A New "Road" to Cleaner Air

The 2006 MIT Air Quality Symposium on Air Toxics

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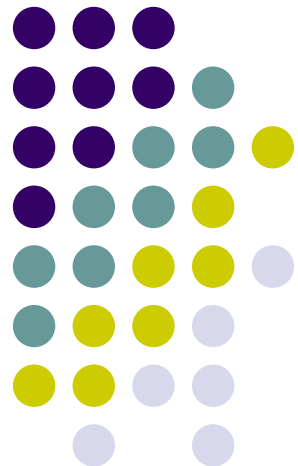


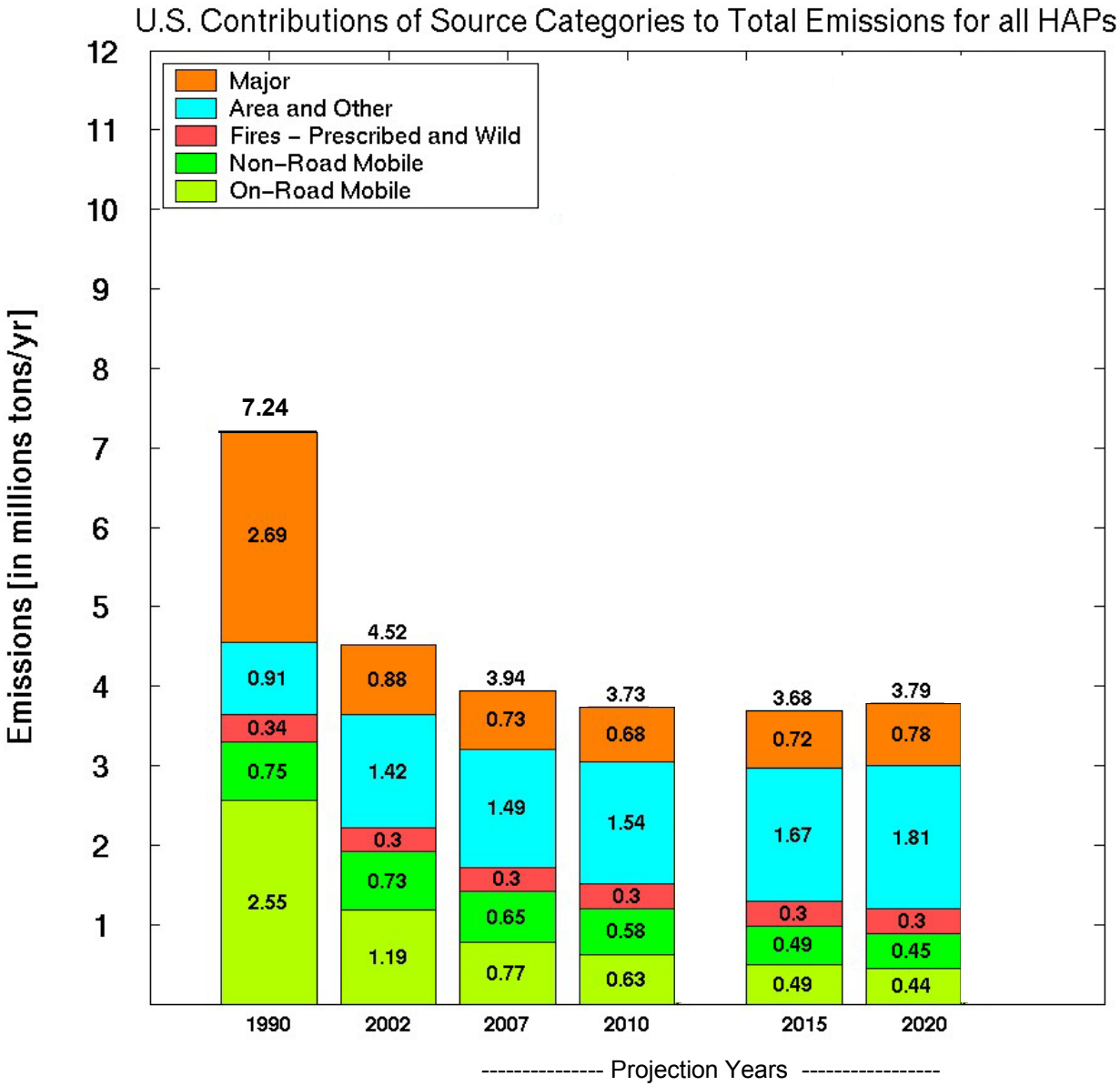
Presentation Outline

- The Traditional Approach
- Lessons Learned
- Looking For A New Direction
- Charting a New Direction
- Sector-Based Approaches
- Through the Looking Glass: EPA's Future Sector-Based Approach
- Future Sector-Based Approaches

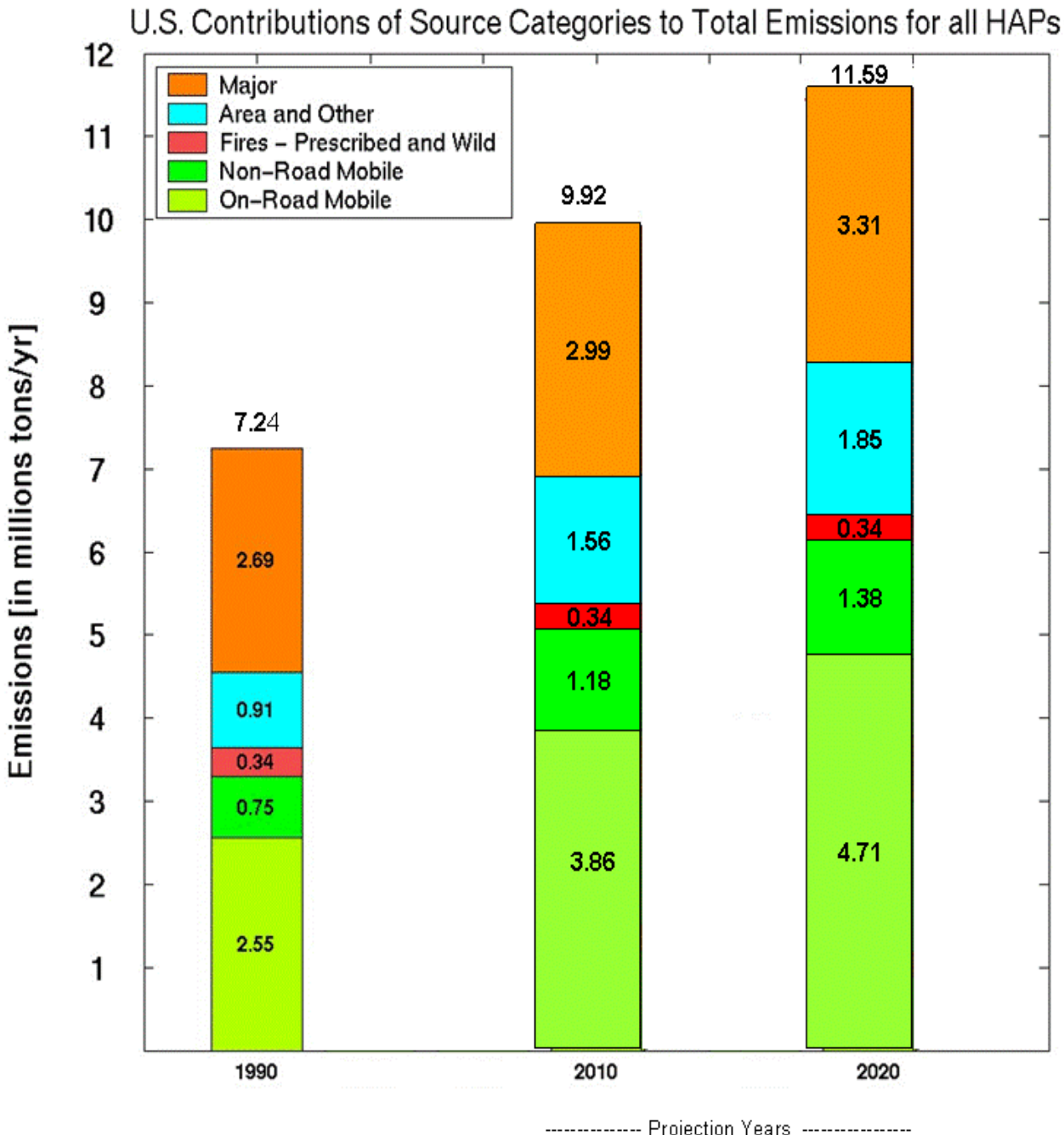
The Traditional Approach

- Historically, control requirements have been implemented by individual regulations or programs
  - Criteria Pollutants – SIPs, RACT, NSR, BART, NSPS
  - Hazardous Air Pollutants – NESHAPS, MACT, GACT, Residual Risk

- Approach has been straight forward, understandable and has significantly reduced concentrations of pollutants

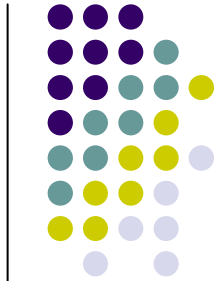


Accounts for estimated activity growth (EGAS) and reductions resulting from MACT program, CAIR and Mobile source rules of the 1990's.



Accounts for estimated activity growth (EGAS) absent current MACT programs, CAIR and Mobile source rules of the 1990's.

Lessons Learned



- Up to now, individual regulations or programs have focused on very cost-effective emission reductions
  - Now, industry, regulator, and the public are facing increasing marginal control costs
- Can result in conflicting or redundant requirements
- Can exacerbate other emissions of concern
- Does not always result in the most cost-effective approach
- Can produce mismatched compliance timing requirements
- Compliance and enforcement aren't always simple

Looking For A New Direction

- EPA encouraged by NAS/CAAAC to move toward multi-pollutant & sector-based approaches
- Recent OAQPS reorganization -- Sector Policies and Programs Division (SPPD)
- SPPD's philosophy
  - aimed at meeting statutory requirements while streamlining inefficiencies and developing new approaches to needed emissions reductions
  - focused on initial "bigger" picture view for overall sector assessment instead of on piecemeal regulations
- Work with stakeholders to understand priorities and trade-offs
- Explore alternative approaches to better address incremental control cost expenditures

Charting a New Direction

- Changes currently undertaken by SPPD
  - Combining risk rules for multiple source categories in lieu of individual *source category by source category* rules
  - Reviewing multiple regulatory programs, together
    - MACT technology review, NSPS, Residual Risk
  - Conducting comprehensive review of outstanding NSPS to determine which ones need to be revised
  - Reviewing existing rules to determining how revisions can promote/reward greater emissions reductions
  - Creating technology/pollutant specific approaches
  - Defining sector-based approaches

Sector-Based Approaches

- What is a “Sector”?
  - Source Categories → Facilities → Industrial Sectors
  - Can comprehensively consider all processes, pollutants and emitting activities that comprise an industry
  - Can be defined as a specific industry or geographic area of concern
  - Can be focused on a specific pollutant or strategy
    - Opt-in programs
    - Cap and Trade programs
    - “Bubble” compliance requirements
    - Hybrid (e.g., cap and trade programs w/ minimum source reduction criteria)
    - Plant-wide programs

Sector-Based Approaches

- Why Consider a Sector-Based Approach?
  - Benefits to Public
    - Re-focus efforts on reducing emissions of greatest public health interest
    - Optimize social $ spent
    - Better able to address local concerns
  - Benefits to Industry
    - Reduce costs of control or over-control in the wrong areas
    - Avoid “stranded” costs associated with piecemeal investment in control equipment for individual pollutants
    - Increase flexibility for adapting to changing economic and environmental conditions
  - Benefits to Regulators
    - Develop better emissions data and compilation tools for characterizing individual sectors
    - Advance understanding & experience with developing innovative, multi-pollutant, sector strategies
    - Reduce existing regulatory barriers to improve environmental performance

Sector-Based Approaches

- What Would a Sector Assessment Include?
  - Defining the industry sector
  - Collecting and verifying data and other related qualitative information
  - Analyzing initial data set and information
  - Determining potential for environmental improvements
  - Evaluating control options and/or strategies & related benefits
  - Defining potential sector approach or strategy

Sector-Based Approaches

- What are Potential Challenges?
  - Working through and being consistent with the Clean Air Act
  - Developing a better understanding of regulations' *causes & effects,* including potential effects on media other than air
  - Developing a better understanding of specific industry's/sector's economic motivations or drivers
  - Articulating which emissions reductions matter "more" than others

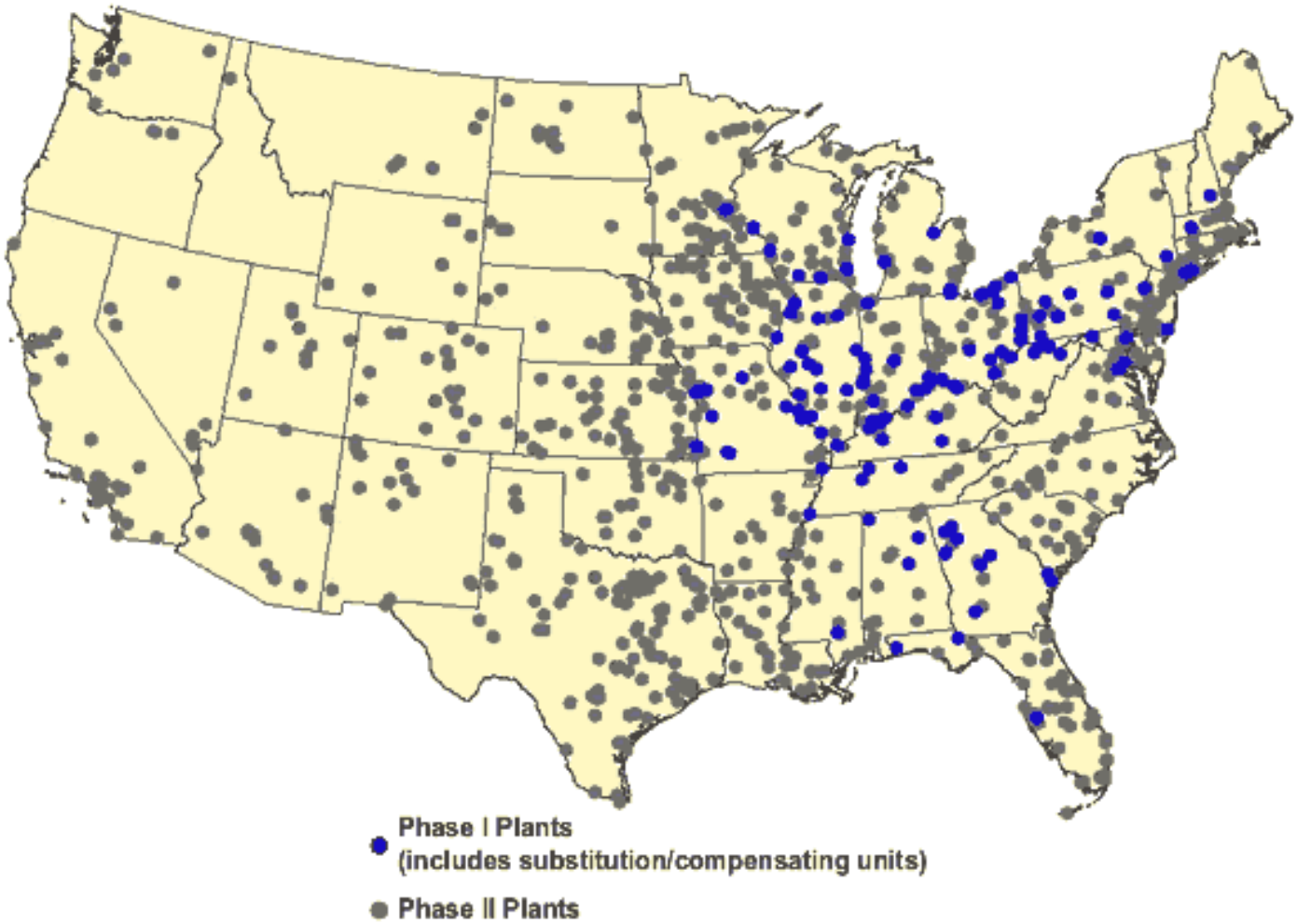
Through the Looking Glass: EPA's Future Sector-Based Approach

Future Sector-Based Approaches

- Bridge Approach
  - Electric Generating Units
    - Title IV Acid Rain Program
    - CAIR and CAMR
    - Focused on ***primary*** emissions unit at each facility
    - Large number of major emitting emissions units with broad geographic distribution and regional impacts
    - Coincidental that emissions unit or source was a “sector”
    - Regulatory certainty regarding the emissions unit

Future Sector-Based Approaches

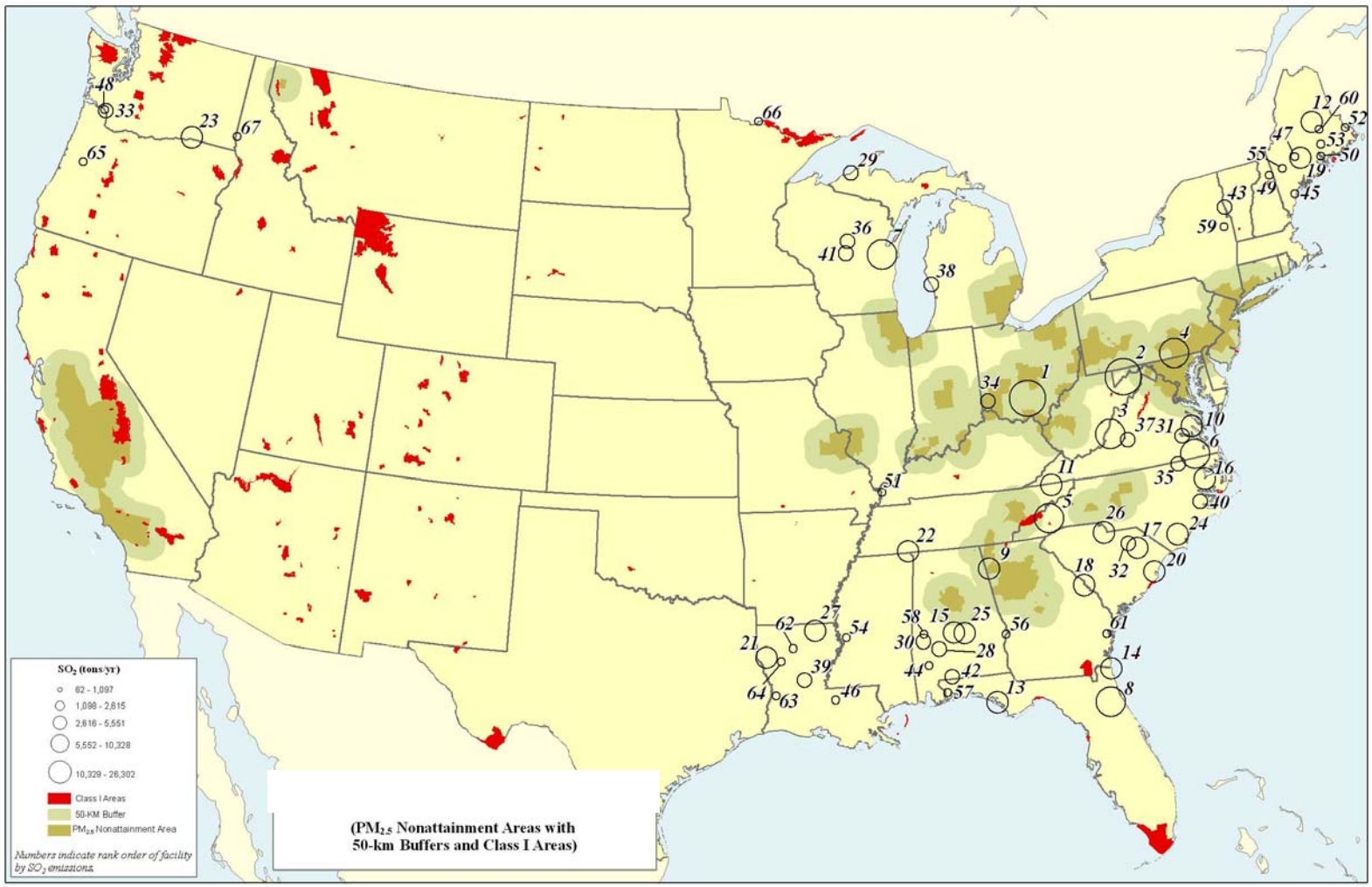
Affected Sources under the Acid Rain Program



Future Sector-Based Approaches

- Emerging sector-based approach
  - Will focus on ***several*** emissions units or sources at each facility
  - Facilities with clustered geographic distribution and more "localized" and specific regional impacts
  - Multiple pending emission reduction requirements
    - e.g., BART, RACT, Reasonable Progress
- Why address sector and not emissions unit?
  - More focused stakeholder groups
  - Can provide regulatory certainty for the industry or sector
  - Least cost approach to meeting multiple requirements
  - Optimizes environmental benefits across facility
  - Better characterizes impact of whole facility

Future Sector-Based Approaches



Future Sector-Based Approaches