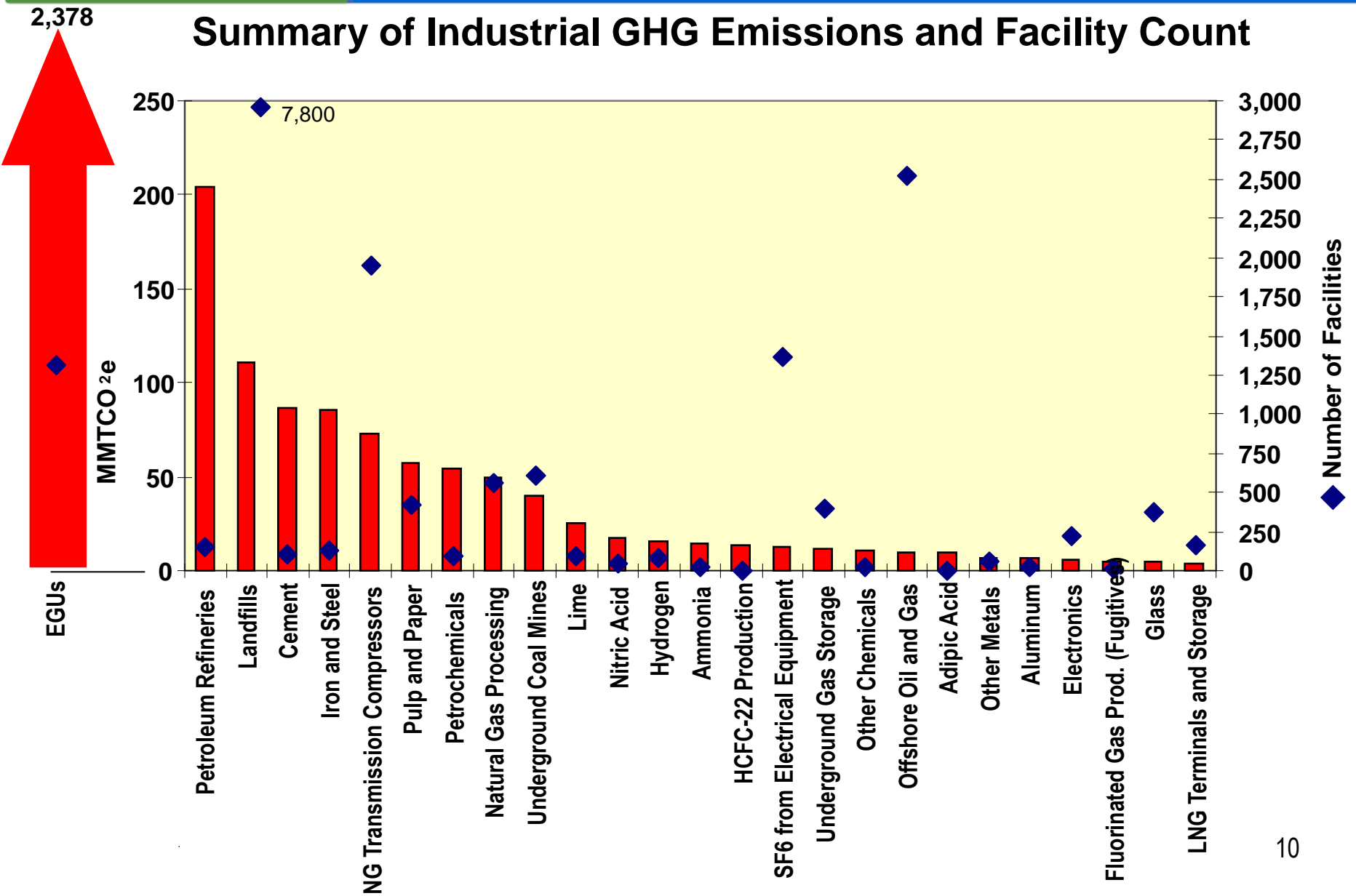
- **Common Sense** – Promote sensible strategies to harness new, more efficient technologies, spur re-investment in U.S. industry, create jobs, and help lay the foundation for a clean energy economy.
- **Cost-Effectiveness** – Employ multi-pollutant, sector-based approaches to reduce regulatory uncertainty and keep compliance costs down.
- **Clarity, Achievability and Flexibility** – Explore and consider options to ensure the maximum environmental benefit while allowing flexibility, encouraging innovative strategies, and allowing adequate time to meet the new standards.
- **Transparency** – Seek input through open, public notice and comment provides the agency with the latest and best information and provides increased certainty.
- **Focus on the largest emitters** – Focus on large GHG emitters for which there are more cost-effective options for GHG control, and the Clean Air Act requires that cost and technical feasibility are considered.

GHG Emissions from the Industrial Sector



Source: Regulatory Impact Analysis for the Mandatory Reporting of Greenhouse Gas Emissions Final Rule (September 2009)

Summary of Industrial GHG Emissions and Facility Count



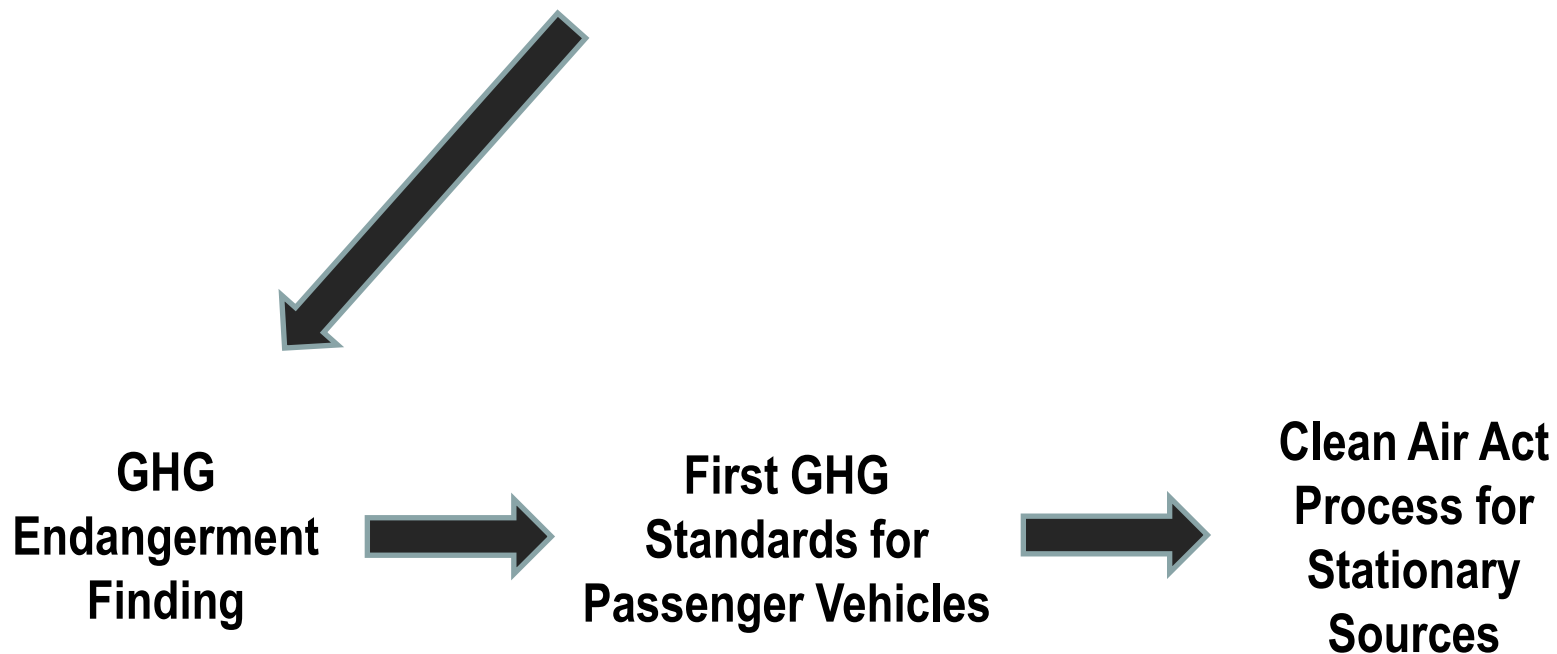
New GHG Regulation Standards:

“*landmark plans*” to take “*unprecedented action.*”

An “opportunity to regulate effectively and *innovatively.*”

President Obama’s “immediate tool” to “*chart a path* to a cleaner economy.”

U.S. Supreme Court Decision



Supreme Court Decision

- ***Massachusetts v. EPA* (April 2007)**
 - Supreme Court's finding that GHG, including CO₂, are "air pollutants" under the CAA required EPA to determine whether GHG from new motor vehicles cause or contribute to air pollution that is reasonable anticipated to endanger public health or welfare.
 - EPA was also required to respond to a petition for rulemaking that requested EPA's regulation of CO₂ and other GHG from motor vehicles.
 - On December 7, 2009, EPA found that GHG emissions endanger public health and welfare

Result of Massachusetts v. EPA

- On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under the CAA:
 - **Endangerment Finding:** The Administrator found that the current and projected atmospheric concentrations of the six, key, well-mixed GHGs— CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆ --threaten the public health and welfare of current and future generations.
 - **Cause or Contribute Finding:** The Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and ne motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Scientific Basis of the Endangerment Finding

- The conclusion: the scientific evidence of climate change is overwhelming and greenhouse gases endanger the health and welfare of the American people. The question of the science is settled.
- EPA also determined that GHG emissions from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

First GHG Standards for Passenger Vehicles

- Applies to model year 2012-2016 cars and light trucks
- Sets average emissions level of 250 grams of CO₂ per mile in model year 2016—equivalent to 35.5 mpg, if met solely through fuel economy
- Reduces greenhouse gas emissions by nearly 950 million metric tons



First GHG Standards for Heavy- and Medium-Duty Trucks

- Projected to reduce GHG emissions by about 250 million metric tons and save 500 million barrels of oil
- With an up to 20% improvement in efficiency, EPA estimates that the operator of a semi truck would save \$74,000 over the useful life of the rig



Greenhouse Gases from Stationary Sources

- Once EPA made the scientific determination that GHGs from vehicle emissions in the United States contribute to climate change and endanger public health and welfare, EPA is compelled to implement stationary source provisions under the Clean Air Act.
 - As of January 2, 2011, GHGs are “subject to regulation” under the Clean Air Act
- Tailoring Rule:
 - Shields small sources from stationary source rules
 - Focuses permitting on largest emitters
- GHG Best Available Control Technology (BACT) Guidance:
 - Long-standing and familiar permitting requirements and processes apply to GHGs
- New Source Performance Standards (NSPS):
 - EPA will set GHG performance standards for refineries and utilities

Greenhouse Gas Monitoring and Reporting Rule

- Directed by Congress in 2008 Appropriations Act
- Will provide a better understanding of where U.S. GHG emissions are coming from
- Applies to facilities emitting large quantities of GHGs
- Covers an estimated 85 percent of total U.S. GHG emissions
- Data collection began in January 2010
- First annual reports due in March 2011
- Public release of data in June 2011

BACT Basics

- Under PSD, emission reductions are achieved through the use of Best Available Control Technology (BACT)
- BACT is determined case-by-case based on energy, environmental, and economic impact.
- Can be add-on control equipment or modification of the production processes or methods, including fuel cleaning or treatment and innovative fuel combustion techniques.
- State/local agencies make most determinations of what is BACT for an individual source under EPA-approved programs

Highlights of Greenhouse Gas Permitting Guidance

- Long-standing and familiar permitting requirements and processes apply to GHGs
 - BACT determinations continue to be state and project specific decisions
 - GHG BACT is not prescribed for any source type
- In most cases, energy efficiency improvements will satisfy the BACT requirement for GHGs.
- Carbon Capture and Sequestration (CCS) could be considered an available control option, but required consideration of costs will likely rule CCS out for now.
- Specific types of fuels or facility design neither required nor precluded
 - A BACT analysis for greenhouse gas emissions does not need to consider a fuel switch that would fundamentally redefine the source.

EPA Authorities and State Compliance

- EPA has the authority to permit GHG emissions in the PSD program in eight states until the identified state and local agencies revise their permitting regulations to cover GHGs as defined in the Tailoring Rule.
- Texas has shown resistance to the implementation of a permitting program resulting in:
 - Interim Final Texas Greenhouse Gas Prevention of Significant Deterioration Error Correction, State Implementation Plan Partial Approval/Disapproval, and Federal Implementation
 - Proposed Texas Greenhouse Gas Prevention of Significant Deterioration Error Correction, State Implementation Plan Partial Approval/Disapproval, and Federal Implementation

Climate Change Activities in Region 5

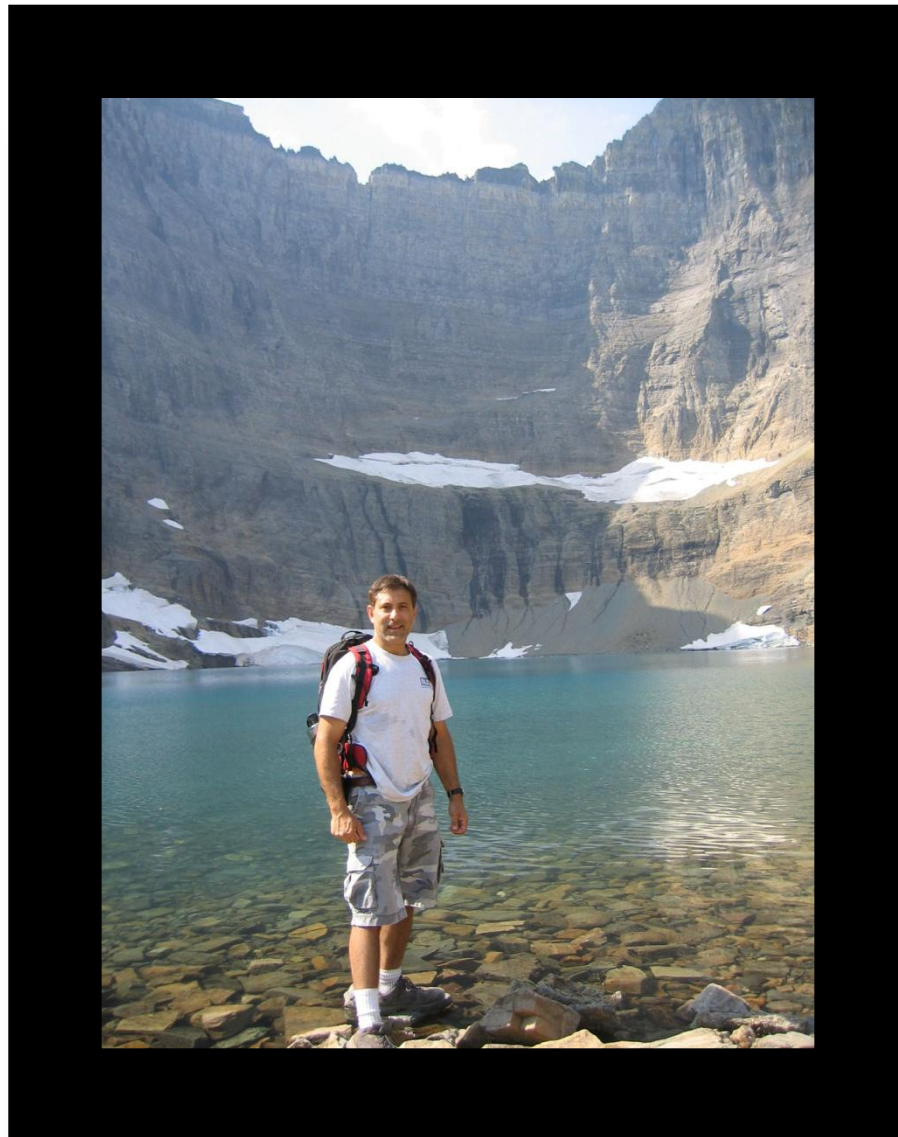
- Supporting implementation of regulatory programs (enforcement of GHG RP, permitting, carbon capture and sequestration rules)
- Promotion of Partnership Programs that reduce greenhouse gases to various sectors
- Local government assistance
- Green Buildings, energy efficiency at WWTPs, Green Infrastructure



Region 5 Involvement in GHG SIP Packages and Rules

- Reviewed and provided comments on both the draft GHG Permitting Guidance document and the draft GHG White Papers.
- Beginning to review GHG SIP permits.

“Glacier” National Park



“Glacier” National Park



Thank you!

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