ELI Summer School: Clean Air Act

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CAA Themes from Federal Environmental Law

- Environmental harms
- Regulatory design choices
- Challenges of health-based regulation
- Technology-forcing
- Cooperative federalism and tension
- Command and control v. innovative and incentive-based techniques
- New v. existing sources
- Transboundary pollution
- Current events

Environmental Harms

- Why air pollution occurs
  - Externalities
  - Tragedy of the commons
- Why market forces alone can't solve it
  - Free rider problem
  - Transaction costs
  - Information

Regulatory Design Choices within the Clean Air Act

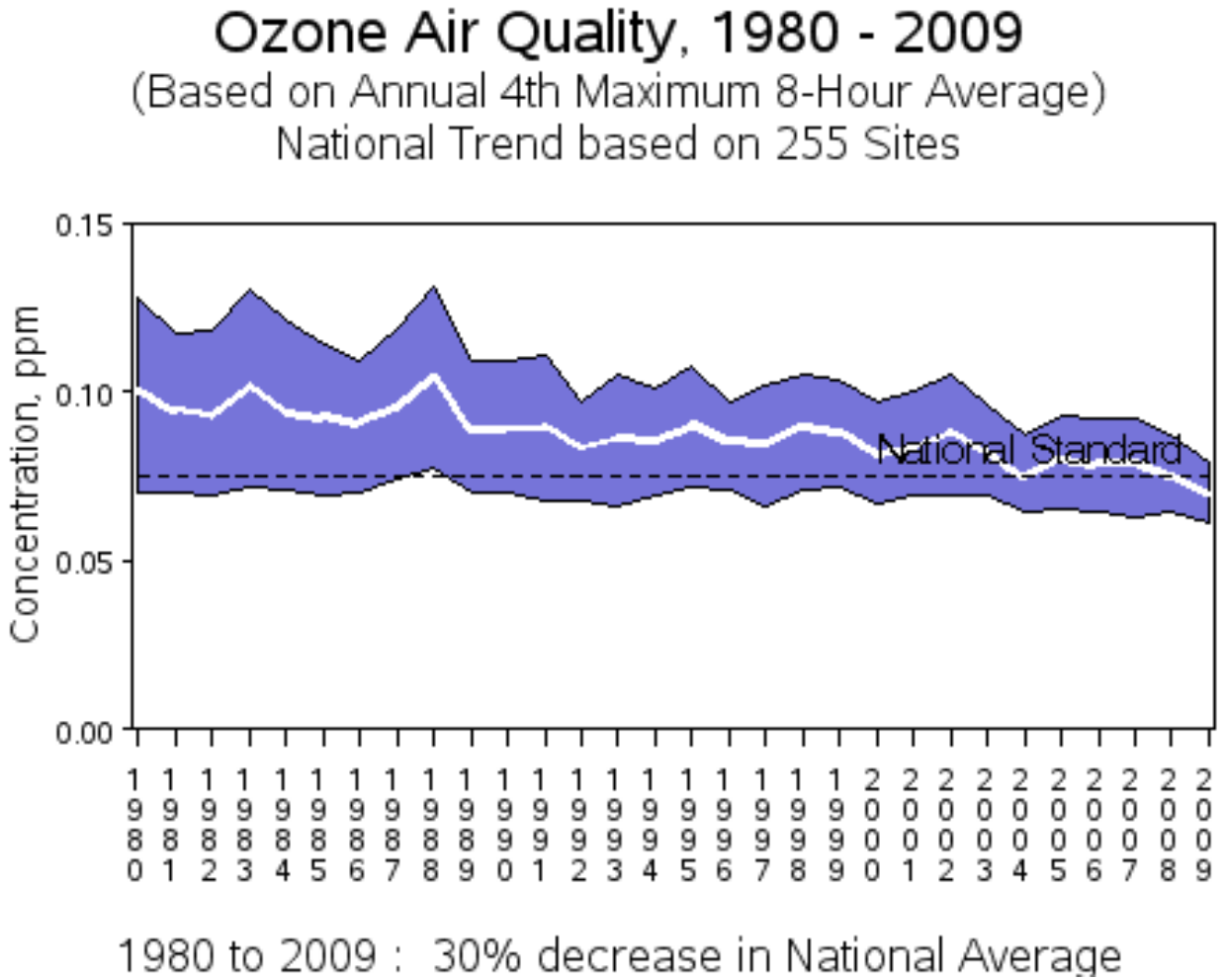
- Centralized v. decentralized structure
- Federalism
- Technology-forcing
- Command and control
- Mobile v. stationary source focus
- New v. existing/modified source focus
- Health-based regulatory issues
  - Scientific uncertainty and evolving science
  - Is there a "safe" level to pollute?

Clean Air Act Structure

- **Title I – Air Pollution Prevention and Control**
- **Title II – Mobile Sources**
- Title III – General Provisions
- Title IV – Noise Pollution
- Title IV(a) – Acid Rain Program
- **Title V – Operating Permits**

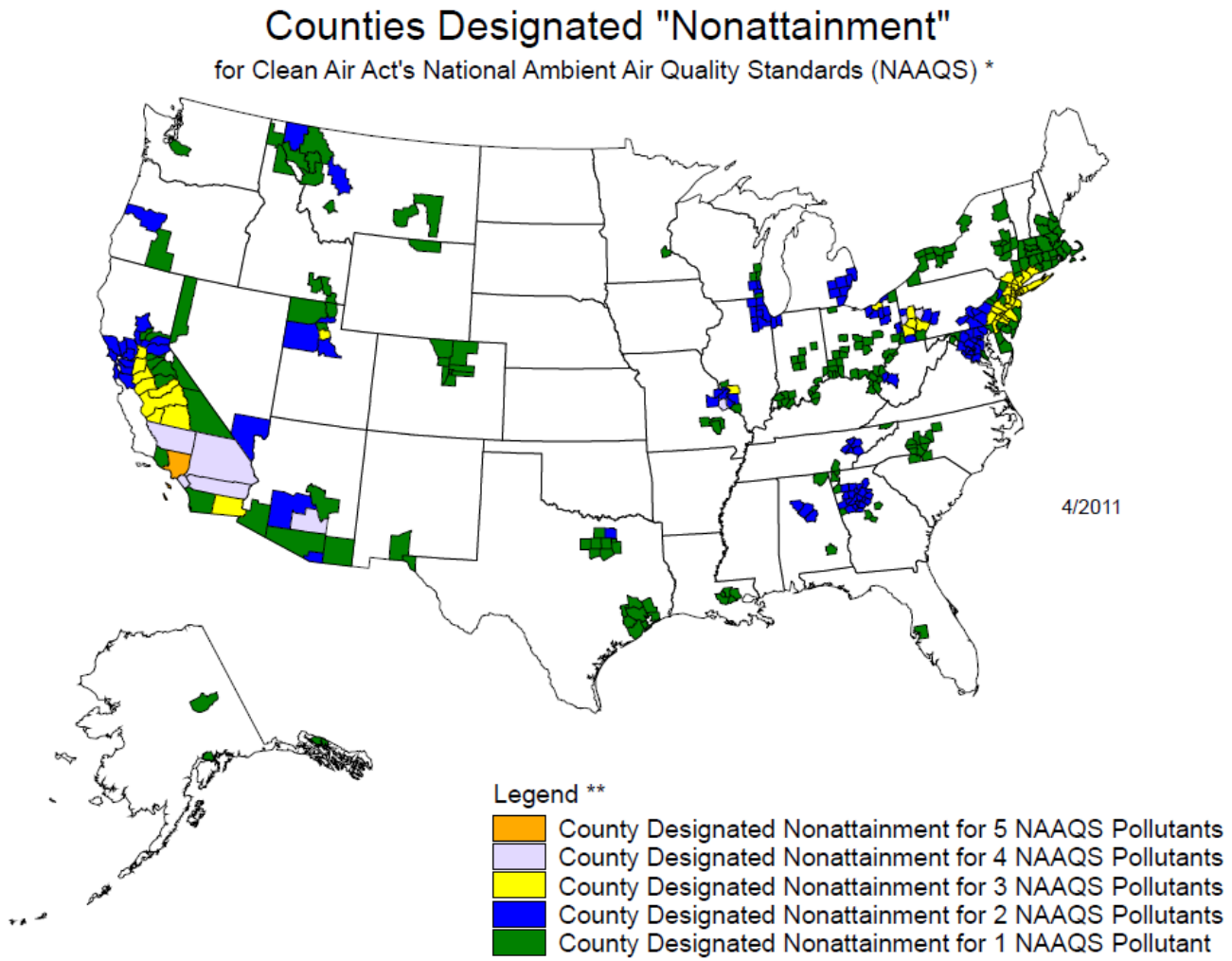
National Ambient Air Quality Standards (NAAQS)

- EPA responsible for:
  - Listing "Criteria Pollutants"
    - widespread air pollutants that reasonably may be expected to endanger public health or welfare
    - presence of these pollutants in ambient air is generally due to numerous, diverse sources
  - Establishing NAAQS
    - National numerical air quality standard for each "criteria pollutant" (designated in CAA § 107) sufficient to protect public health and allowing an adequate margin of safety



NAAQS Achievement Through SIPs

- § 107 – each state shall designate all areas within the state as either nonattainment, attainment, or unclassifiable for each criteria pollutant
- § 110 – each state shall create an implementation plan to achieve the NAAQS and shall submit it to EPA for approval



State Implementation Plans

§ 110(a)(2) – A SIP must include:

- "enforceable emissions limitations and other control measures, means, or techniques . . .as well as schedules and timetables for compliance" to achieve NAAQS
- Incorporation of emissions limits established for nonattainment and attainment areas through New Source Review and New Source Performance Standards
- Air quality monitoring plan
- Enforcement program
- Prohibition on emissions that will contribute significantly to non-attainment in other states or interfere with other states' SIPS

State Implementation Plans for Nonattainment Areas

- Demonstrate that it will make "reasonable further progress" toward achieving attainment. §172(c)(2)
- Require a pre-construction permit for any "new or modified major sources." §172(c)(5)
- Require offsets. §173(a)(1)

Accountability in SIP Process

§110(c): If EPA does not find that a SIP is adequate then it can:

- Impose a Federal Implementation Plan
- Increase the amount of offsets required for any new or modified source
- Direct withholding of federal transportation funds

New Source Performance Standards and New Source Review

New Source Performance Standards:

- Established by regulation
- **All sources** within categories ID'd by EPA
- The specific air pollutants for which EPA has established an NSPS
- Same standards everywhere

New Source Review:

- Established on case by case basis
- New and modified **major sources**
- **All air pollutants** regulated under the CAA, other than HAPs
- Different standards for pollutants for which area is in non-attainment

NSPS – Details

- These are standards set on an industry-by-industry, pollutant-by-pollutant basis, and apply to all new and modified sources.
  - **§ 111(b)(1)**

- (A) "The [EPA] Administrator shall . . . publish . . . a list of stationary sources . . . [that] in his judgment cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare."

- Defines "modification" as " any physical change in, or change in the method of operation of, a stationary source which increases the amount of air pollution emitted by such a source or…results in the emission of any air pollutant not previously emitted."
  - **§ 111(a)(4)**

NSR - Details

- These are standards set on a source-by-source basis, and apply to all new and modified "**major"** sources.
- The term **major** source includes:
  - a source within specified categories that emits or has the potential to emit 100 tons or more of an air pollutant
  - any other source that emits or has the potential to emit 250 tons or more of an air pollutant.
- Defines "modification" in same manner as NSPS
- In attainment areas, this is referred to as the Prevention of Significant Deterioration (PSD) program
- In nonattainment areas, this is referred to as Nonattainment NSR

NSR – Details Con't

Non-Attainment New Source Review:

- A source emitting a pollutant for which the area is in non-attainment, must comply with the **Lowest Achievable Emissions Rate** standard
  - LAER requires the most stringent emissions limitation applied to a comparable source
  - Costs only considered if a standard would prevent that type of major source from being constructed or operated

Prevention of Significant Deterioration:

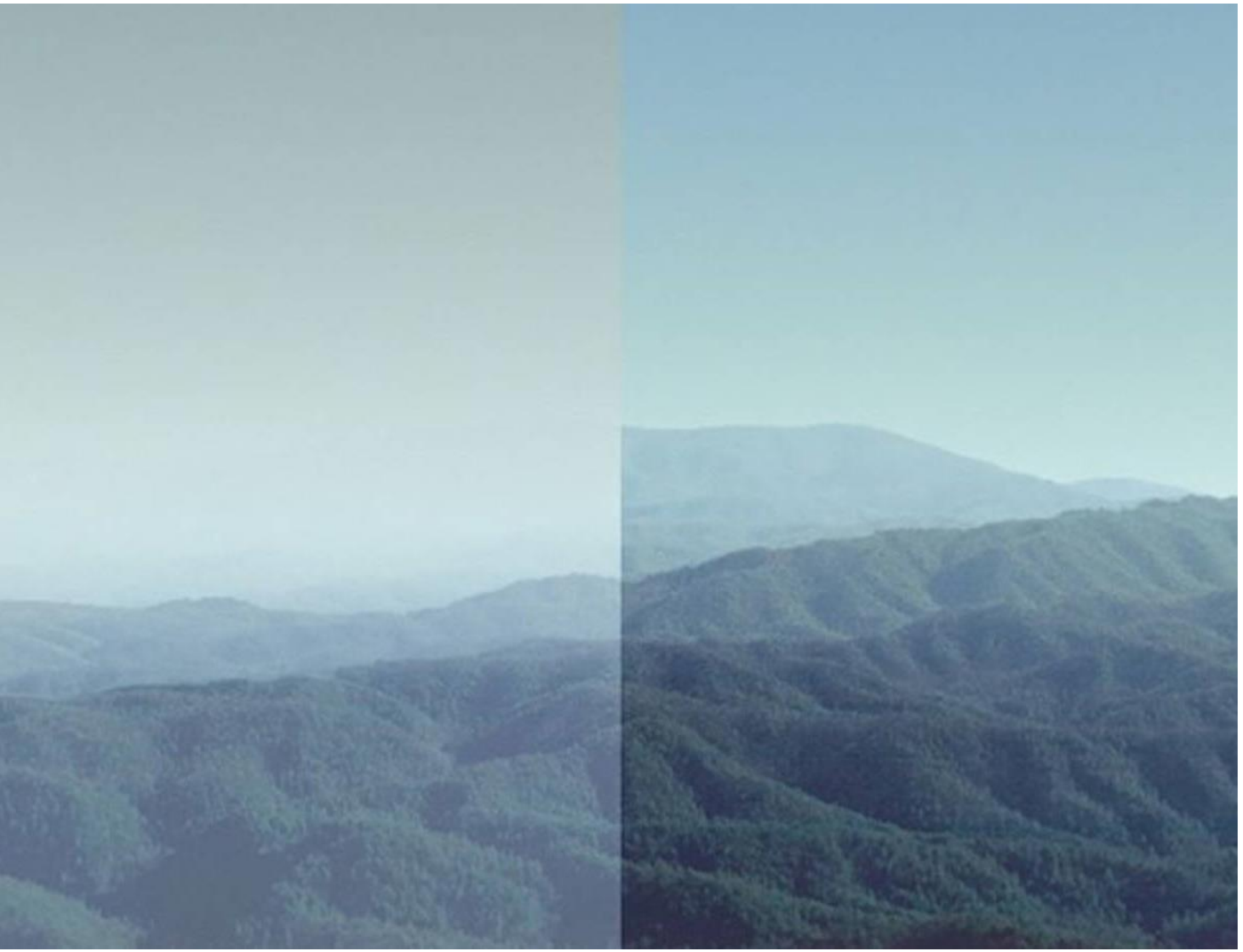
- A source emitting a pollutant for which the area is in attainment, must comply with the **Best Available Control Technology** standard
  - BACT requires best technically feasible option, that is not ruled out by adverse energy, environmental, or economic impacts

PSD Basics

- EPA has a nondiscretionary duty to prevent significant deterioration of air quality for areas in attainment. *Sierra Club v. Ruckelshaus*, 344 F. Supp. 253 (D.D.C. 1972) *aff'd without opinion*

- All SIPs must contain provisions to protect good air quality areas – Section 110(a)(2)(J)
  - Ensured through a preconstruction review process – Section 160-169(B)

- Preconstruction review req'd for a "major emitting facility" if constructed or modified in a PSD area – Section 165(a)
  - Analysis involves both control technology and air quality impact review



Great Smoky Mountains Nat'l Park

1990 – 2010

Picture courtesy of Colorado State University

Preconstruction Permits Under PSD

- Applies to all "major" sources of air pollution
- Applies to pollutants for which the area in which the source is located is not in nonattainment **[ie. pollutants for which the area is in attainment!]**
- Main requirements:
  - Public hearing on proposed permit
  - Demonstration that emissions won't cause violation of PSD increment, NAAQS, any other emission standard
  - Emissions meet BACT
    - For every regulated pollutant – Section 165(a)(4)
    - BACT determined on a case by case basis – Section 169(3): Source must use the most stringent technology available unless significant local factors render it too costly
  - Agreement to monitor emissions
    - Must demonstrate emissions of SO2, Nox, and PM won't violate any NAAQS or allowable "increment" – Section 165

Hazardous Air Pollutants

EPA may list as HAPs pollutants that "present, or may present, through inhalation or other routes of exposure, a threat of adverse human health effects. . ., or adverse environmental effects"

- Criteria pollutants cannot also be HAPs
- Congress listed 189 HAPs in 1990
- EPA has added no pollutants to list, and removed two that were designated by Congress

Hazardous Air Pollutants – Con't

- How new and **existing** major sources of HAPs are regulated:
  - Defined as emitting at least 10 tons a year or more of any one HAP, or 25 tons a year of a combination of HAPs
  - Maximum Achievable Control Technology (MACT) required
    - New sources this means "best controlled similar source"
    - Existing sources this means average of best performing sources

Title V Permitting – Overview

- Regulated entities must obtain an operating permit, including sources:
  - Subject to NSR
  - Subject to NSPS
  - Subject to NESHAPS (for HAPs)
  - Considered "major" for purposes of Title V
    - more than 100 tons a year of any regulated pollutant,
    - EPA can set lower threshold in non-attainment areas
- Consolidates all Clean Air Act requirements into a single permit

NB: "Major" stationary sources under each program

- NSR – "major" sources emit more than 250 tons per year of any air pollutant other than a HAP, or if within an identified category, emit more than 100 tons per year
- HAP – "major" sources emit more than 10 tons per year of a single HAP or 25 tons a year of a combination of HAPs
- Title V – "major" sources emit more than 100 tons per year of any air pollutant

Mobile Source Regulation*

- Types of vehicles
- Manufacturers' duties
- Importation
- Certificate of Conformity
  - EPA
  - California Air Resources Board

*Special thanks to lead DOJ EES counsel for sharing all relevant public information in these slides and for their superb cartoon finds.

Mobile Source Regulation & VW Actions

- Vehicle and engine conformity requirements
- Design specifications
- "Defeat devices"
- Volkswagon (Audi, Porche – foreign and domestic)
  - Attempt to introduce "Clean Diesel" in US
  - Tier 2 emission standards v. performance and features
  - Creation of "defeat device"

Environmental Enforcement Process & Defeat Devices Exposure ('14-'15)

- Purposes of environmental enforcement
  - Self-enforcing system
- Information gathering and inspections
- Types of enforcement actions
  - Informal → Criminal Suit
- VW MDL typifies most complex type of enforcement matter
  - How illicit defeat devices were discovered

Civil Claims (CAA §203(a)) & Criminal Proceedings

- **Selling/importing vehicles without a valid COC**
- **Defeat Device**
- **Tampering & Failure to Report**
- **James Liang**– Engineer sent to the US to work on defeat device
  - Plead guilty to attempted mail fraud; sentenced to 40 months in prison; $200,000 fine
- **Oliver Schmidt**– Executive arrested January 2017
  - Plead guilty to conspiracy to defraud US; CAA violation; sentenced to 7 years in prison; $400,000 fine

Settlements (Consent Decrees)

- 1st Partial Consent Decree: the 2L CD
  - 500,000 2.0 Liter engine TDI vehicles
  - Up to $14.7B in total relief
  - Included buyback, recall, ZEV, and mitigation trust
- 2nd Partial Consent Decree: the 3L CD
  - 90,000 3.0 Liter engine TDI vehicles
  - Up to $1.3B additional relief
  - Included buyback, recall, and $225M more to mitigation trust
- The Penalty Consent Decree
  - CAA civil penalty (largest ever $1.45B) + injunctive relief (corporate reforms)
  - Coordinated federal resolution with various agencies/components $4.3B total