



Moving Towards Multi-Air Pollutant Reduction Strategies in Major U.S. Industry Sectors

**A Report to the U.S. EPA's
Clean Air Act Advisory Committee**

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The Challenge



- Most U.S. industrial sectors are subject to numerous Clean Air Act regulations simultaneously
 - Reductions in criteria air pollutants (e.g. SO₂, NO_x) and hazardous air pollutants (e.g. benzene) can be required from the same emission sources within an industrial facility
- Clean Air and Clean Energy Goals are merging
 - Environmental technology investments and compliance strategies must address both conventional air pollution as well as greenhouse gas emissions and energy efficiency
- Optimizing public health and environmental outcomes in challenging economic times requires innovation
 - Innovative environmental policies are complicated to implement given the significant investments made to develop and maintain our current system of environmental regulations

EPA's Progress towards a Multi-pollutant Sector Approach



- Since 2004, the EPA has invested in a more integrated multi-pollutant approach
 - Working with stakeholders to understand and establish priorities
 - Improving emission inventories
 - Integrating criteria air pollutants, hazardous air pollutants and greenhouse gases emissions and control databases
 - Grouping air rules by industrial sectors
 - Conducting comprehensive review of multiple rules
 - Harmonizing regulatory schedules
 - Developing integrated approaches for industrial sectors
 - Cement, Oil and Gas, Refineries, Chemical Manufacturing
 - Reorganizing into sector teams to better serve the mission of protecting human health and the environment

The CAAAC Work Group



- Purpose
 - Provide the EPA with information, advice and recommendations regarding the development and implementation of an air pollution stationary source multi-pollutant approach
- Approach
 - Work group meetings, teleconferences, sector Roundtables, and report discussions and drafting
- Outcomes
 - Diverse group of Stakeholders informed; variety of perspectives reflected in the Report's conclusions and recommendations
 - Opportunity Areas identified

Sector Roundtable Discussions



- WG conducted two 1-day roundtable discussions to explore the attributes and investigate the opportunities and challenges of moving towards a multi-pollutant system of air pollution regulation at stationary sources
 - **Iron and Steel**
 - U.S. Steel, Arcelor Mittal, Nucor, American Iron and Steel Institute
 - **Chemical Manufacturing**
 - 3M, Flint Hills Resources, American Chemistry Council

Roundtable Topics



- Overarching questions included:
 - How might a sector-based, multi-pollutant strategy optimize the reduction of air pollution for the sector?
 - What might optimization look like when considered in terms of emissions reduction, risk and impacts reduction, environmental justice, cost reduction, certainty, and operational and compliance flexibility?
- Topic areas included:
 1. Timing and sequencing of regulations and requirements
 2. Source definition and scope of applicable requirements
 3. Monitoring and data
 4. Reporting and record keeping
 5. Emissions control technology and approaches
 6. Energy use and efficiency improvement
 7. Community-focused strategies

Work Group Conclusions



1. Time is right to take a more rigorous look at opportunities to align and optimize across air regulations
2. Multi-pollutant approaches promise benefits in many sectors, although the challenges are real
3. The availability and nature of opportunities to advance multi-pollutant approaches vary substantially across sectors
4. An incremental approach to exploring and implementing new sector-based, multi-pollutant approaches is underway and should continue within the confines of the Clean Air Act

Recommendations for EPA



1. Expand efforts to advance multi-pollutant clean air approaches within sectors, when such approaches can be anticipated to provide the intended health, environment, and cost-reduction benefits despite the anticipated challenges. Each effort should include consideration of criteria pollutant, hazardous air pollutant, and greenhouse gas emissions.
2. Establish a clear and transparent process for considering and advancing multi-pollutant clean air approaches within sectors.
3. Expand engagement with community residents, grassroots and EJ organizations, and develop approaches to reduce facility-specific and cumulative risks and impacts.

Recommendations for EPA



4. Identify and quantify air pollution co-benefits and trade-offs associated with multi-pollutant regulatory approaches.
5. Work with stakeholders to explore opportunities to simplify industrial source category definitions to advance multi-pollutant reduction strategies.
6. Explore, develop, and test integrated approaches to multi-pollutant monitoring, record keeping, and reporting that harness new monitoring and information technologies.
7. Disseminate information about tools and resources available to improve implementation of clean air regulatory programs (permitting innovation, timely rule implementation guidance, etc.).

Additional Report Contents



- Background on the U.S. EPA air multi-pollutant, sector-based activities
- Detailed discussion of seven opportunity areas with potential benefits and challenges and examples and observations
- Appendices:
 - Work Group Charter and Membership
 - CAA Requirements and Opportunities for an Integrated Approach
 - Integrated Multi-pollutant Sector-based Approach for the Cement Manufacturing Industry
 - Types of Industrial Sectors Addressed by Air Regulations
 - Petroleum Refinery Sector Regulatory Summary



Any Questions?

Thanks!

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Discussion Questions



1. What do you see as the most promising benefits of pursuing sector-based, multi-pollutant strategies?
2. What do you see as the one or two biggest challenges to expanding the use of sector-based, multi-pollutant strategies?
3. Do you see any near-term opportunities to advance multi-pollutant, sector-based approaches?
4. Are there any of the work group's recommendations that you would like to highlight as being particularly important for advancing sector-based, multi-pollutant strategies?
5. Do you have suggestions on the work group process that could assist future Committee efforts?