

How Markets WorkSM

Developing an Emissions Trading Program for Regional Haze

Dr. David Harrison
Senior Vice President
NERA Economic Consulting

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Overview

- **Background and Objectives**
- **Potential Gains from Emissions Trading**
- **Lessons from Experience with Emissions Trading**
- **Key Elements of an Emissions Trading Program for Regional Haze**
- **Next Steps**



Background

■ **NERA Economic Consulting**

- Firm of about 500 professionals with 10 offices in U.S. and six offices abroad
- Extensive experience assisting public and private groups with regard to emissions trading programs, including Acid Rain, RECLAIM, NOX SIP Call and most recently EU program for CO₂

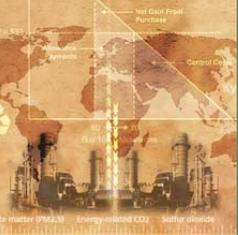
■ **Regional Haze Regulations**

- EPA Proposed Rule provides regulatory framework and guidelines for BART
- EPA supports use of a regional trading program instead of source-by-source BART determination



Presentation Objectives

- 1. Clarify emissions trading and the nature of its potential gains**
- 2. Provide lessons from experience in previous emissions trading programs**
- 3. Outline the major features of a trading program for regional haze**
 - Note that we do not consider how the overall cap/budget should be set**
- 4. Identify next steps in deciding whether to pursue the emissions trading option**



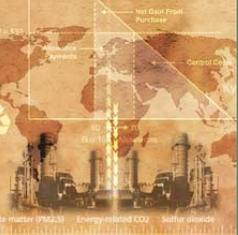
Potential Environmental and Economic Gains from Emissions Trading

■ **Environmental gains**

- **Emission budget must achieve greater visibility progress than BART**
- **“Cap” provides greater certainty that the visibility progress actually will take place**

■ **Economic gains**

- **Cost savings from trading (relative to uniform “command-and-control” approach)**
- **Dynamic incentives to develop cost-effective technologies**



Three Major Emissions Trading Programs Reviewed

1. **SO₂ Allowance Trading (Acid Rain Program)**

- **Most prominent program**

2. **RECLAIM NO_x and SO₂ Trading Programs**

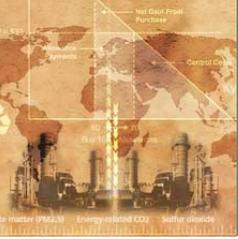
- **Illustrate how to include multiple sectors**

3. **Northeast NO_x Budget Program**

- **Illustrates how to include multiple states**

Note: all are “cap-and-trade” programs

- **Other trading programs include credit-based programs and emissions averaging programs.**



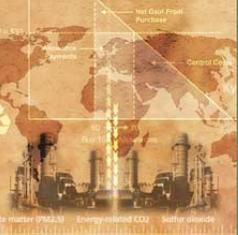
Lessons from Emissions Trading Experience Can be Put in Five Categories

- 1. Economic performance**
- 2. Environmental performance**
- 3. Initial allocation and “equity”**
- 4. Trading flexibility with banking**
- 5. Enforcement and monitoring**



Summary: Key Lessons from Experience with Emissions Trading

- 1. Emissions trading has been successful in reducing the cost of meeting emissions targets**
- 2. Emissions trading has enhanced achievement of environmental gains**
- 3. Acceptable initial allocations can be set without impairing cost saving and environmental objectives**
- 4. Banking has played a major role in improving the economic and environmental performance of emissions trading**
- 5. Accurate monitoring and enforcement are critical to the integrity of the programs**



Prominent Successes Mean that Emissions Trading Has Become the Norm

■ CAIR

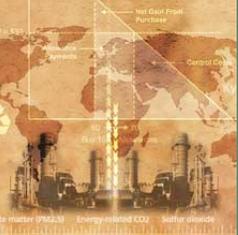
- Provides for interstate cap-and-trade programs for NO_x and SO₂

■ Mercury Rule

- Provides for interstate cap-and-trade program for mercury
- Caveat: concern for “hot spots” in potential litigation

■ EU Emissions Trading Scheme

- Establishes a EU-wide cap-and-trade program for CO₂



Application of Emissions Trading to Regional Haze

- **Successful examples suggest emissions trading is a promising approach**
- **But, details matter!**
- **Need to consider specific features of a program for regional haze**
 - **Specific elements identified and organized**
 - **Likely performance relative to technology-oriented approach for all relevant sources**
 - ***Note: the presentation does not consider the level of the cap, but rather how to design and implement a trading program to achieve whatever cap is ultimately set***
- **Existing information**
 - **EPA preamble in final Regional Haze rule (July 1999)**
 - **Western Regional Air Partnership (WRAP) backstop Market Trading Proposal (August 2003)**
 - **CENRAP Emissions Trading Subgroup (February 2005)**



Trading Features Can Be Put into Three Broad Categories

1. **Threshold Features**

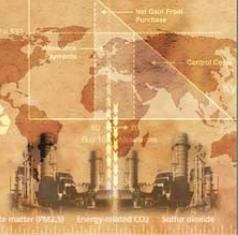
- **Facilities included**
- **States included**
- **Opt-in possibilities**
- **Cap/budget and timing**

2. **Design Features**

- **Initial allocation**
- **Trading rules**
- **“Hot spots” Trigger**
- **Banking**
- **Safety valve**

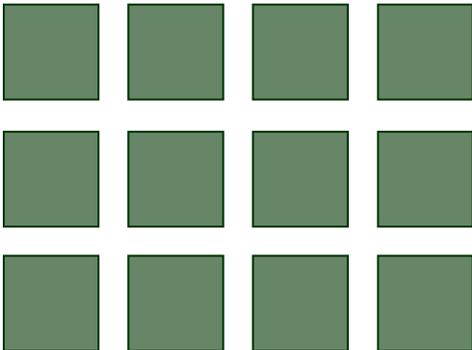
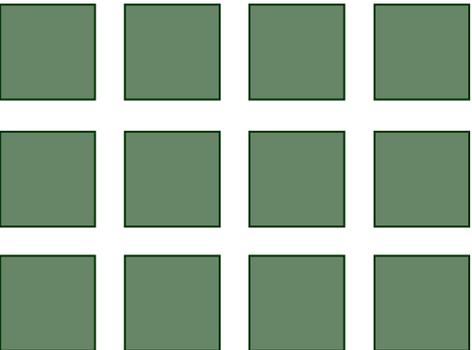
3. **Implementation Features**

- **Monitoring/reporting**
- **Tracking/registry**
- **True-up period**
- **Compliance**
- **Enforcement/Penalties**
- **Program audit**



Next Steps

1. **Consider any general issues/concerns with use of emissions trading for regional haze**
 - Any general concerns?
 - Issues left out?
2. **Develop background information for the specific region**
 - Distribution of sources and potential for “hot spots”
 - Number/characteristics of relevant sources
 - Likely cost-effectiveness variations (and thus gains from emissions trading)
 - Likely monitoring/administrative costs (relative to BART/other controls)
3. **Develop evidence to decide whether emissions trading would be desirable**
 - Likely visibility protection
 - Likely cost savings
 - Likely administrative costs (or savings)



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Economic Consulting

For more information, contact

David.Harrison@nera.com

617.621.2612