Atmospheric Monitoring for Clean Air Mercury Rule (CAMR) Accountability

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What is CAMR?

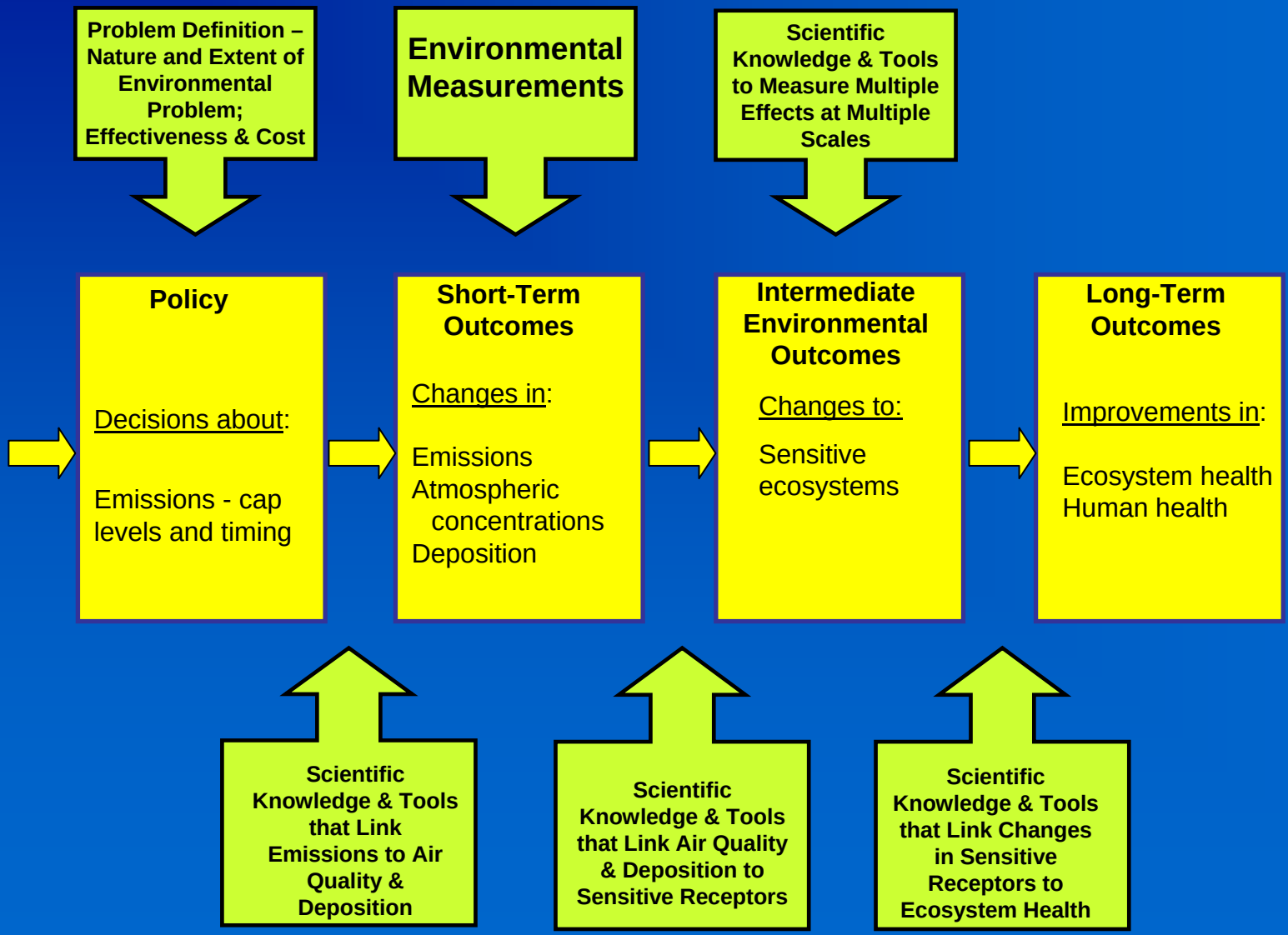
- "Standards of performance" limiting mercury emissions from new and existing coal-fired power plants using a market-based cap-and-trade program
  - First phase cap, in 2010, will cap emissions at 38 tons (approximately "co-benefit" level of reductions)
  - Second phase cap, in 2018, will cap emissions at 15 tons
- Sets emission reduction requirement for each State and Indian country
- State caps are mandatory, trading is optional
- Allows States flexibility on how to achieve the required reductions, including whether to join the trading program

What is Accountability?

- Are policies doing what we want them to do? How could they do better?

- How effective is CAMR in reducing mercury
  - concentrations in the atmosphere?
  - wet and dry deposition?
  - concentrations in aquatic ecosystems?
  - concentrations in terrestrial ecosystems?
  - concentrations in sensitive biota?
  - effects on sensitive human populations?

Integrated Assessment Model



Where Do We Start?

- Build on EPA's atmospheric monitoring and assessment expertise
- Atmosphere is an important step in the "chain of accountability"
- Multiple pieces to the mercury assessment puzzle
  - Monitoring ecological endpoints and parameters beyond mercury in the atmosphere is critical
- Need further collaboration with other agencies (e.g. NOAA, USGS), states, and other organizations to monitor other important ecosystem components

Key CAMR Atmospheric Monitoring Assessment Needs

- Determine the status and trends in:
  - ambient speciated mercury
  - total mercury deposition (wet + dry)
  - mercury deposition to mercury sensitive ecosystems
  - total mercury deposition and ambient concentrations in areas of enhanced deposition and/or most highly impacted

- Data will also help improve accuracy of atmospheric models

What Is the Plan?

- National Atmospheric Deposition Program is developing a national speciated atmospheric mercury network
  - monitor speciated atmospheric concentration
  - have the ability to estimate dry deposition
  - include enhanced existing weekly wet deposition collection

- Initial support from EPA, USGS

What Will the Network Look Like?

- Speciated ambient air quality sampling with comparable equipment and sampling protocols
  - Tekrans and manual samplers
- Co-location with existing air quality and deposition monitoring sites initially, expand to currently unmonitored sites as necessary
  - Opportunity for co-located intensive research site data collection
- NADP will develop site selection requirements, QA plans and data management procedures
- Sites chosen to answer both regional and local-scale questions

Schedule

- Regional meetings set up to provide input to the plan over the summer and into the fall
- Transition network up and running in FY07
- Network growth expected as more states, tribes, researchers, federal agencies, and other interested partners join

Network Approach Principles

- Transparency is key
- All network information publicly available
- Scientifically credible
- Field and laboratory QA plans for network operations
- Quality assured data archived in the NADP on-line database
- Network-wide consistency (field and lab)
- Participatory - multiple stakeholders
- Minimize costs, leverage existing infrastructure where possible

Who Will Participate in This Network?

- NADP is a stakeholder-driven organization with a long history of network participation from a wide variety of organizations
- EPA expects to fund a small number of “backbone” sites necessary for CAMR accountability
- USGS is supporting a number of sites in the Midwest
- Other federal agencies are also expected to participate (e.g. NOAA, NPS, FWS)
- Many states have already contacted NADP for assistance in siting new speciated monitors; there is opportunity for many more to participate
- Universities, tribes, and anyone else who wants to operate instruments under common NADP protocols

Why Participate in This Network?

- Leverage our resources to do more than any of us can do alone
- Understand regional picture of total—wet and dry—mercury deposition
- Understand the effects of reducing mercury emissions in your region on both local and regional scales
- Have the ability to add additional equipment to any monitoring site for short-term or long-term research purposes
- NADP has a long history of collecting high quality monitoring data; there is significant opportunity to shape this new network to do the same

Next Steps

- NADP Spring Subcommittee Meeting
  (May 1, Riverside, CA)
- Regional NADP Mercury Monitoring Workshops
  (tentative: Boston, July 24)
- NADP Fall Technical Meeting
  (October 24-27, Norfolk, VA)
- Coordinate with current or new mercury monitoring in water, fish, and other endpoints
  (on-going)

For More Information

Mercury Monitoring Network:

- NADP
  - http://nadp.sws.uiuc.edu
  - David Gay: dgay@uiuc.edu
- EPA
  - David Schmeltz: schmeltz.david@epa.gov
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CAMR Background:

- www.epa.gov/air/mercuryrule

CAMR Implementation (EPA Clean Air Markets Division)

- www.epa.gov/airmarkets/camr