U.S. Transboundary Air Pollution and Climate Change Developments

Paul J. Miller
Deputy Director

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NESCAUM

- Northeast States for Coordinated Air Use Management
- Formed in 1967
- Association of 8 Northeast state air agencies
- Technical and policy support for air quality & climate initiatives
Member States

Connecticut
Maine
Massachusetts
New Hampshire
New Jersey
New York
Rhode Island
Vermont
Talk Outline

I. Air quality developments

II. Climate initiatives

Overarching Driver: U.S. Clean Air Act
I. Air Quality Developments

1. Sulphur dioxide
2. Fine particulate matter (PM2.5)
3. Mercury from coal power plants
4. Ozone
Why is U.S. Revising Air Stds?

1. Timing
   - Sulphur dioxide

2. Litigation
   - Fine particulate matter (PM2.5)
   - Mercury from coal power plants

3. Threat of litigation
   - Ozone
Sulphur Dioxide

• U.S. EPA proposed new standard in November 2009

• Current U.S. standards
  • Haven’t changed since 1971
  • 140 ppb 24-hour average
  • 30 ppb annual average

• Proposal
  • Revoke both existing standards
  • New std in range of 50 – 100 ppb one-hour average
What’s the Impact of a New Sulphur Dioxide Standard?

14 counties projected to violate 100 ppb
10 additional counties projected to violate 75 ppb
33 additional counties projected to violate 50 ppb
Map of Sulphur Dioxide Emission Sources
Coal & Oil Power Plants
Fine Particulate Matter (PM2.5)

• In 2006, EPA adopted:
  ➢ 15 µg/m³ annual
  ➢ 35 µg/m³ 24-hour
  ➢ CWS = 30 µg/m³ 24-hour; no annual

• In 2009, U.S. court tossed out annual
It’s *déjà vu* all over again
PM2.5 implicates same sources as sulphur dioxide
New mercury / HAPs rule

• In 2005, Clean Air Mercury Rule (CAMR) for coal power plants adopted
• In 2008, CAMR vacated by court
• EPA must adopt new rule by Nov. 2011 – to cover all HAPs
• Some states adopted ~90% mercury reduction regardless of CAMR status
• Control level to be based on performance of top 12% power plants
Map of Mercury Emission Sources
Coal Power Plants
U.S. Ozone Standards Re-considered

- 2007 standards set at 75 ppb, 8-hr average
- Jan. 2010, EPA reconsidered & proposed:
  - Health std:
    - In range 60 – 70 ppb 8-hr avg
  - “Welfare” std:
    - 3 month statistically weighted daylight hourly sum in range 7 – 15 ppm-hrs
- EPA final decision by 31 August 2010
- CWS = 65 ppb 8-hr average
Potentially Affected Areas

Counties violating 8-hr O₃ NAAQS 0.060 – 0.070 ppm
P.S. Clean Air Interstate Rule

1. 2005: EPA issued CAIR to address regional transport of PM2.5 & ozone

2. 2008: Court remanded CAIR to EPA, but did not vacate

3. April 2010: EPA to issue CAIR replacement

4. Will the CAIR replacement stay relevant?
II. U.S. Climate Initiatives

1. New federal legislation
   - Probably not happening any time soon

2. 1990 Clean Air Act
   - Filling the vacuum absent new legislation
Clean Air Act and Climate Change

   - GHGs are pollutants under CAA
   - EPA must regulate, or show why it can’t
2. EPA made “endangerment finding” for 6 GHGs from motor vehicles in Dec. 2009
3. ~16 lawsuits filed to stop EPA
4. GHG motor vehicle rule due in March 2010
Clean Air Act Implications

1. Motor vehicle rule will trigger GHG requirements elsewhere -- “tailoring rule”
   • GHGs in air permits
   • Best available control technology analyses

2. Other CAA sections also have “endangerment” language – e.g., NAAQS

3. Other “short-lived” climate forcers could be considered (e.g., black carbon, ozone)
Summary

• Much happening on air quality standards
  – NAAQS revisions – SO$_2$, PM2.5, O$_3$
  – New mercury / HAPs rule for power plants

• Climate initiatives
  – Federal legislation stumbling
  – Clean Air Act getting pushed
    • GHG endangerment finding
    • Motor vehicle GHG limits
    • Other implications follow