# EPA Clean Air and Climate Regulatory Update

EPA Office of Air and Radiation
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# 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.

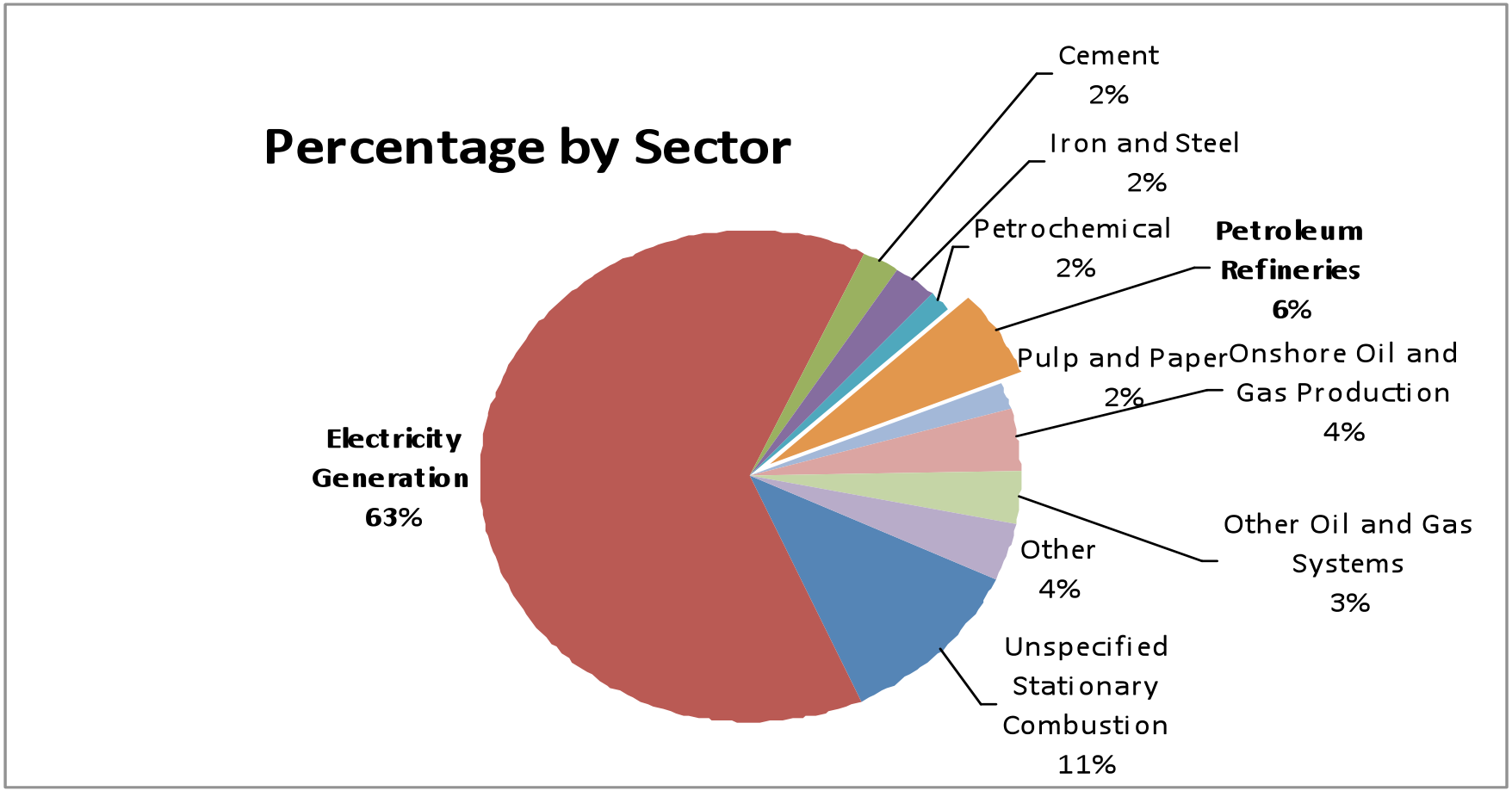
- **Cost-Effectiveness** – Employ multi-pollutant, sector-based approaches to reduce regulatory uncertainty and keep compliance costs down.

- **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.

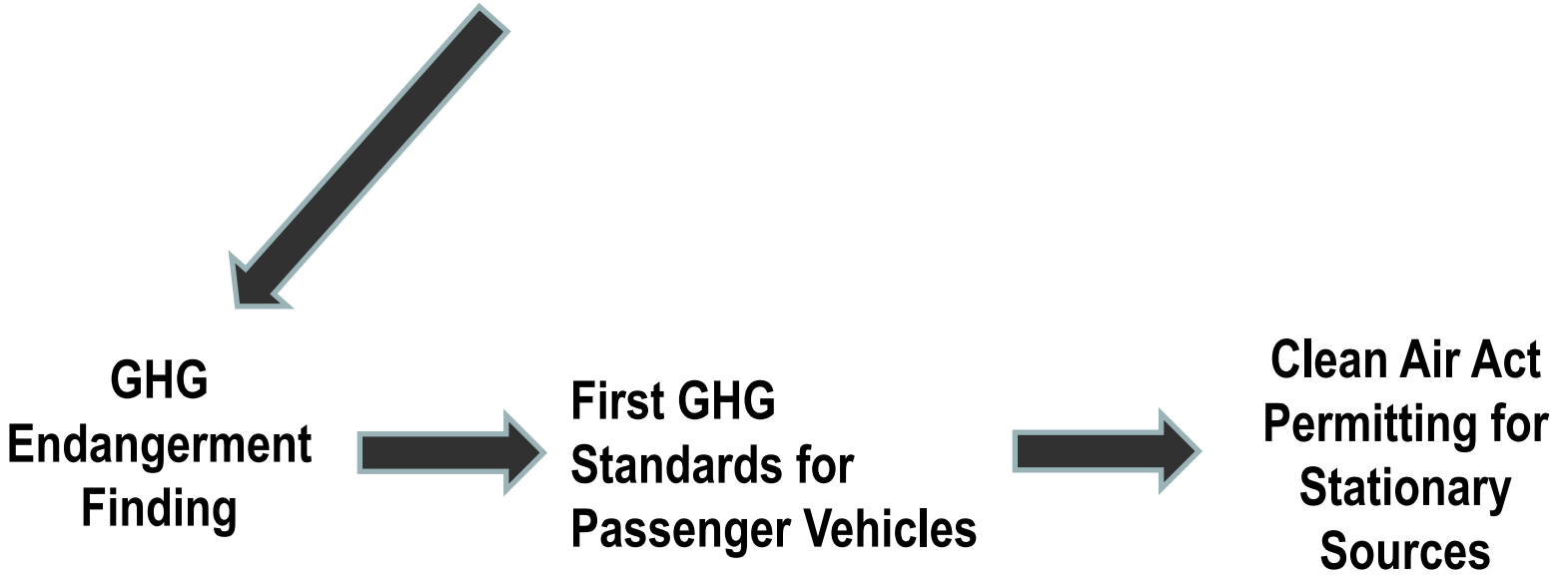
- **Focus on the largest emitters** – Focus on large GHG emitters for which there are more cost-effective options for GHG control, and the Clean Air Act requires that cost and technical feasibility are considered.

# GHG Emissions from the Industrial Sector




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

# U.S. Supreme Court Decision



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# Impacts of Climate Change

## Climate Changes

Temperature

Precipitation

Sea Level Rise

## Health

- Weather-related deaths
- Infectious diseases
- Air quality - respiratory illnesses

## Ecosystems

- Loss of habitat and diversity
- Species range shifts
- Ecosystem services

## Agriculture

- Crop yields
- Irrigation demand
- Pest management

## Forests

- Geographic range
- Health, composition, and productivity

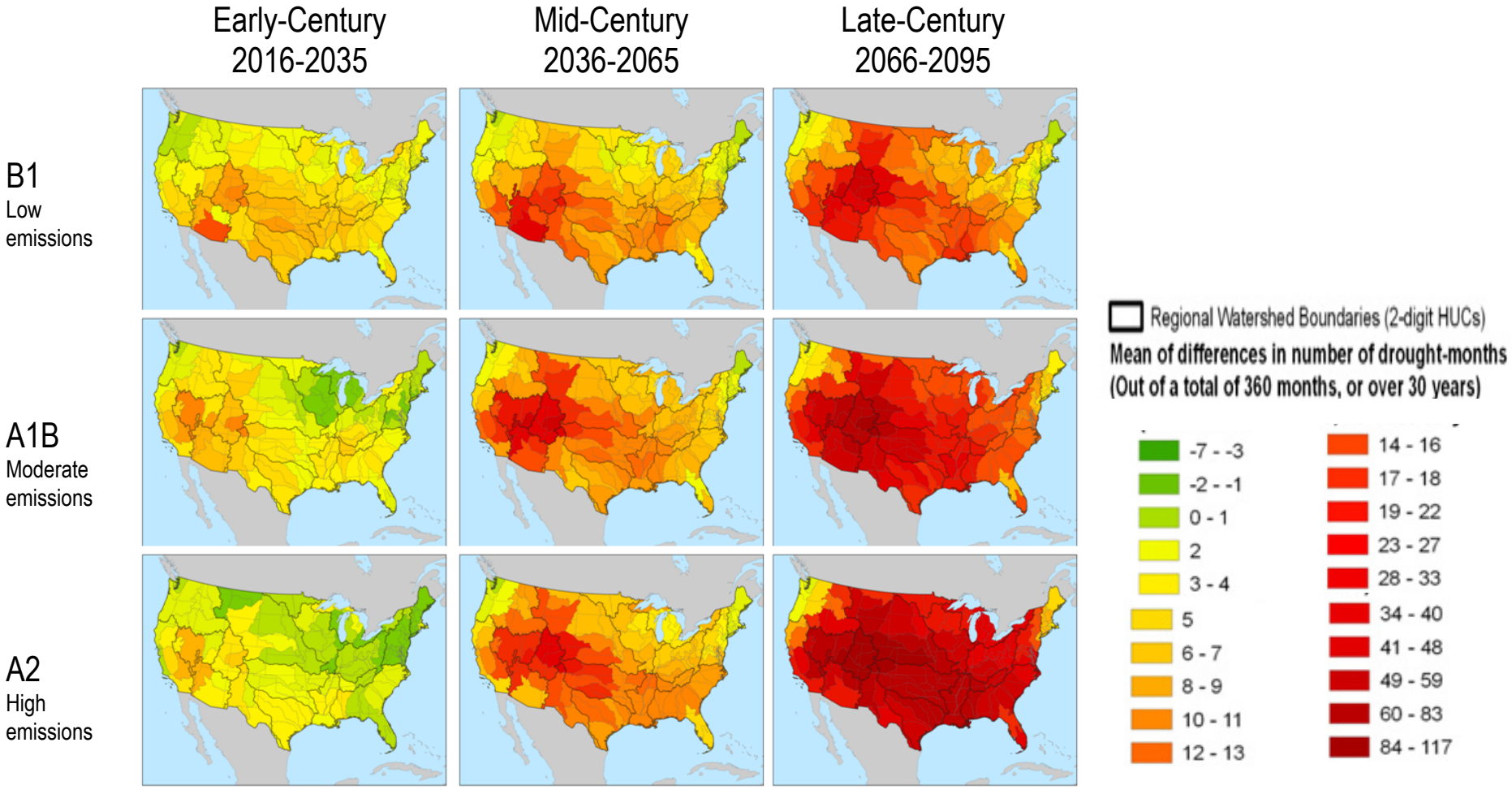
## Water Resources

- Changes in precipitation, water quality, and water supply

## Coastal Areas

- Erosion and inundation of coastal lands
- Costs of protecting vulnerable lands

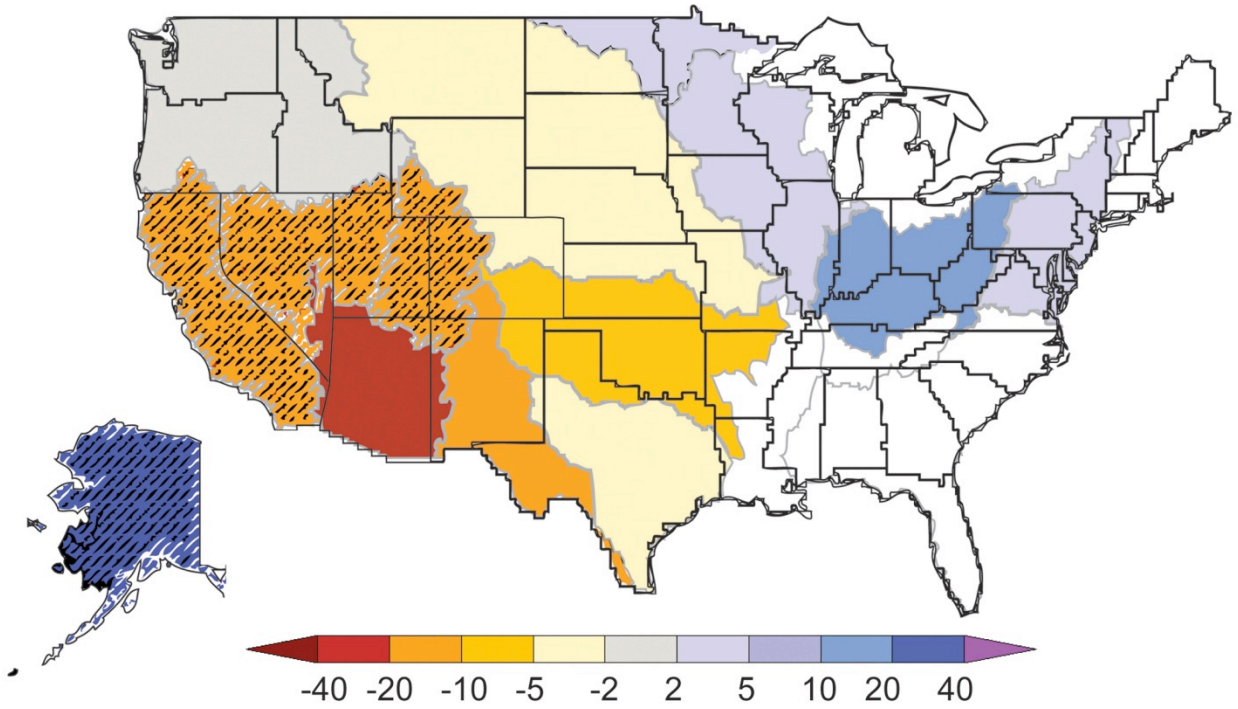
# Estimating Future Drought Risk in the U.S.






Strzepek, K., G. Yohe, J. Neumann, and B. Boehlert (2010). Characterizing changes in drought risk for the United States from climate change. Environmental Research Letters, Vol 5, pp044012.

# Projected Changes in Annual Runoff




Projected changes in median runoff for 2041-2060, relative to a 1901-1970 baseline

# First GHG Standards for Passenger Vehicles

- Issued April 2010 by U.S. EPA/U.S. DOT
- Result of cooperation between automakers, federal government and states
- Applies to model year 2012-2016 cars and light trucks
- Increases fuel economy by approximately five percent every year
- Sets an 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
- Save consumers more than $3,000 over the lifetime of a model year 2016 vehicle
- Reduces greenhouse gas emissions by nearly 950 million metric tons
- Conserves 1.8 billion barrels of oil
- EPA working with U.S. DOT and California on next phase of GHG standards for passenger vehicles for 2017-2025 model years

# First GHG Standards for Heavy- and Medium-Duty Trucks

- Proposed October 2010; 75 FR 74152
- Applies to model year 2014-2018
- Would achieve up to a 20 percent reduction in GHG emissions
- Projected to reduce GHG emissions by about 250 million metric tons and save 500 million barrels of oil
- Would provide $41 billion in net benefits over the lifetime of model year 2014 to 2018 vehicles
- 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
- Reduces other pollutants such as particle pollution
- Standards will be finalized by end of July 2011

# Greenhouse Gases from Stationary Sources

- Once EPA issued the GHG standard for light duty vehicles, GHGs became regulated pollutants for purposes of the stationary source requirements of the Clean Air Act
  - Permitting: PSD and Title V
  - New Source Performance Standards

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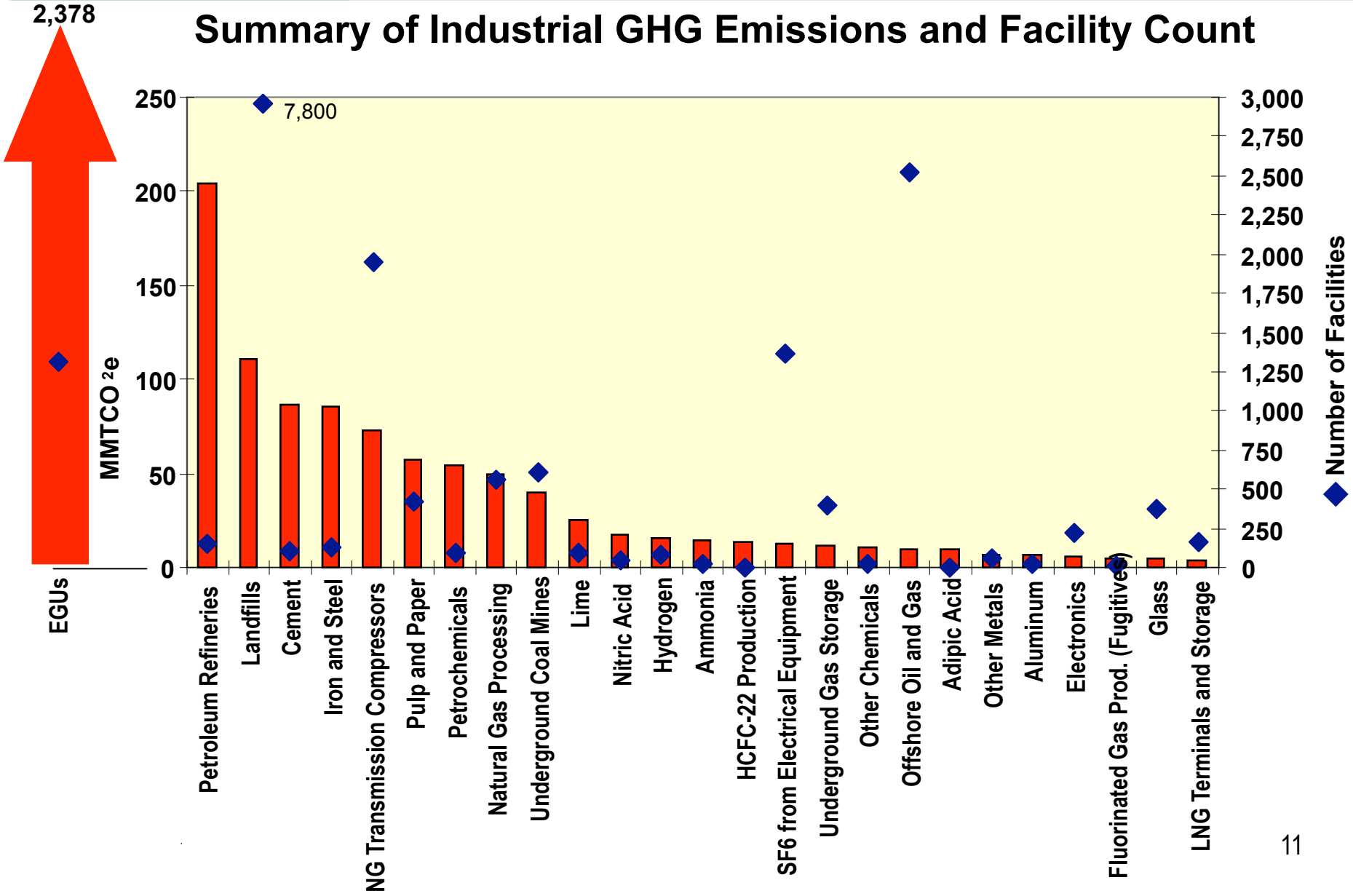
# Summary of Industrial GHG Emissions and Facility Count



# Status and Schedule of Ongoing NAAQS Reviews

| MILESTONE | POLLUTANT | | | | | | |
|---|---|---|---|---|---|---|---|
| | $NO_2$ Primary | $SO_2$ Primary | Ozone Reconsideration | CO | PM | $NO_2/SO_2$ Secondary | Lead |
| Proposal | Jun 26, 2009 | Nov 16, 2009 | Jan 6, 2010 | Jan 28, 2011 | 2011 | July 12, 2011 | Jan 2014 |
| Final | Jan 22, 2010 | June 2, 2010 | July 2011 | Aug 12, 2011 | TBD | Mar 20, 2012 | Nov 2014 |

NOTES:

Underlined dates indicate court-ordered or settlement agreement deadlines;

TBD – to be determined

**Next Ozone Review: Proposal in Sept 2013 and Final in June 2014**

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# Power Plant Mercury and Air Toxics Rule Highlights

- On March 16, EPA proposed Mercury and Air Toxics Standards, *the first national standards* to reduce emissions of toxic air pollutants from new and existing coal- and oil-fired power plants.
- The proposed rule reaffirms the 2000 “appropriate and necessary” finding
- Standards would reduce emissions of:
  - Metals, including mercury (Hg), arsenic, chromium, and nickel
  - Acid gases, including hydrogen chloride (HCl) and hydrogen fluoride (HF)
  - Particulate matter
- These pollutants are linked to cancer, IQ loss, heart disease, lung disease and premature death
- The proposed standards create uniform emissions-control requirements based on proven, currently in-use technologies and processes
- Compliance time line set by Clean Air Act: up to 4 years (3 years plus an additional year if granted by the permitting authority)

# Power Plant Mercury and Air Toxics Rule Highlights

**Requirements for Coal-Fired Units**

- Mercury: numeric emission limit would prevent 91% of mercury in coal from being released to the air
- Acid gases: HCl numeric emission limit as a surrogate, with an alternate surrogate of $SO_2$
- Non-mercury metallic toxic pollutants such as arsenic and chromium: numeric emission limit for total PM as a surrogate, with alternate surrogate of total metal air toxics
- Organic air toxics (including dioxin): Work practice standards, instead of numeric standards, due to low-detected emission levels. Would ensure optimal combustion, preventing dioxin/furan emissions

**Requirements for Oil-Fired Units**

Acid gases: Numerical HCl and HF emission limits
Metal air toxics: Numerical emission limits for total metal air toxics (including Hg) with individual metal air toxics as alternate.
Organic air toxics (including dioxin): Work practice standards, instead of numeric standards, due to low-detected emission levels. Would ensure optimal combustion, preventing dioxin/furan emissions.

# THANK YOU

# QUESTIONS?