

NARSTO Assessment

Technical Challenges of Accountability and Multipollutant AQ Management

Research Triangle Park
January 9-10, 2007



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- NARSTO Charge
 - State of science evaluation of tools, opportunities, gaps, and limitations addressing accountability and North American approach to technical support for multipollutant air quality management.
 - Account for end to end progress from emissions to exposure to human health effects and ecosystem effects.
 - Include “integration of pollutant classes (e.g. Criteria pollutants and HAPs ?) , and climate alteration interface.



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- **Definitions**

- **Accountability**—A formal process tracing change in exposure and effects with emission reductions for designated pollutants.
- **Take account of inter-relationships between designated pollutants and various sources, chemical processing, and synergism of effects (if possible).**
- **Adopt a risk-based approach for priority setting and optimizing management hierarchy to achieve maximum benefits.**



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- Approach
 - Two key elements (Accountability and multi-pollutant management through risk-based paradigm)
 - Critical issue—What is multi-pollutant air quality management? Is there a proposed framework that goes beyond current legislative or administrative structure?
 - High volume pollutants integrated with air toxics?
 - NARSTO initiated conceptualization in 2006 and committed to the assessment with preliminary work.



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- **Goals of this meeting**
 - Engage prospective authors
 - Agree on definitions, scope, and content
 - Agree on approach and outline
 - Agree on author contributions
 - Establish what's next
 - Organize mini-workshops in topical areas as needed
 - For miniworkshops, note potential information weaknesses in current expertise, and propose additional writing or advisory support.



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- **Common features by major source or air chemistry**
 - Sources fossil fuel combustion (CO, SO₂, NO_x, VOC, PM)
 - Chemistry (SO₂, NO_x, VOC, O₃, PM)
 - From “high volume” emissions and products or toxics--



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- **Air Toxics (HAPs)—Hypothetical Integration of subsets??**
 - --In US 188 listed species
 - Subsets from fossil fuels (e.g.)
 - Coal or oil (HCl, As, Cr, Ni, PAH? Se, Hg)
 - Gasoline or diesel fuel (Benzene, butadiene, etbenzene, MeOH, Hexane, Naphthalene, toluene, xylenes, Mn [Canada?],...)
 - Subsets from airchemistry (e.g.)
 - Acetaldehyde, formaldeyde, nitrobenzene, nirtopropane, phenol (?), propionaldehyde, acrolein ...)
 - Other—The rest on the list many different industrial or commercial sources

