

Air Quality in Southern California and SCAQMD

- Air Quality in Southern California worst in nation
 - In 2010 the region was out of compliance with federal air quality standards on 109 days in the year.
 - Most smog (at least 70%) in region caused by automobiles.
- South Coast Air Quality Management District (SCAQMD)
 - Multi-county, regional government charged with upholding air quality standards in LA area.
 - Agency created in 1977, replacing the separate county air quality agencies (Los Angeles, Orange, Ventura etc.).
 - Agency has jurisdiction only over stationary sources of pollution.

RECLAIM

- Up to 1993 the SCAQMD relied exclusively on Command and Control methods to abate pollution in area.
- In 1993 agency began a pollution trading program called RECLAIM.
 - Program did away with technology mandates for large stationary sources of two pollutants: Oxides of Nitrogen (Nox) and Sulfur (SOx).
 - Replaced mandates by giving polluters tradable “rights” (RTC’s) lasting one year to emit the two pollutants.
 - Emissions of other toxic pollutants remained under Command and Control regulations.

Nitrogen Dioxide is a primary component in the formation of ground level ozone, which is a key component of smog

Health effects of Ozone

RECLAIM

- Most industrial NO_x generated by just a few firms in industries such as: Oil Refining (Chevron USA, ARCO, Mobil Oil) and power generation (LA Department of Water and Power, Southern California Edison).
- Only the largest polluting facilities are under RECLAIM, although 1000's of facilities (such as dry cleaners) produce No_x and SO_x.
- Approximately 400 facilities participate in NO_x market, 50 in SO_x.

RECLAIM

- Each company in program allocated for 1994 all the RTC's per year up to year 2010.
- Number of allocated RTC's decreased each year.
- At the end of each year each facility had to reconcile their emissions of NO_x and SO_x with the number of RTC's given.
- As number of RTC's decreases, the cost of the asset should increase, motivating some firms to acquire pollution reducing technology.

Monitoring

- With RECLAIM, SCAQMD has to obtain measurements of NO_x and SO_x emissions from individual facilities while under Command and Control it did not.
- The facilities that were the largest sources of emissions had to purchase equipment that monitored emissions on a daily basis.
- Smaller polluters were required to estimate their emissions based on their output and the fuel consumption.

Outcomes

- Due to initial overallocation of RTC's, very little trading took place in the initial years of program.
- Prices for RTC's prior to year 2000 were lower than expected due to overallocation.
- Facilities allowed to trade future RTC's.
- Future RTC's typically more expensive than those that expired in earlier years.

Outcomes

- In the year 2000 the price of RTC's began to dramatically increase due to local power generating companies increasing output in response to energy crisis. Power companies began buying up credits.
- RTC's for NO_x that expired in 1999 traded for an average price of \$1,827/ton in 1999. The average price for 2000 RTC's grew to \$45,000/ton in 2000.
- Power generating facilities were taken out of the program in 2001 and forced to follow command and control.

Arguments

- For
 - Targets have been met
 - Decreased cost to industry of abating pollution
- Against
 - Monitoring costs
 - Geographic distribution of pollution
 - Possible cheating