

Overview of National Research Council Report

Air Quality Management in the United States

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International Perspectives on Air Quality:
Risk Management Principles for Policy Development

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Key Points About Report

- Substantial progress has been made
- Major challenges ahead
- Five major interrelated recommendations to enhance air quality management
 - Recommendations aimed at steady evolution – not rapid transformation – toward meeting long-term objectives
- Implement with a mix of administrative, regulatory, and legislative actions
 - EPA to convene a panel of key participants for implementation of recommendations
 - While objectives are pursued, EPA should continue to make progress

3) Assessing Status and Measuring Progress

- Emissions trends
- Air quality trends
- Health effects trends
- Ecosystem trends
- Institutional accountability

Chapter 6

1) Setting Standards and Objectives

- Emissions standards
- Ambient air quality standards
- Reducing acid deposition
- Reducing regional pollution
- Protecting visibility

Chapter 2

Scientific and Technical Foundation

Monitoring:

- Emissions
- Ambient air quality
- Health and exposure
- Ecosystems
- Meteorology

Analysis:

- Models (e.g., air quality, emissions)
- Economics
- Health and ecological risk assessment

Research:

- Public health and ecosystems studies
- Laboratory studies (e.g. air chemistry, toxicology)

Development:

- Source control technology
- Monitoring technology

2) Designing and Implementing Control Strategies

- Source control technology requirements
- Emissions caps and trading
- Voluntary or incentive -based programs
- Energy efficiency
- Pollution prevention (e.g., product substitution and process alteration)
- Compliance assurance

Chapters 3, 4, 5



Current AQM Limitations

Despite substantial progress the Committee identified - in its comprehensive review of the Act - a number of limitations, for example:

- Inability to measure progress quantitatively to accurately confirm that goals are being met
- A single pollutant approach implemented through a cumbersome and often bureaucratic planning process
- Lack of focus on ecological effects (vs. health effects)
- Not certain that resources are being used to mitigate pollutants that pose the greatest risks

Challenges Ahead

- Meeting NAAQS for O₃ and PM_{2.5} and Reducing Regional Haze
- Designing and Implementing Controls for Hazardous Air Pollutants
- Protecting Human Health and Welfare in the Absence of a Threshold Exposure
- Ensuring Environmental Justice
- Assessing and Protecting Ecosystem Health
- Mitigating Intercontinental and Cross-Border Transport
- Maintaining AQM System in the Face of Changing Climate

Long-Term Objectives for AQM to Meet Future Challenges

To Meet These Challenges, The AQM Should Strive To:

- Identify and Assess Most Significant Exposures, Risks, and Uncertainties
- Take an Integrated Multipollutant Approach to Mitigating Most Significant Risks
- Take an Airshed-Based Approach to Controlling Emissions
- Emphasize Results Over Process, Create Accountability, and Dynamically Adjust

Recommended Changes to the AQM System

1. Strengthen Scientific and Technical Capacity
2. Expand National and Multistate Control Strategies
3. Transform the SIP Process
4. Develop Integrated Program for Criteria and Hazardous Air Pollutants
5. Enhance Protection of Ecosystems and other Public Welfare

1. Strengthen Scientific and Technical Capacity

- Improve Emissions Tracking
- Enhance Air Pollution Monitoring
- Improve Modeling
- Enhance Exposure Assessment
- Improve Health and Welfare Assessment
- Track Implementation Costs
- Invest in Research and Human and Technical Resources

2. Expand National and Multistate Control Strategies

- Expand Federal Emission Controls
- Emphasize Technology-Neutral Standards
- Use Market-Based Approaches
- Reduce Existing-Sources Emissions
- Address Multistate Regional Transport

3. Transform the SIP Process

- Replace State Implementation Plan With Multipollutant Air Quality Management Plan
- Reform Planning and Implementation

4. Develop Integrated Program for Criteria and Hazardous Air Pollutants

- Set Priorities for Pollutants
- Institute Dynamic Review of Pollutant Classification
- List Potentially Dangerous but Unregulated Pollutants
- Address Multipollutants in Standard-Setting Process
- Enhance Assessment of Residual Risk Following MACT Implementation

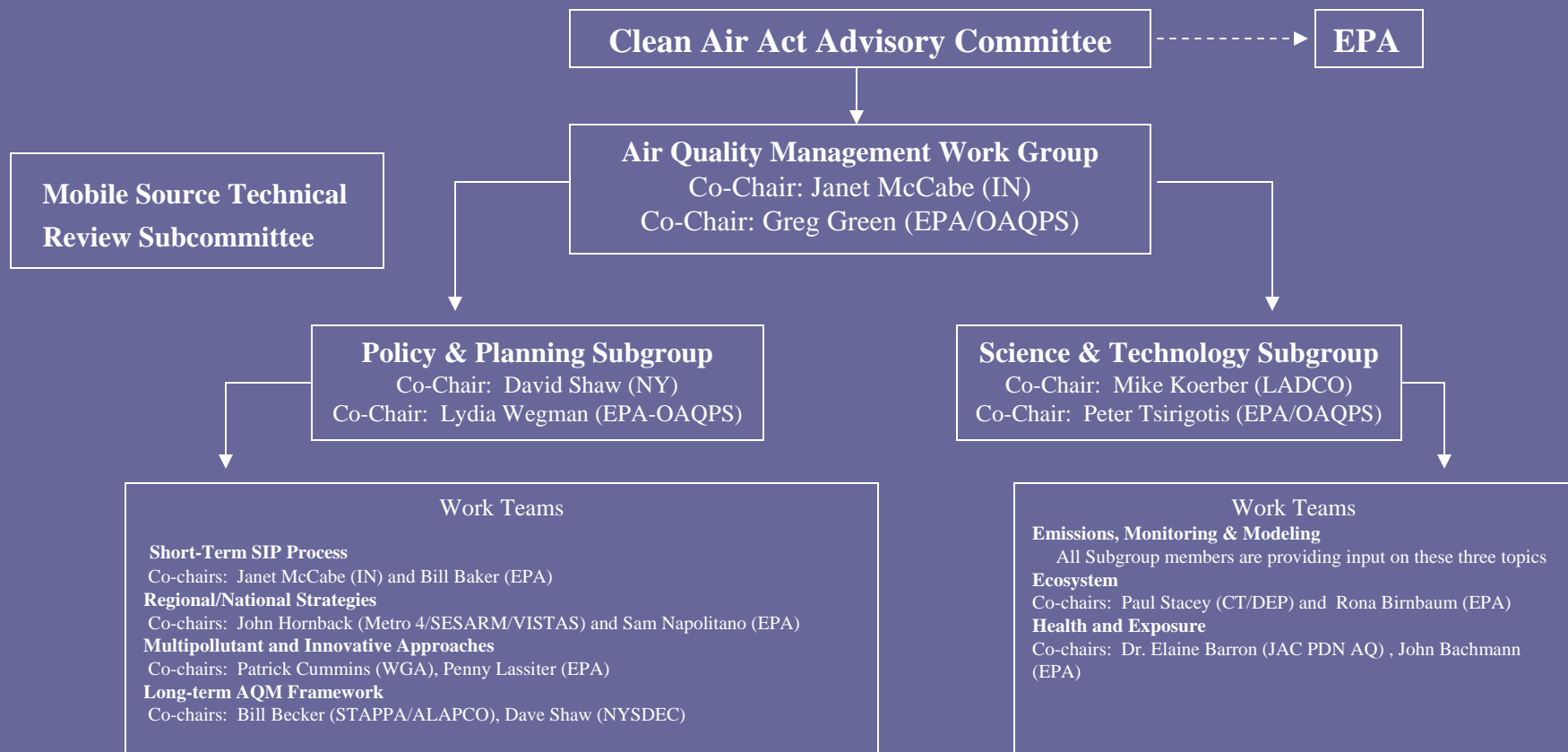
5. Enhance Protection of Ecosystems and Public Welfare

- Conduct Review of Standards to Protect Public Welfare
- Develop Ecosystem Monitoring Networks
- Establish Acceptable Ecosystem Exposure Levels
- Promulgate Secondary Standards
- Track progress

In Sum

- The AQM system should strive to
 - Identify and Assess Most Significant Exposures, Risks, and Uncertainties
 - Take an Integrated Multipollutant Approach to Mitigating Most Significant Risks
 - Take an Airshed-Based Approach
 - Emphasize Results Over Process, Create Accountability, and Dynamically Adjust
- Achieving These Aims Cannot Be Done Overnight
 - Will Require a Staged Transition
 - Continue to Make Progress While in Transition

Organizational Structure



Work Group Process

- June to December 2004 – Work Group considered many options to improve the air quality management system consistent with NRC's Report.
- Recommendations were developed and prioritized by teams (high, medium and low)
- Reviewed and revised by both the Subgroups and the AQM Work Group
- Goal was “substantial consensus”

Work Group Results

- Report to the Committee includes:
 - 38 recommendations to advance to EPA
 - 11 recommendations need continued discussions
 - Draft long-term air quality management options need continued discussions
 - Recommendation to form new CAAAC Subcommittee
 - Recommendation for Work Group to continue until Subcommittee is formed.