

# ***Realizing America's Manufacturing Renaissance: Opportunities and Obstacles***

**National Foundation for Women Legislators  
2015 Annual Conference  
September 14, 2015**

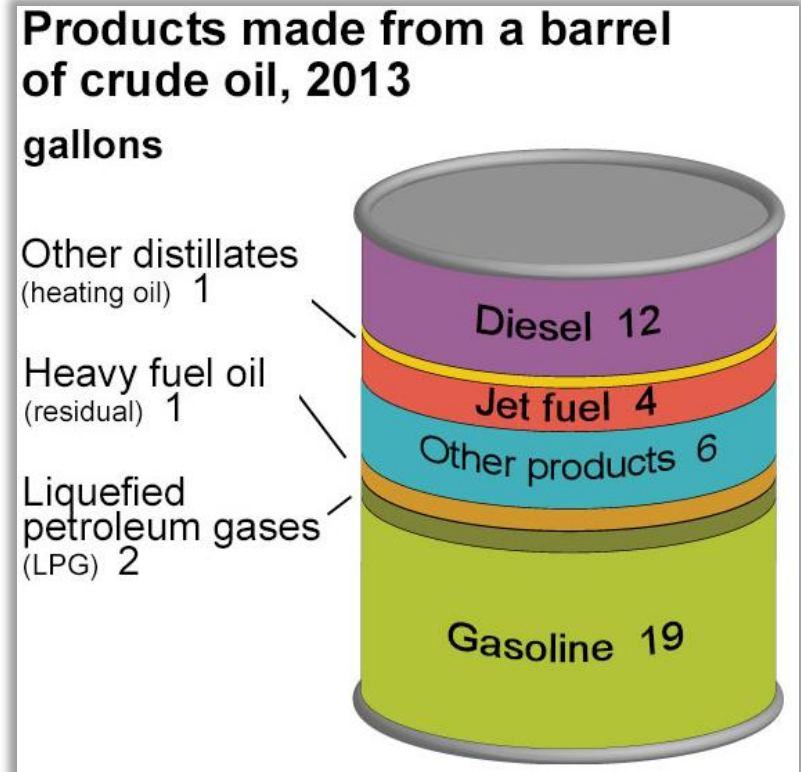
**Sarah K. Magruder Lyle  
Vice President, Strategic Initiatives  
American Fuel & Petrochemical Manufacturers**

# Who We Are

- AFPM represents more than 400 companies that encompass virtually all U.S. refining and petrochemical manufacturing capacity
- AFPM members are high-tech manufacturers who create essential products for your life every day

# What We Make: Refined Products

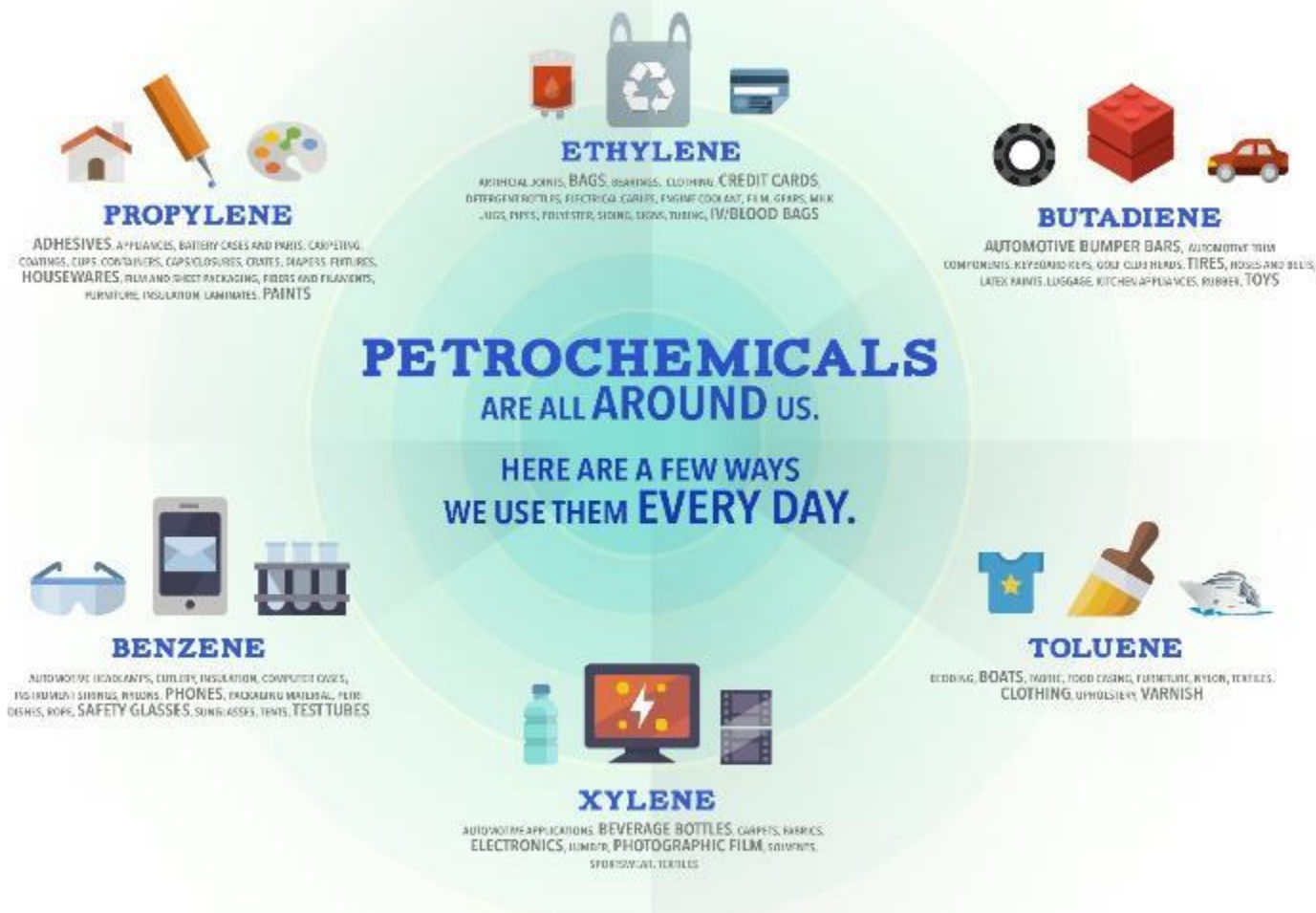
- Refining separates crude oil into components that are used for a variety of purposes, from gasoline to jet fuel
- A 42 gallon barrel of crude oil yields about 45 gallons of petroleum products



EIA, [Refining Crude Oil](#)

# What We Make: Petrochemical Products

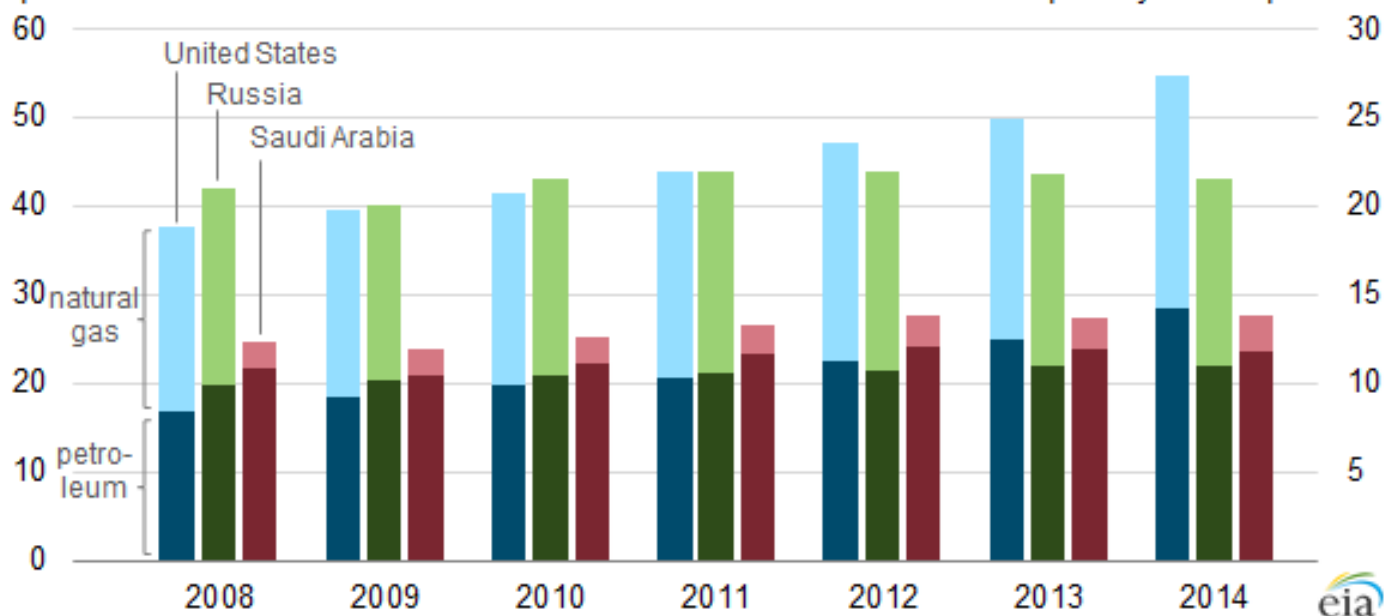
Vast majority (~99%) of petrochemicals are derived from oil or natural gas – used in thousands of everyday products and throughout the manufacturing supply chain:



# America's Energy Abundance

U.S. remained world's largest producer of petroleum and natural gas hydrocarbons in 2014

**Estimated U.S., Russia, and Saudi Arabia petroleum and natural gas production**  
quadrillion British thermal units      million barrels per day of oil equivalent



Source: U.S. Energy Information Administration

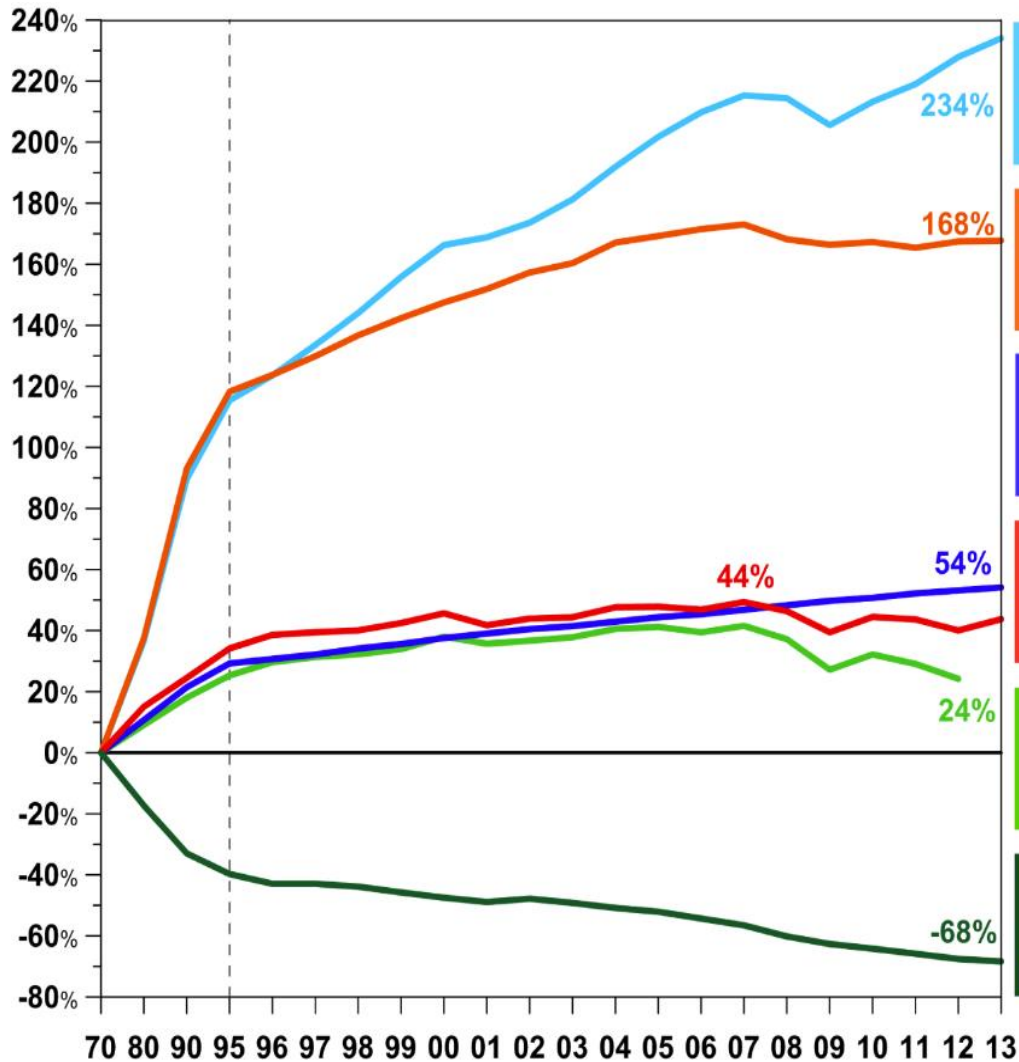
Note: Petroleum production includes crude oil, natural gas liquids, condensates, refinery processing gain, and other liquids, including biofuels. Barrels per day oil equivalent were calculated using a conversion factor of 1 barrel oil equivalent = 5.55 million British thermal units (Btu).

# Energy Abundance Drives Prosperity

- ~240 U.S. chemical investment projects planned; ~\$145 billion value
  - 60%+ direct foreign investment
  - Potentially 485,000+ direct jobs; 258,000+ indirect jobs; 442,000+ jobs in communities around investment areas
- 30+ refining expansions under development; \$14 billion value
- Direct employees:
  - Refining: ~280,000
  - Petrochemicals: ~156,000

Reference: American Chemistry Council

# Air Quality in America Since 1970



Gross Domestic Product



Vehicle Miles Traveled



Population



Energy Consumption



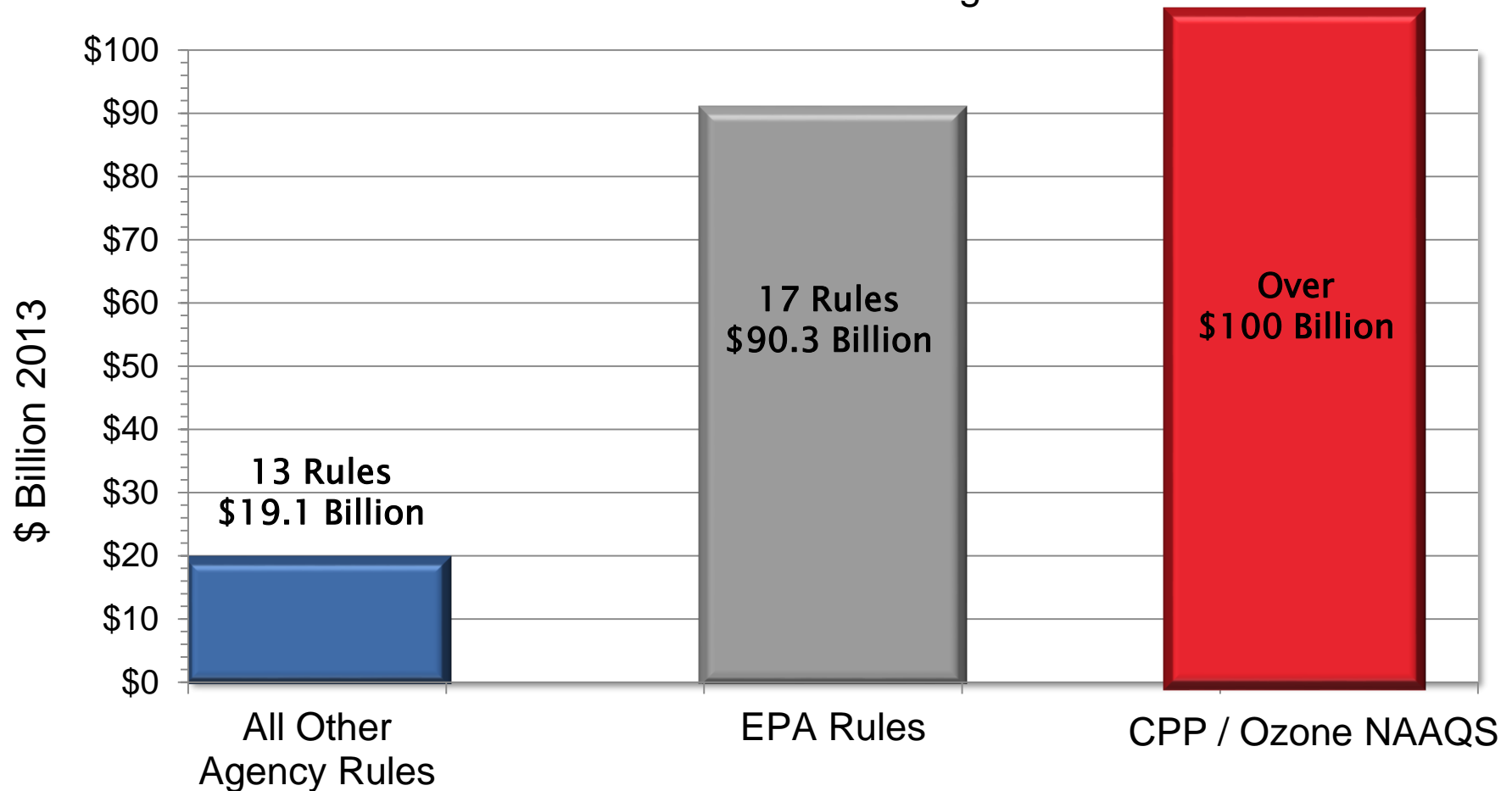
CO<sub>2</sub> Emissions



Aggregate Emissions  
(Six Common Pollutants)

# The Impacts of Regulation

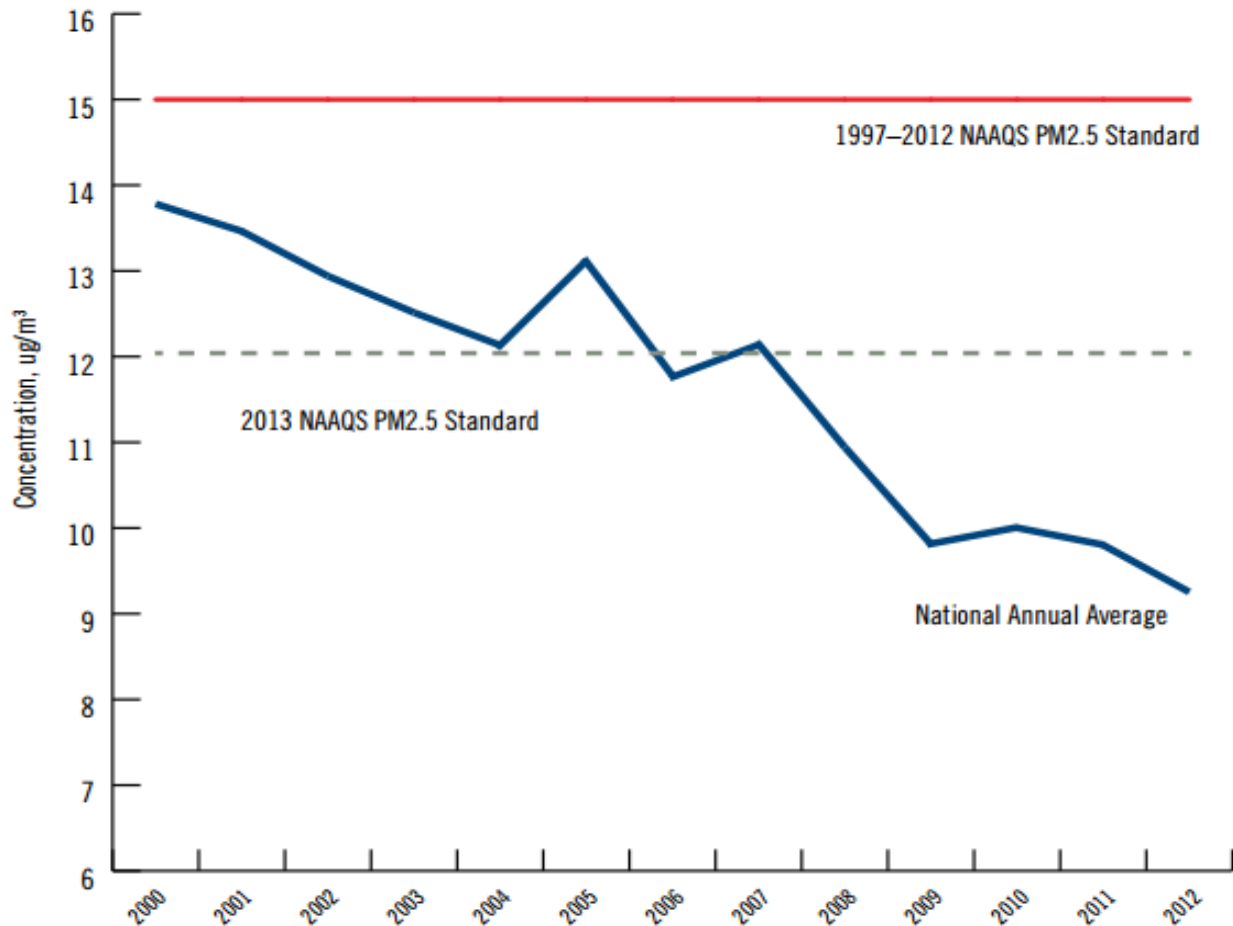
**Rules with Annual Compliance Costs  
Greater Than \$1 Billion (2000-2013)**  
EPA vs. All Other Federal Agencies



# Emissions Below National Standards

## PM2.5 Air Quality, 2000–2012

33% Decrease in National Annual Average PM2.5 Levels



Source: U.S. Chamber of Commerce, "Charting Federal Costs and Benefits," 2014; based on EPA data

# Ozone NAAQS

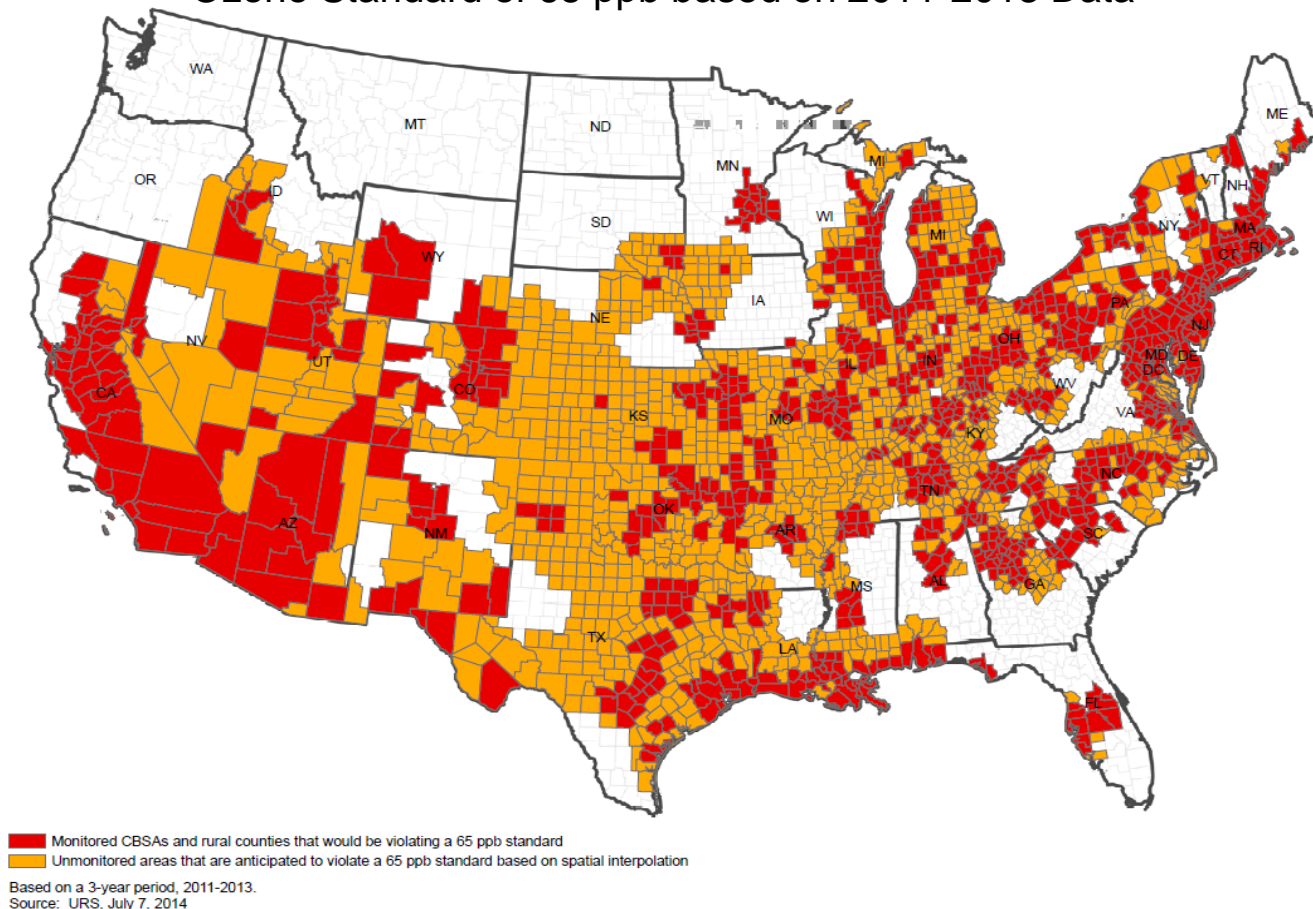
## Nonattainment at Current 75 ppb



- Attainment (or Unclassifiable) Areas (2668 counties)
- Nonattainment Areas (432 entire counties)
- Nonattainment Areas (42 partial counties)

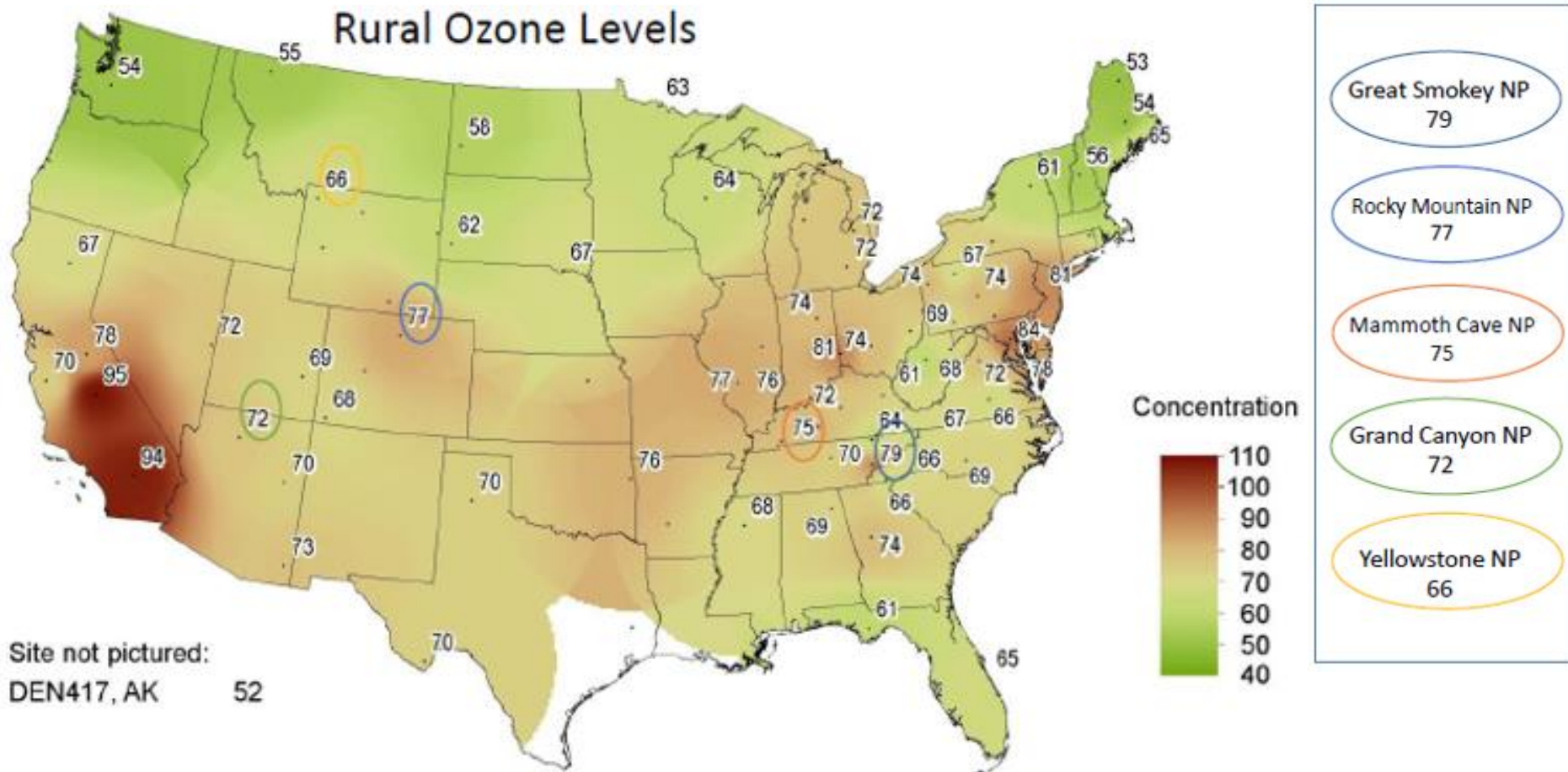
# Nonattainment at 65 ppb

CBSAs and Rural Counties that Violate an  
Ozone Standard of 65 ppb based on 2011-2013 Data



**Overly stringent Ozone NAAQS threaten to halt domestic resource development and have broad impacts on the economy**

# An Unachievable Standard



Naturally occurring background ozone contributes up to two-thirds of all ozone, making this standard unachievable in many areas of the country, including pristine National Parks.

Source: Clean Air Status and Trends Network (CASTNET)

# **New Ozone NAAQS: The Most Expensive Regulation in History**

NERA study projects profound economic impacts from a 65 ppb ozone NAAQS:

- **1.4 million American jobs lost by 2040**
- **\$830 decrease in annual consumption for the average U.S. household**
- **\$140 billion *annual* reduction in U.S. GDP**

# Ozone NAAQS: State Economic Impacts

By 2040, a 65 ppb standard will severely impact Oklahoma:

- **\$19 billion Gross State Product loss** from 2017 to 2040
- **35,752 lost jobs** per year
- **\$35 billion in total compliance costs**
- **\$890 drop in average household consumption** per year
- **\$3 billion more for residents to own/operate vehicles** in Oklahoma (2017 to 2040)

■ Areas with monitors  
■ Unmonitored but likely to exceed 65 ppb

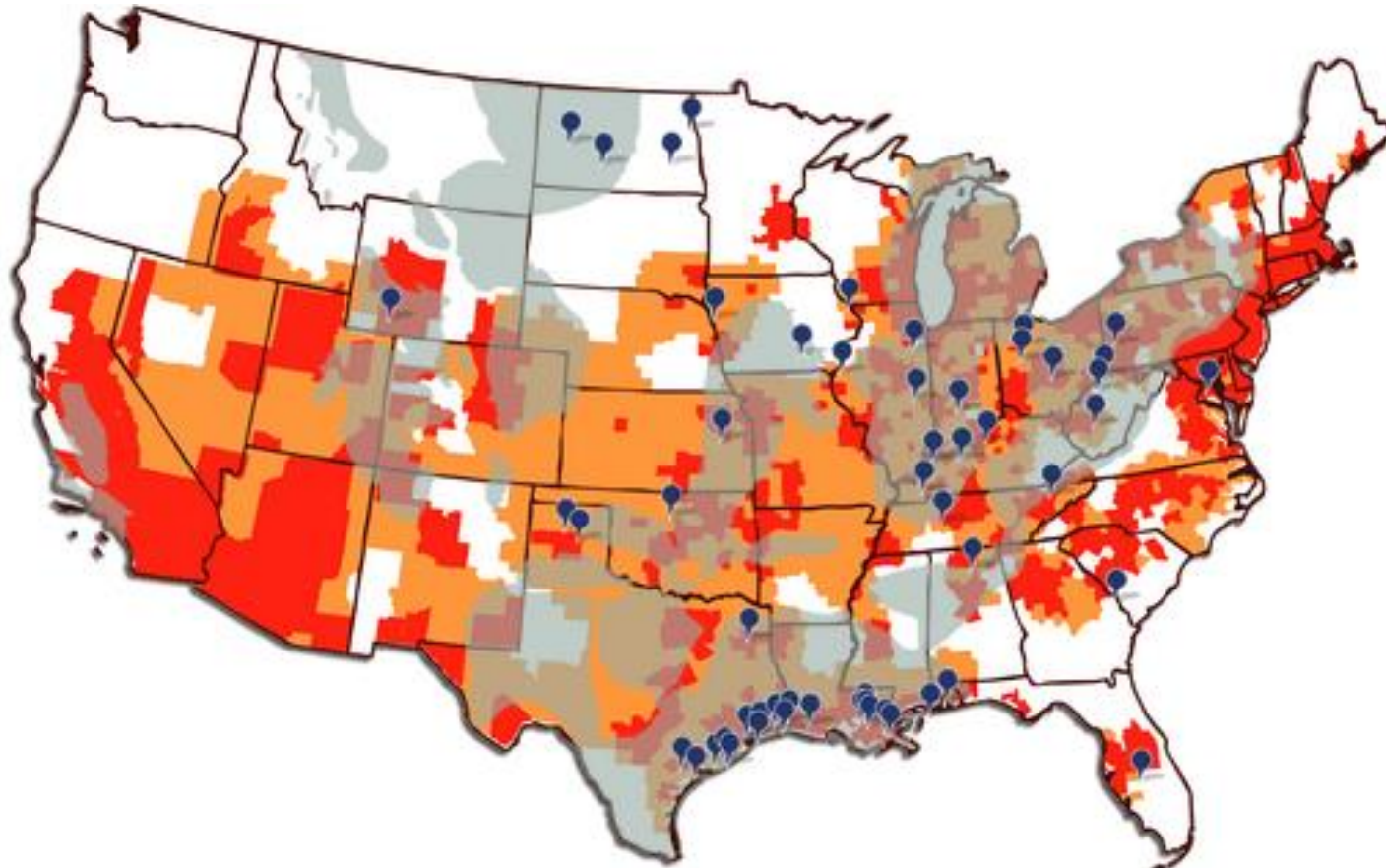


Projected Nonattainment in  
Oklahoma (65 ppb)

# Ozone NAAQS: Impacts in Your Community

- Communities unable to meet the standard may be required to implement reduction measures:
  - Replacement of lawn & garden equipment
  - Regulations on A/C units and water heaters
  - Time-of-day tolls & lower speed limits
  - Higher vehicle registration fees
  - Reformulated gasoline

# A Manufacturing Moratorium



- Unmonitored areas that are anticipated to violate a 65 ppb standard based on spatial interpolation
- Monitored Core Based Statistical Areas (CBSAs) and rural counties that would be violating a 65 ppb standard
- Shale basins
- Chemical industry projects announced as of March 2015 ([more info](#))

*Some pins represent multiple projects*

Source: American Chemistry Council

**PRODUCTS  
FOR YOUR LIFE.  
EVERY DAY.**

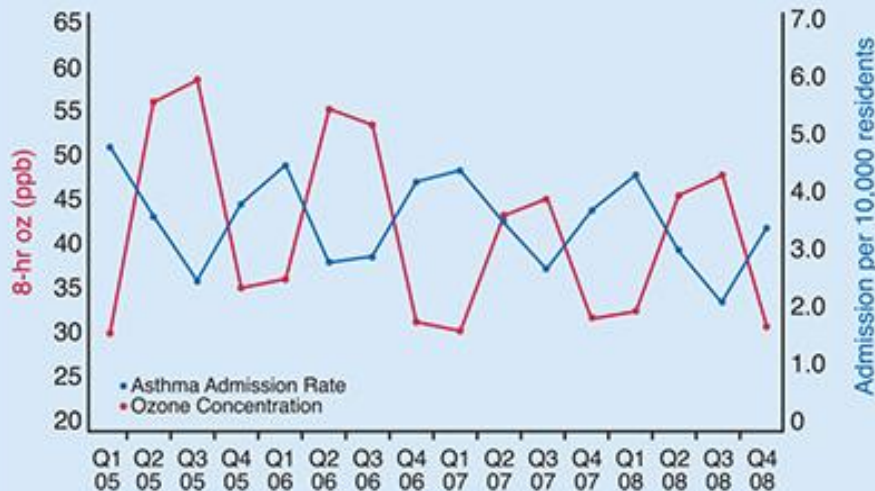


# Protecting Public Health?

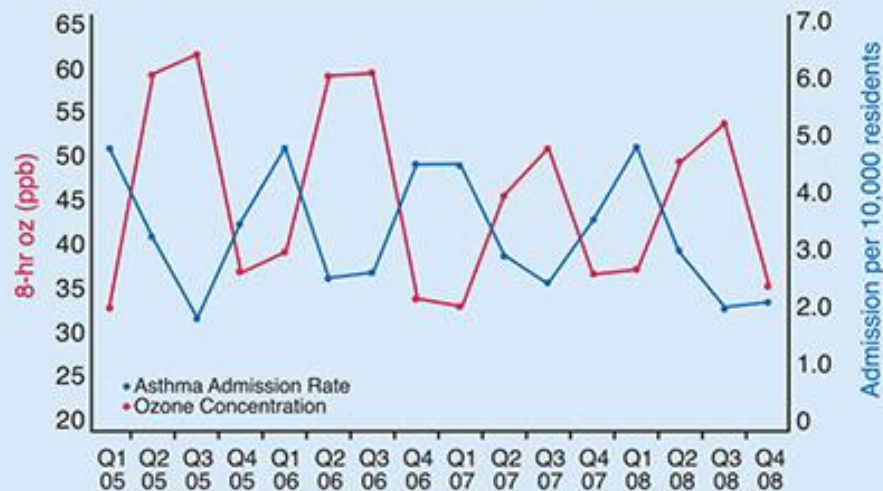
“If asthma were actually tied to ozone, you would expect to see the instances of asthma decreasing, not increasing. In fact, data from Texas hospitals show that asthma admissions are actually highest in the winter, when ozone levels are the lowest.”

- Dr. Michael Honeycutt, Director, Toxicology Division, TCEQ

**Dallas County**  
Quarterly Average Peak 8-hr Ozone vs  
Quarterly Hospital Age-Adjusted Admission Rate, Dallas County



**Denton County**  
Quarterly Average Peak 8-hr Ozone vs  
Quarterly Hospital Age-Adjusted Admission Rate, Denton County



# Impacts of Unnecessary Regulation on the Most Vulnerable

- 29% of households (36 million) earn less than \$30,000 before taxes
  - Allocate ~23% of after-tax incomes to energy costs
  - 37% will forgo medical or dental care to pay for energy
- High energy costs fall disproportionately on minority families and fixed-income seniors

Source: "Energy Cost Impacts on American Families." June 2015

# What Does This Mean?

- U.S. is now one of the most affordable locations for chemical production
- Environmental responsibility and energy production/manufacturing can co-exist
- Unnecessary/ineffective regulation could jeopardize the U.S. manufacturing renaissance

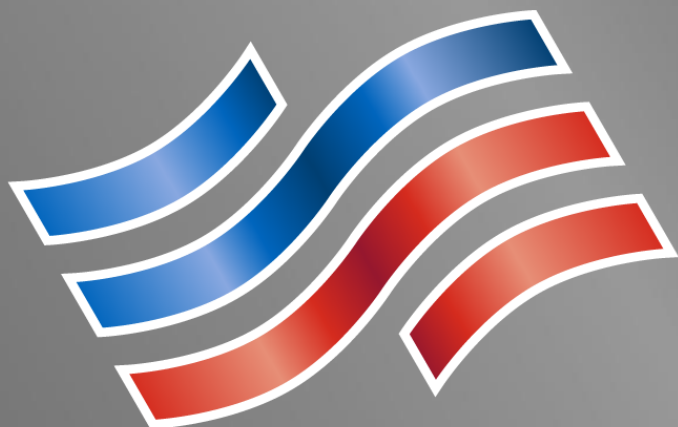
# Questions?

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**AFPM**