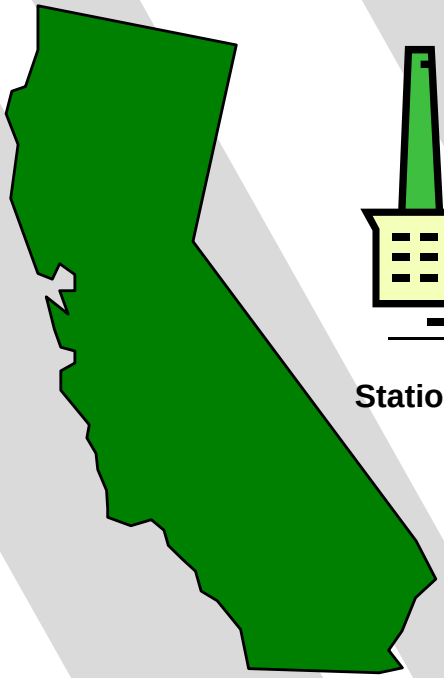
Emission Reduction Offset Transaction Costs Summary Report for 2011

ERC Bank



Stationary Source Offsets

ERC Trading

California Environmental Protection Agency

Air Resources Board

State of California
California Environmental Protection Agency

AIR RESOURCES BOARD

Emission Reduction Offset Transaction Costs Summary Report for 2011

October 2012

Prepared by

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EXECUTIVE SUMMARY

A. Background

Since 1993, Health and Safety Code Sections 40709 and 40709.5 have required local air quality management and air pollution control districts (district) to collect information regarding the cost of offset transactions from stationary source owners who purchase offsets as required by district New Source Review (NSR) programs. State law also requires districts to adopt emission reduction credit (ERC) banking programs. Districts are required to collect specific information about offset transactions, including the price paid in dollars per ton, the pollutant traded, the amount traded, and the year of the transaction. Districts are also required to annually publish this information without disclosing the identity of the parties involved with the transaction. Districts that are not required to submit a plan for attainment of State ambient air quality standards and those that also meet federal air quality standards are exempt from such requirements.

B. Summary of 2011 Data

The Air Resources Board (ARB) has compiled information regarding NSR offset transactions collected from all 35 districts and assembled it into this report. This report summarizes statewide emission reduction offset transactions in California for the year 2011. Districts reported to ARB regardless of whether they had any offset transactions or whether the reporting requirements apply. A total of 300 transactions were reported to have taken place in California in 2011. This report does not include information covering 64 subsidiary transactions where there were no associated costs. Of the remaining 236 transactions, 7 were for carbon monoxide (CO), 103 were for hydrocarbons (HC), 69 were for nitrogen oxides (NOx), 38 were for particulate matter with aerodynamic diameter less than 10 microns (PM10), and 19 were for sulfur oxides (SOx). A specific breakdown of all transactions by district is presented in Table V-1 (see page 8). These transactions generally represent trades of offsets that are valid for the lifetime of the permitted source. This is in contrast to other types of credits that are valid for much shorter time frames (e.g., Regional Clean Air Incentives Market (RECLAIM) trading credits that are valid for one year).

C. Data Trends

ARB has collected and reported statewide data on all offset transactions since 1993. The number of districts reporting transactions has stayed between 11-16 districts each year. In 2011, 12 districts reported transactions. The number of reported transactions has increased through the years, but decreased in 2002 through 2004, and in 2009. In 2011, 300 transactions were reported, which is almost double the number reported in 2010.

Charts ES-1 and ES-2 illustrate the trends for the number of transactions and the number of tons traded during the past nineteen years for the three most traded pollutants (HC, NOx, and PM10). Chart ES-1 illustrates that the number of transactions

for all three pollutants generally increased between 1993 and 2001, and decreased between 2002 and 2004. The number of transactions increased again in 2005 for HC, and in 2006 for PM10 and NOx. In 2011, the number of reported transactions for all three pollutants increased. Over the years, HC transactions have consistently outnumbered those of other pollutants.

Chart ES-2 shows that the number of tons traded by pollutant has remained constant over the years, with the exception of a sharp increase in 2000 and 2001. In 2009, the number of tons traded decreased by about half from 2008. In 2011, the number of tons traded for all three pollutants increased.

More information on California offset transactions that occurred from 1999 through 2011 can be found at ARB's Emission Reduction Credit Offsets webpage at: www.arb.ca.gov/nsr/erco/erco.htm.

Chart ES-1

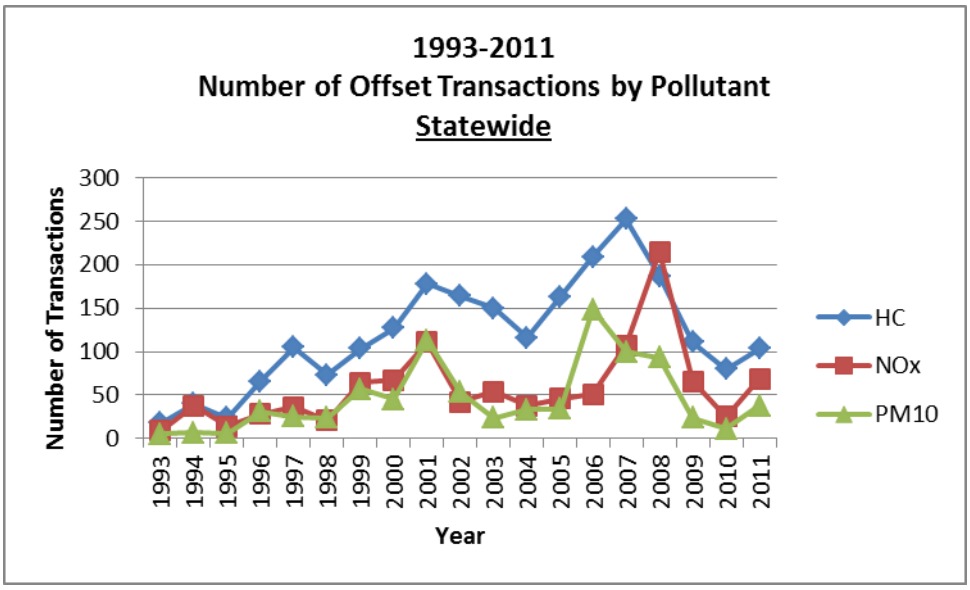
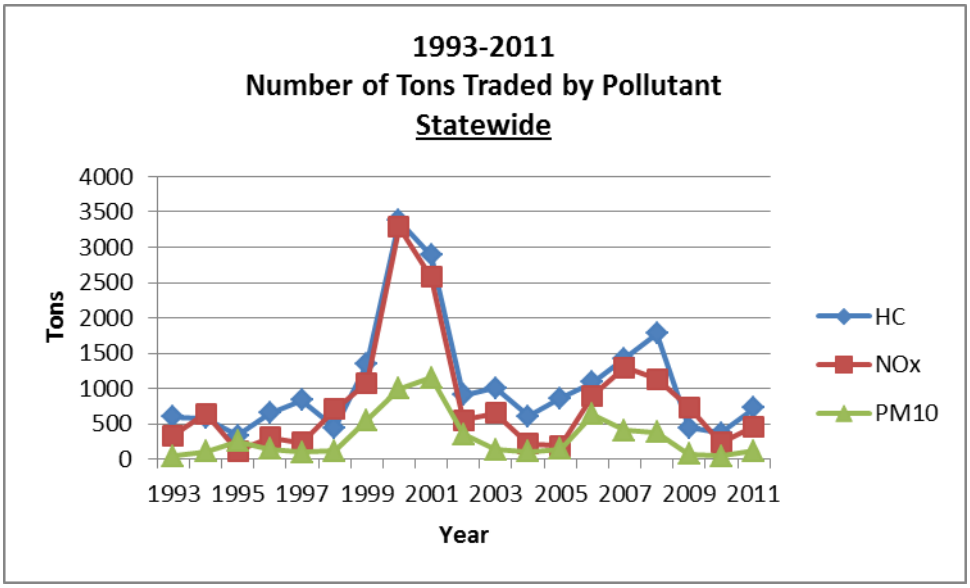


Chart ES-2



I. INTRODUCTION

Section 40709.5(e) of the Health and Safety Code mandates that local air quality management and air pollution control districts (district), that are not exempt under Health and Safety Code Section 40709, collect information regarding the cost of offsets from stationary source owners who purchased offsets as required by district NSR programs. This report presents a compilation of the transactions in California from January 1 through December 31, 2011, as supplied by the districts.

California's NSR program is designed to accommodate industrial growth while protecting public health and the environment. The use of ERCs that are purchased from the open market to offset emissions from new or modified sources gives industry the flexibility to mitigate emissions in the most cost-effective manner.

This report summarizes the prices paid for offsets. The report also presents a summary of the number and type of transactions taking place in California's emission credit market. This report does not attempt to analyze the cost data collected or attempt to predict future prices or offset availability. As required by Health and Safety Code Section 40709.5(e), this report does not contain information that identifies the parties involved in the transactions.

Trading credits from the South Coast Air Quality Management District's Regional Clean Air Incentives Market (RECLAIM) program are not included because they are not directly comparable to ERCs used to satisfy NSR requirements. Also, tables and calculations do not include data on the cost of leasing credits from the Solutions for the Environment and Economic Development (SEED) program of the Sacramento Metropolitan Air Quality Management District.

II. NEW SOURCE REVIEW AND CALIFORNIA'S AIR QUALITY MANAGEMENT PROGRAM

The responsibility for controlling emissions from stationary sources of air pollution rests with California's local districts. The California Clean Air Act requires districts to adopt a NSR program that results in no net increase in emissions from new and modified stationary sources that have the potential to emit over a specified amount of nonattainment pollutants or their precursors. As part of NSR, stationary sources are required to apply the Best Available Control Technology (BACT) to reduce emissions. In some cases, stationary sources must provide emission reduction offsets to mitigate the impact of emissions that remain from the source after the application of BACT. These emission reduction offsets are sometimes called ERCs. To be used as mitigation, offsets must meet certain criteria: the emission reductions must be surplus to any federal, State or local laws or regulations and must be real, enforceable, quantifiable and permanent. California's offset requirements, reflected in district rules, generally apply to more permitting actions than federal offset requirements and are also triggered at smaller facilities.

A. Emission Reduction Credit Banking and Trading

Emission reduction credit banking is defined as "a system... by which reductions in emissions may be banked or otherwise credited to offset future increases... or a calculation method which enables internal emission reductions to be credited against increases" (Health and Safety Code Section 40709.5). Once created, ERCs may be banked with the district for future use by the source that generated them, used concurrently to offset new projects, or sold to other sources for use as mitigation.

The most common method of creating ERCs is to control or curtail the emissions from an existing stationary source. Control of emissions is generally from the application of emission control technology beyond that which is required by any regulation or rule. Curtailment could be from a change in operating hours of a source, or through the shutdown of a source. Another method of creating ERCs is to reduce emissions from mobile sources beyond what is required. Additionally, credits may be generated from the reductions in emissions from agricultural operations. For example, from curtailing field burning of agricultural wastes or from using agricultural water pumps equipped with cleaner engines. Credits must be generated pursuant to district rules and regulations, and must be reviewed and certified by the district. The legal requirements of credit generating programs are specified in the Health and Safety Code and further defined by rules in place in each district.

III. REQUIREMENTS TO REPORT COST OF OFFSETS

Sections 40709 and 40709.5 of the Health and Safety Code require districts that are not exempt to establish banking programs for ERCs and establish a mechanism to collect data regarding the price paid for offsets. The text of Health and Safety Code Sections 40709 and 40709.5 and Government Code Section 6254.7 can be found in Appendix A. The following is a summary of the requirements of those sections of the Government Code and the Health and Safety Code:

- Section 6254.7(f) of the Government Code authorizes districts to obtain information on the cost of offsets from applicants.
- Section 40709 of the Health and Safety Code makes an emission reduction banking system mandatory in every district except any district that is not required to submit a plan for attainment of State ambient air quality standards and if
    - The district is not in a federal nonattainment area for any national ambient air quality standard unless the sole reason for nonattainment is air pollutant transport and
    - A source has not petitioned the district to establish a banking system.
- Section 40709(c) of the Health and Safety Code specifies that emission reductions proposed to offset simultaneous emissions increases within the same stationary source need not be banked prior to use as offsets.
- Section 40709.5(e) requires that any district that has established a banking system is required to develop a program that provides the following information as public record:

- Annual publication of the costs in dollars per ton, of emission offsets purchased for new and modified emission sources, excluding the identity of the parties involved.
- The annual publication shall specify for each offset purchase transaction:
  - The date of the offset transaction (year only)
  - The amount of offset purchased by pollutant
  - The total cost, by pollutant of the offsets purchased
- Each application for use of emission reductions banked shall provide sufficient information, as determined by the district, to perform the cost analysis.

IV. DATA COLLECTION PROCESS

In 1994, a subcommittee of the California Air Pollution Control Officers Association Engineering Managers worked with ARB to develop a uniform reporting form for collecting data from the districts for this report. The reporting form was designed to transmit information to ARB without disclosing the names of the transaction parties.

The form distinguishes between the methods of generating ERCs. Possible generating methods include stationary, mobile, and agricultural offsets. The prices paid for credits may be affected by the type of source from which reductions are obtained. This is particularly true with mobile sources that have a finite life span.

The lifespan of the credit may significantly affect the price paid for offsets. The form allows the district to identify the length of useful life if the credit life is limited. Mobile source credits and lease agreement transactions can be distinguished using this section of the form.

The reporting form records the type of payment agreement, such as direct sale of the credit, barter for services or equipment, a transaction between subsidiary parties, or an assets transfer within a company. In each case, the type of transaction agreement may affect the price of the transaction.

Knowing these facts about each transaction will aid in analysis of market values for credits by interested parties. A copy of the reporting form and instructions is in Appendix B. A glossary of terms is located in Appendix C.

V. DESCRIPTION OF 2011 STATEWIDE DATA

Table V-1 presents the 300 reported transactions that took place in California in 2011, listed by individual district. There are 64 subsidiary transactions listed in Table V-1 that are not used in calculating the results of Tables A through L, and Charts 1 through 27. As discussed earlier, staff did not include these transactions for which there were no associated costs.

Transactions which are not included, leased, or valid in specific quarters are identified as such in the "Notes" column of Table V-1. Leased and quarterly transaction costs are annualized for inclusion in the average cost figures presented throughout the report. The methodology used to annualize transactions can be found starting on page 50.

The majority of the transactions reported are emission reductions from stationary sources. Of the 236 cost transactions, 7 were for carbon monoxide (CO), 103 were for hydrocarbons (HC), 69 were for nitrogen oxides (NOx), 38 were for particulate matter with aerodynamic diameter less than 10 microns (PM10), and 19 were for sulfur oxides (SOx). Districts reported to ARB regardless of whether they had any offset transactions. Table V-2 lists the districts that reported no transactions in 2011.

In 2011, 12 districts reported transactions. Tables A-1, B-1, C-1, D-1, E-1, F-1, G-1, H-1, I-1, J-1, K-1, and L-1 present information for CO, HC, NOx, PM10, and SOx reported by each of the 12 districts. Each table lists the cost per ton of pollutant, the total tons of pollutant traded, and additional explanatory notes. The price paid per ton was calculated by dividing the cost of the transaction by the number of tons traded in that transaction. The information was presented individually for each district since offset markets and costs per ton may vary from district to district. Transactions are ordered by increasing cost per ton of pollutant.

Tables A-2, B-2, C-2, D-2, E-2, F-2, G-2, H-2, I-2, J-2, K-2, and L-2 provide the average, median, and high and low of the price paid per transaction per ton of pollutant. These tables exclude asset transfer, subsidiary, barter, and other non-monetary transactions where there were no associated costs.

For each district that reported cost transactions for the three most actively traded criteria pollutants (HC, NOx, and PM10) in 2011, Charts 1-27 illustrate the average cost of offsets per transaction for the past twelve years.

Table V-1
2011 California Emission Reduction Credit Transaction Costs by District
Reported in Total Tons Traded

District	Pollutant	$/ton	Tons	Notes
Total of 8 Transactions	HC	$0	18.47	
Bay Area	HC	$0	20.79	
	HC	$0	103.84	
	HC	$7,500	6.29	
	HC	$7,800	4.00	
	HC	$7,800	4.17	
	HC	$7,800	78.83	
	HC	$9,000	7.00	
Butte County	HC	$9,900	6.89	
Total of 1 Transaction				
Imperial County	HC	$1,000	0.48	
Total of 43 Transactions	HC	$1,000	1.38	
	HC	$1,000	1.62	
	HC	$1,000	2.54	
	HC	$1,000	3.82	
	HC	$1,500	0.19	
	HC	$1,500	0.33	
	HC	$1,500	0.39	
	HC	$1,500	0.70	
	HC	$1,500	0.72	
	HC	$1,500	0.91	
	HC	$1,500	1.02	
	HC	$1,500	1.04	
	HC	$1,500	1.14	
	HC	$1,500	1.51	
	HC	$1,500	1.64	
	HC	$1,500	1.65	
	HC	$1,500	1.67	
	HC	$1,500	1.82	
	HC	$1,500	2.27	
	HC	$1,500	2.71	
	HC	$1,500	2.76	
	HC	$1,500	2.80	
	HC	$1,500	4.20	
	HC	$1,500	4.32	
	HC	$1,500	4.43	
	HC	$1,500	5.62	
	HC	$1,500	5.96	

District	Pollutant	$/ton	Tons	Notes
Imperial County (cont'd.)	HC	$1,500	6.08	
	HC	$1,500	6.28	
	HC	$1,800	1.25	
	HC	$1,800	1.42	
	HC	$1,800	2.46	
	HC	$3,000	0.12	
	HC	$3,000	1.20	
	HC	$3,000	8.89	
	HC	$37,500	0.02	
	NOx	$120,000	0.11	
	PM10	$300	0.73	
	PM10	$300	1.53	
	PM10	$300	6.36	
	PM10	$300	6.47	
	PM10	$75,000	0.03	
Placer County	CO	$3	3.23	
Total of 5 Transactions	HC	$9,911	22.06	
	NOx	$14,598	5.90	
	NOx	$16,471	127.51	
	PM10	$9,805	2.39	
Sacramento Metro	CO	$0	0.08	
Total of 13 Transactions	CO	$0	0.09	
	CO	$0	0.09	
	CO	$0	0.09	
	CO	$40,000	3.22	
	HC	$15,000	0.53	
	PM10	$0	0.02	
	PM10	$0	0.03	
	PM10	$0	0.03	
	PM10	$0	0.03	
	PM10	$0	1.34	
	PM10	$0	5.93	
	SOx	$0	0.60	
San Diego	HC	$4,762	0.42	
Total of 9 Transactions	HC	$55,000	8.60	
	HC	$55,000	16.20	
	NOX	$110,000	23.65	
	NOX	$110,000	29.20	
	PM10	$3,300	9.50	
	PM10	$3,300	27.40	
	SOx	$3,300	1.70	
	SOx	$3,300	1.80	

District	Pollutant	$/ton	Tons	Notes
San Joaquin Valley	HC	$1,000	0.01	
Total of 93 Transactions	HC	$1,000	0.07	
	HC	$1,000	0.29	
	HC	$1,000	0.29	
	HC	$1,000	2.61	
	HC	$1,000	2.61	
	HC	$1,000	12.42	
	HC	$1,000	12.42	
	HC	$1,000	25.00	
	HC	$4,750	4.83	
	HC	$4,750	5.25	
	HC	$5,000	2.90	
	HC	$5,000	7.00	
	HC	$5,000	10.00	
	HC	$5,000	160.00	
	HC	$23,500	15.88	
	HC	$23,500	22.88	
	HC	$25,000	0.39	
	NOx	$8,251	0.17	
	NOx	$35,000	1.00	
	NOx	$35,000	5.00	
	NOx	$40,000	5.00	
	NOx	$40,000	5.00	
	NOx	$40,000	5.25	
	NOx	$44,000	1.09	
	NOx	$44,000	1.25	
	NOx	$44,000	3.91	
	NOx	$44,000	4.00	
	NOx	$44,000	4.00	
	NOx	$44,000	5.00	
	NOx	$57,000	0.53	
	NOx	$57,574	1.40	
	NOx	$60,000	4.06	
	NOx	$65,000	0.40	
	NOx	$73,597	0.01	
	NOx	$73,597	0.03	
	NOx	$73,597	0.03	
	NOx	$73,597	0.04	
	NOx	$73,597	0.07	
	NOx	$73,597	0.07	
	NOx	$73,597	0.07	
	NOx	$73,597	0.09	
	NOx	$73,597	0.42	
	NOx	$73,597	0.42	
	NOx	$73,597	0.62	
	NOx	$73,597	0.88	
	NOx	$73,597	0.88	

District	Pollutant	$/ton	Tons	Notes
San Joaquin Valley (cont'd.)	NOx	$73,597	1.00	
	NOx	$73,597	1.00	
	NOx	$73,597	1.00	
	NOx	$73,597	2.55	
	NOx	$73,597	2.55	
	NOx	$73,597	3.06	
	NOx	$73,597	3.06	
	NOx	$73,597	3.88	
	NOx	$73,597	4.07	
	NOx	$73,597	4.07	
	NOx	$73,597	4.65	
	NOx	$73,597	4.65	
	NOx	$73,597	5.00	
	NOx	$73,597	5.16	
	NOx	$73,597	5.16	
	NOx	$73,597	6.49	
	NOx	$73,597	6.49	
	NOx	$73,597	8.40	
	NOx	$73,597	8.40	
	NOx	$73,597	9.25	
	NOx	$73,597	9.25	
	NOx	$73,597	31.18	
	NOx	$73,597	31.18	
	NOx	$111,530	2.31	
	PM10	$27,000	0.39	
	PM10	$27,000	0.71	
	PM10	$27,000	1.44	
	PM10	$27,000	13.41	
	SOx	$9,501	0.21	
	SOx	$13,265	5.16	
	SOx	$13,500	125.00	
	SOx	$15,000	0.13	
	SOx	$15,000	0.13	
	SOx	$15,000	5.16	
	SOx	$15,000	125.00	
	SOx	$18,000	18.00	
	SOx	$22,000	1.60	
	SOx	$22,000	4.89	
	SOx	$22,000	13.86	
	SOx	$22,500	1.00	
	SOx	$22,500	1.01	
	SOx	$22,500	2.20	
	SOx	$22,500	2.69	
	SOx	$30,000	2.01	
	SOx	$35,000	0.08	

District	Pollutant	$/ton	Tons	Notes
Santa Barbara	NOx	$60,000	3.77	
Total of 7 Transactions	NOx	$60,000	4.00	
	NOx	$60,000	4.02	
	NOx	$60,000	6.96	
	NOx	$75,000	10.00	
	NOx	$89,700	0.54	
	PM10	$20,000	0.01	
Shasta County	NOx	$6,750	28.00	
Total of 2 Transactions	PM10	$191	43.00	
South Coast	CO	$5,479	3.29	
Total of 104 Transactions	CO	$5,479	5.11	
	CO	$5,479	38.14	
	CO	$5,479	56.58	
	HC	$0	0.18	
	HC	$0	0.18	
	HC	$0	0.37	
	HC	$0	0.48	
	HC	$0	0.73	
	HC	$0	0.91	
	HC	$0	5.11	
	HC	$0	11.68	
	HC	$0	18.25	
	HC	$0	88.15	
	HC	$30,137	8.03	
	HC	$30,137	16.79	
	HC	$31,233	0.37	
	HC	$31,233	0.37	
	HC	$31,233	2.56	
	HC	$31,233	2.56	
	HC	$31,644	0.55	
	HC	$31,644	0.73	
	HC	$32,329	0.91	
	HC	$32,603	0.37	
	HC	$32,603	0.55	
	HC	$32,603	0.73	
	HC	$32,603	1.28	
	HC	$32,603	2.19	
	HC	$32,877	0.18	
	HC	$32,877	0.18	
	HC	$32,877	0.18	
	HC	$32,877	0.91	
	HC	$32,877	1.46	
	HC	$32,877	18.25	
	HC	$33,973	2.01	
	HC	$35,068	22.08	

District	Pollutant	$/ton	Tons	Notes
South Coast (cont'd.)	HC	$38,356	0.18	
	HC	$38,356	0.37	
	HC	$38,356	0.73	
	HC	$38,356	0.91	
	HC	$38,356	1.46	
	HC	$38,356	6.02	
	HC	$38,356	79.39	
	NOx	$0	0.18	
	NOx	$0	0.18	
	NOx	$0	0.18	
	NOx	$0	0.18	
	NOx	$0	0.55	
	NOx	$0	0.55	
	NOx	$0	0.55	
	NOx	$0	0.55	
	NOx	$0	0.73	
	NOx	$0	0.73	
	NOx	$0	0.91	
	NOx	$0	0.91	
	NOx	$0	1.10	
	NOx	$0	2.37	
	NOx	$0	2.56	
	NOx	$0	3.10	
	NOx	$0	3.83	
	NOx	$0	7.30	
	NOx	$0	8.03	
	NOx	$0	9.67	
	NOx	$0	12.78	
	NOx	$0	14.05	
	NOx	$0	20.99	
	NOx	$0	28.65	
	PM10	$0	0.18	
	PM10	$0	0.18	
	PM10	$0	0.18	
	PM10	$0	0.37	
	PM10	$0	0.37	
	PM10	$0	0.73	
	PM10	$0	0.73	
	PM10	$0	1.28	
	PM10	$0	6.75	
	PM10	$147,945	0.18	
	PM10	$147,945	2.37	
	PM10	$531,507	0.55	
	PM10	$531,507	0.91	
	PM10	$630,137	0.37	
	PM10	$684,932	0.18	
	PM10	$684,932	0.37	
	PM10	$684,932	0.73	

District	Pollutant	$/ton	Tons	Notes
South Coast (cont'd.)	PM10	$684,932	2.37	
	PM10	$684,932	3.10	
	PM10	$712,329	0.18	
	PM10	$712,329	0.37	
	PM10	$712,329	0.55	
	PM10	$712,329	0.73	
	PM10	$712,329	0.91	
	PM10	$821,918	2.92	
	PM10	$1,095,890	0.91	
	PM10	$1,095,890	1.46	
	PM10	$1,219,178	3.29	
	PM10	$1,342,466	0.18	
	PM10	$1,342,466	0.18	
	SOx	$0	0.18	
	SOx	$0	0.18	
	SOx	$0	0.55	
	SOx	$0	1.83	
	SOx	$0	1.83	
	SOx	$0	8.58	
	SOx	$0	13.69	
Ventura County	HC	$17,500	4.22	
Total of 6 Transactions	HC	$30,000	4.22	
	HC	$39,000	2.77	
	HC	$47,000	14.37	
	NOx	$10,000	0.26	
	PM10	$10,000	0.36	
Yolo-Solano	CO	$500	1.38	
Total of 9 Transactions	HC	$944	0.02	
	HC	$944	0.31	
	HC	$9,000	1	
	HC	$10,000	0.53	
	NOx	$25,000	0.39	
	NOx	$25,000	2.15	
	PM10	$10,000	2.03	
	PM10	$10,000	2.97	

Table V-2
Districts with No Offset Transactions to Report in 2011

District	Year of Last Reported Offsets
Amador County Air Pollution Control District	N/A*
Antelope Valley Air Pollution Control District	N/A*
Calaveras County Air Pollution Control District	N/A*
Colusa County Air Pollution Control District	2008
El Dorado County Air Quality Management District	2006
Feather River Air Quality Management District	2008
Glenn County Air Pollution Control District	N/A*
Great Basin Unified Air Pollution Control District	N/A*
Kern County Air Pollution Control District	2000
Lake County Air Quality Management District	N/A*
Lassen County Air Pollution Control District	N/A*
North Coast Unified Air Quality Management	N/A*
Mariposa County Air Pollution Control District	N/A*
Mendocino County Air Pollution Control District	N/A*
Modoc County Air Pollution Control District	N/A*
Mojave Desert Air Quality Management District	2010
Monterey Bay Unified Air Pollution Control District	2006
Northern Sierra Air Quality Management District	N/A*
Northern Sonoma County Air Pollution Control	N/A*
San Luis Obispo County Air Pollution Control	2003
Siskiyou County Air Pollution Control District	N/A*
Tehama County Air Pollution Control District	2010
Tuolumne County Air Pollution Control District	N/A*

* No record of offset transactions reported. Districts that are not required to submit a plan for attainment of State ambient air quality standards and those that also meet federal air quality standards are exempt from the requirement to collect information regarding the cost of offset transactions.

VI. DESCRIPTION OF 2011 DATA BY DISTRICT

A. Bay Area

The Bay Area Air Quality Management District reported five HC transactions in 2011.

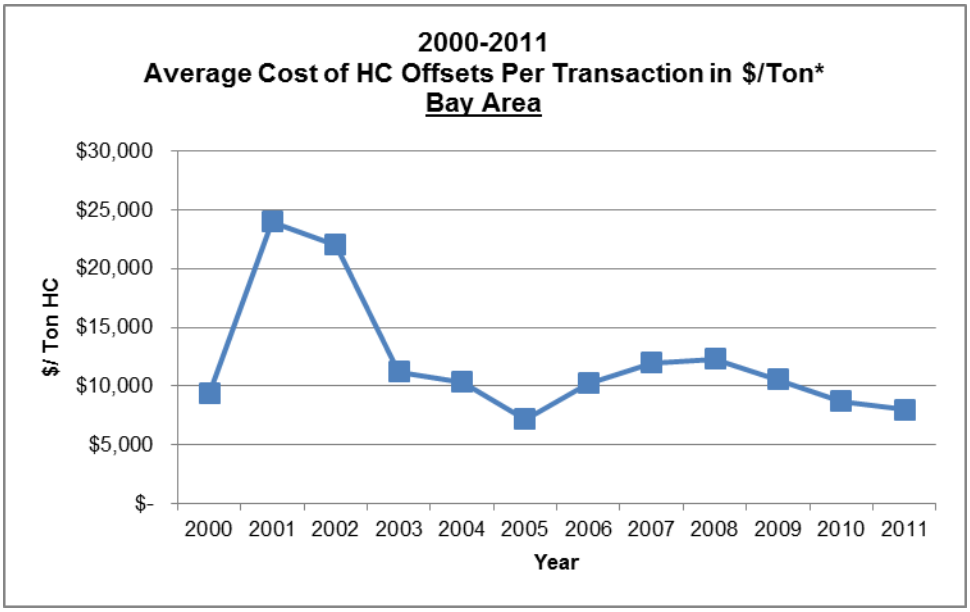
Table A-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Bay Area

Pollutant	$/Ton	Tons	Notes
HC	$7,500	6.29	
HC	$7,800	4.00	
HC	$7,800	4.17	
HC	$7,800	78.83	
HC	$9,000	7.00	

Table A-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
Bay Area

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	No transactions reported (last CO transaction reported in 2007)				
HC	100.29	$7,980	$7,800	$9,000	$7,500
NOx	No transactions reported (last NOx transaction reported in 2010)				
PM10	No transactions reported (last PM10 transaction reported in 2010)				
SOx	No transactions reported (last SOx transaction reported in 2010)				

Chart 1



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

B. Butte County

The Butte County Air Quality Management District reported one HC transaction in 2011.

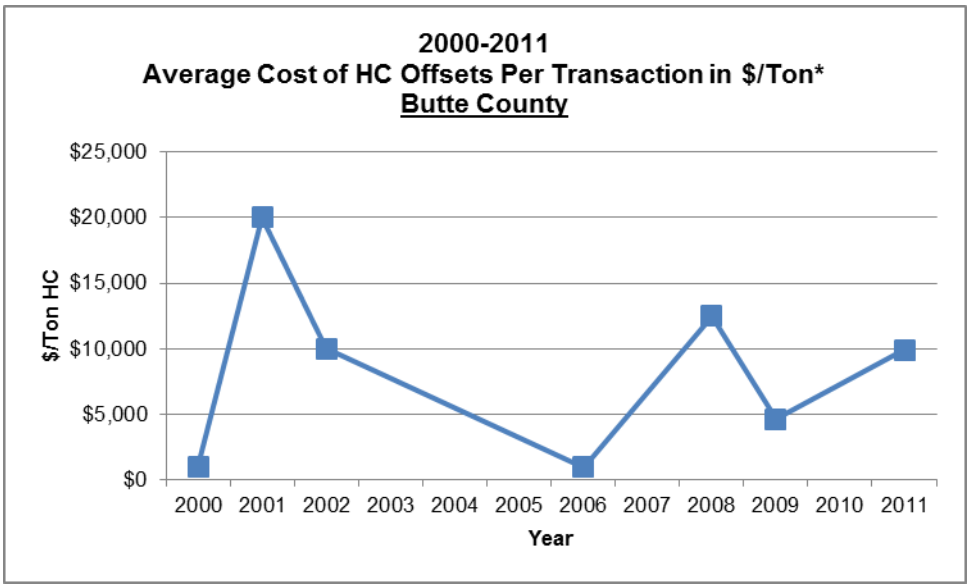
Table B-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Butte County

Pollutant	$/Ton	Tons	Notes
HC	$9,900	6.89	

Table B-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
Butte County

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	No transactions reported (last CO transaction reported in 2008)				
HC	6.89	$9,900	$9,900	$9,900	$9,900
NOx	No transactions reported (last NOx transaction reported in 2008)				
PM10	No transactions reported (last PM10 transaction reported in 2008)				
SOx	No transactions reported				

Chart 2



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

C. Imperial County

The Imperial County Air Pollution Control District reported 43 cost transactions in 2011. Of the 43 transactions reported, 37 were for HC, 1 was for NOx, and 5 were for PM10.

Table C-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Imperial County

Pollutant	$/Ton	Tons	Notes
HC	$1,000	0.48	
HC	$1,000	1.38	
HC	$1,000	1.62	
HC	$1,000	2.54	
HC	$1,000	3.82	
HC	$1,500	0.19	
HC	$1,500	0.33	
HC	$1,500	0.39	
HC	$1,500	0.70	
HC	$1,500	0.72	
HC	$1,500	0.91	
HC	$1,500	1.02	
HC	$1,500	1.04	
HC	$1,500	1.14	
HC	$1,500	1.51	
HC	$1,500	1.64	
HC	$1,500	1.65	
HC	$1,500	1.67	
HC	$1,500	1.82	
HC	$1,500	2.27	
HC	$1,500	2.71	
HC	$1,500	2.76	
HC	$1,500	2.80	
HC	$1,500	4.20	
HC	$1,500	4.32	
HC	$1,500	4.43	
HC	$1,500	5.62	
HC	$1,500	5.96	
HC	$1,500	6.08	
HC	$1,500	6.28	
HC	$1,800	1.25	
HC	$1,800	1.42	
HC	$1,800	2.46	
HC	$3,000	0.12	
HC	$3,000	1.20	
HC	$3,000	8.89	
HC	$37,500	0.02	

Pollutant	$/Ton	Tons	Notes
NOx	$120,000	0.11	
PM10	$300	0.73	
PM10	$300	1.53	
PM10	$300	6.36	
PM10	$300	6.47	
PM10	$75,000	0.03	

Table C-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
Imperial County

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	No transactions reported (last CO transaction reported in 2010)				
HC	87.36	$2,551	$1,500	$37,500	$1,000
NOx	0.11	$120,000	$120,000	$120,000	$120,000
PM10	15.12	$15,240	$300	$75,000	$300
SOx	No transactions reported (last SOx transaction reported in 2008)				

Chart 3

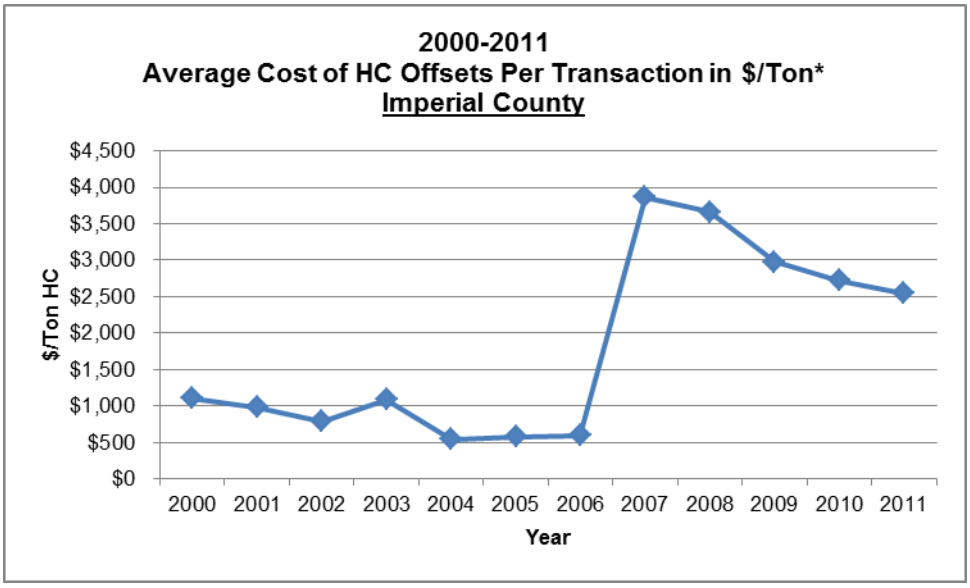


Chart 4

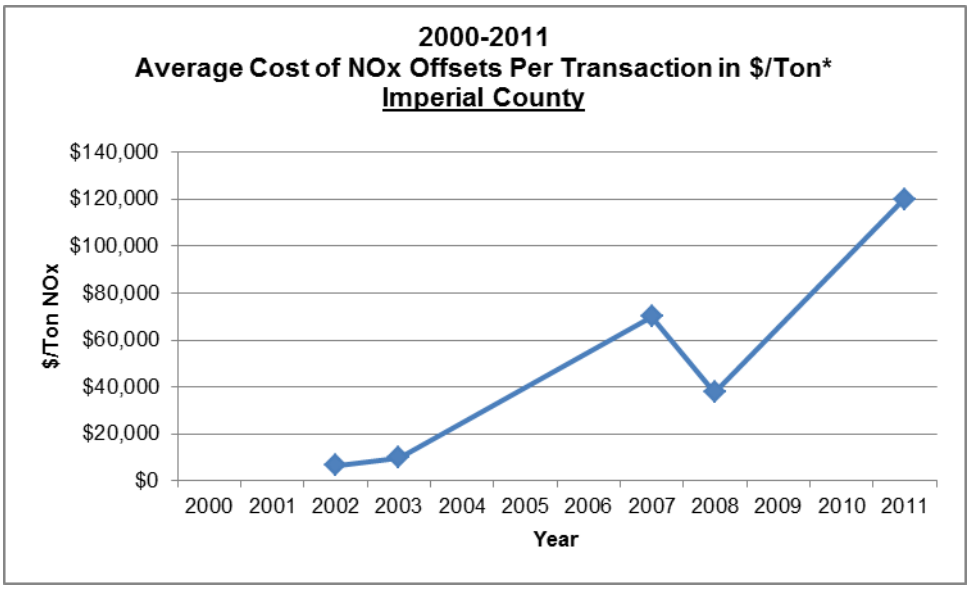
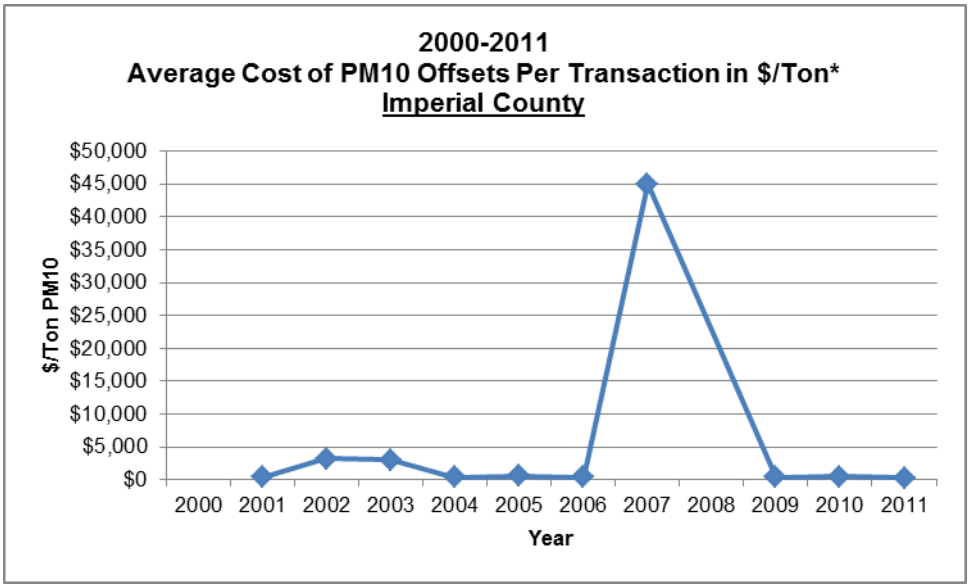


Chart 5



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

D. Placer County

The Placer County Air Pollution Control District reported 5 cost transactions in 2011. Of the 5 transactions reported, 1 was for CO, 1 was for HC, 2 were for NOx, and 1 was for PM10.

Table D-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Placer County

Pollutant	$/Ton	Tons	Notes
CO	$3	3.23	
HC	$9,911	22.06	
NOx	$14,598	5.90	
NOx	$16,471	127.51	
PM10	$9,805	2.39	

Table D-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
Placer County

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	3.23	$3	$3	$3	$3
HC	22.06	$9,911	$9,911	$9,911	$9,911
NOx	133.41	$15,535	$15,535	$16,471	$14,598
PM10	2.39	$9,805	$9,805	$9,805	$9,805
SOx	No transactions reported (last SOx transaction reported in 2007)				

Chart 6

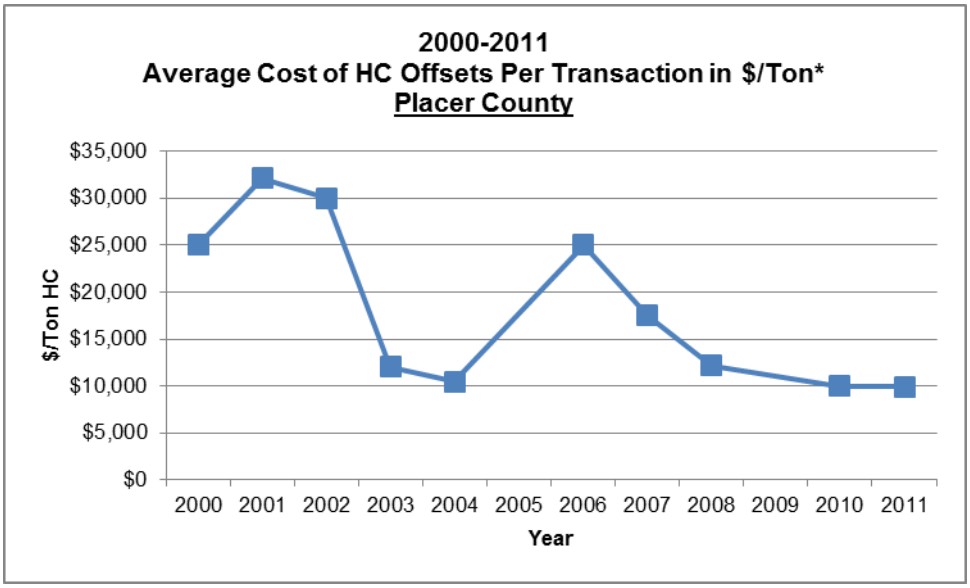


Chart 7

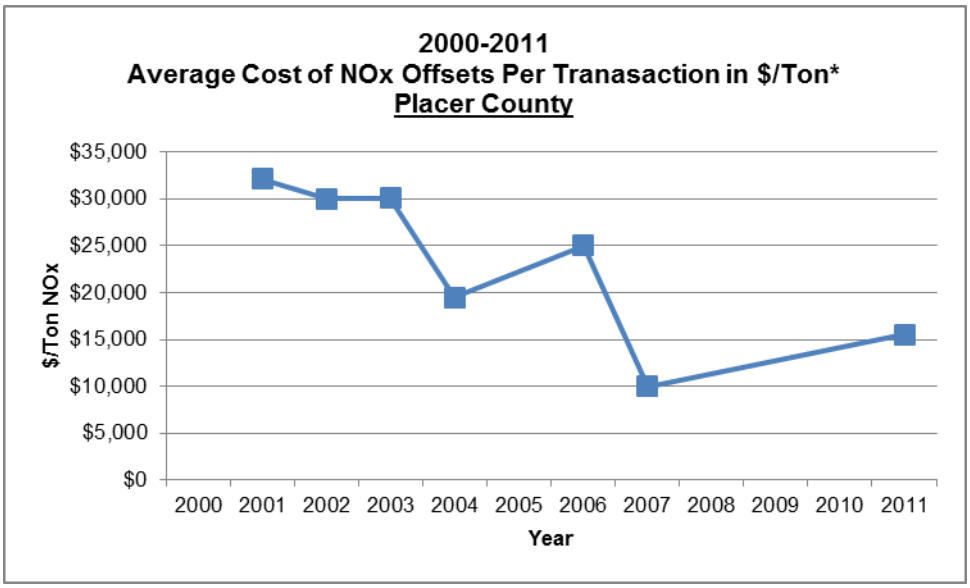
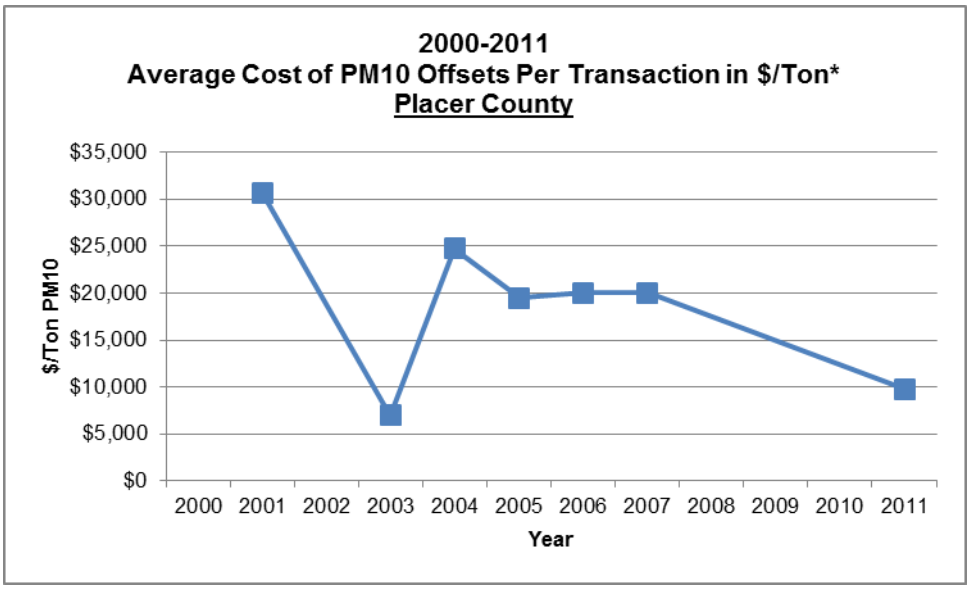


Chart 8



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

E. Sacramento Metro

The Sacramento Metropolitan Air Quality Management District reported 2 cost transactions in 2011. Of the 2 transactions reported, 1 was for CO, and 1 was for HC.

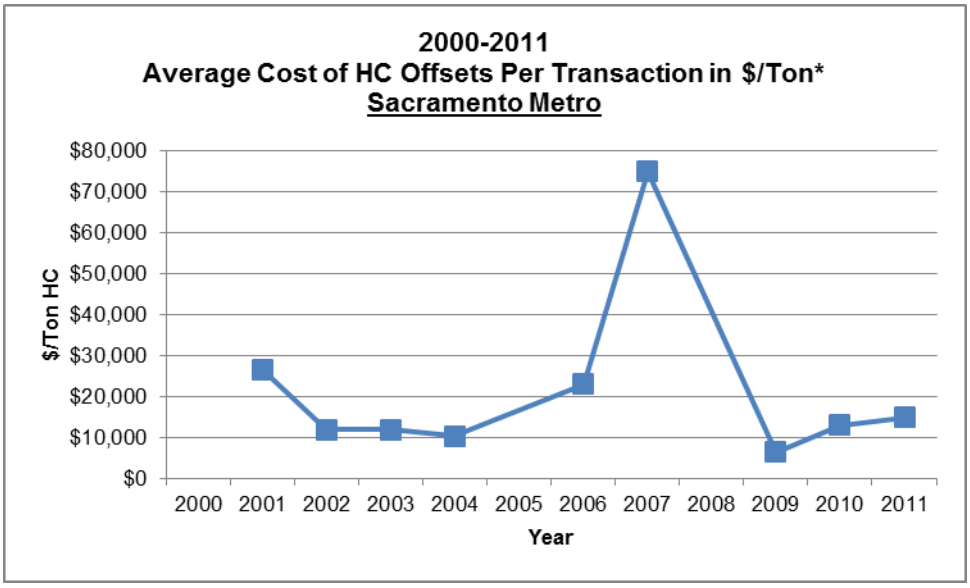
Table E-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Sacramento Metro

Pollutant	$/Ton	Tons	Notes
CO	$40,000	3.22	
HC	$15,000	0.53	

Table E-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
Sacramento Metro

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	3.22	$40,000	$40,000	$40,000	$40,000
HC	0.53	$15,000	$15,000	$15,000	$15,000
NOx	No transactions reported (last NOx transaction reported in 2010)				
PM10	No transactions reported (last PM10 transaction reported in 2010)				
SOx	No transactions reported (last SOx transaction reported in 2010)				

Chart 9



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

F. San Diego County

The San Diego County Air Pollution Control District reported 9 cost transactions in 2011. Of the 9 transactions reported, 3 were for HC, 2 were for NOx, 2 were for PM10, and 2 were for SOx.

Table F-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
San Diego County

Pollutant	$/Ton	Tons	Notes
HC	$4,762	0.42	
HC	$55,000	8.60	
HC	$55,000	16.2	
NOX	$110,000	23.65	
NOX	$110,000	29.20	
PM10	$3,300	9.50	
PM10	$3,300	27.4	
SOx	$3,300	1.70	
SOx	$3,300	1.80	

Table F-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
San Diego County

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	No transactions reported (last CO transaction reported in 2007)				
HC	25.22	$38,254	$55,000	$55,000	$4,762
NOx	52.85	$110,000	$110,000	$110,000	$110,000
PM10	36.9	$3,300	$3,300	$3,300	3$,300
SOx	3.5	$3,300	$3,300	$3,300	$3,300

Chart 10

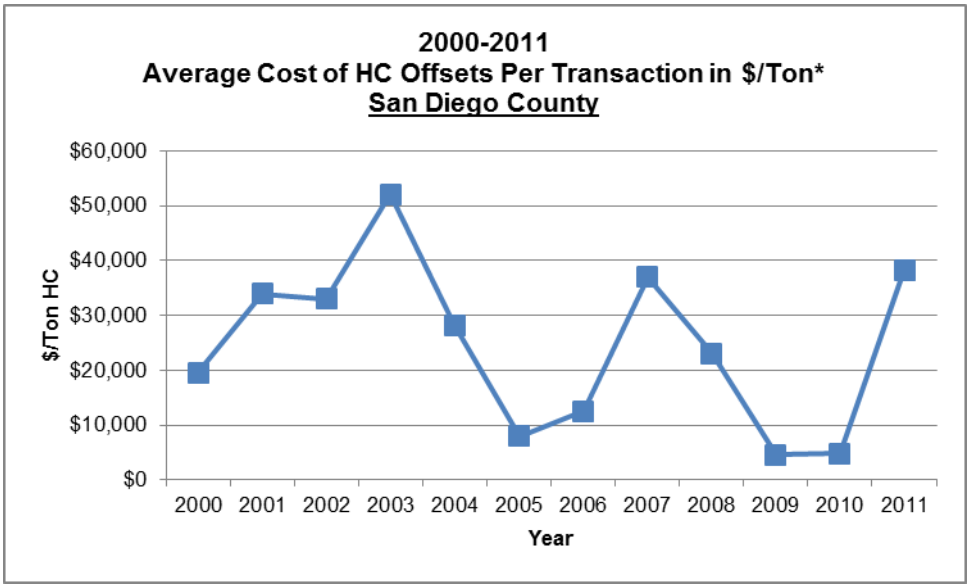


Chart 11

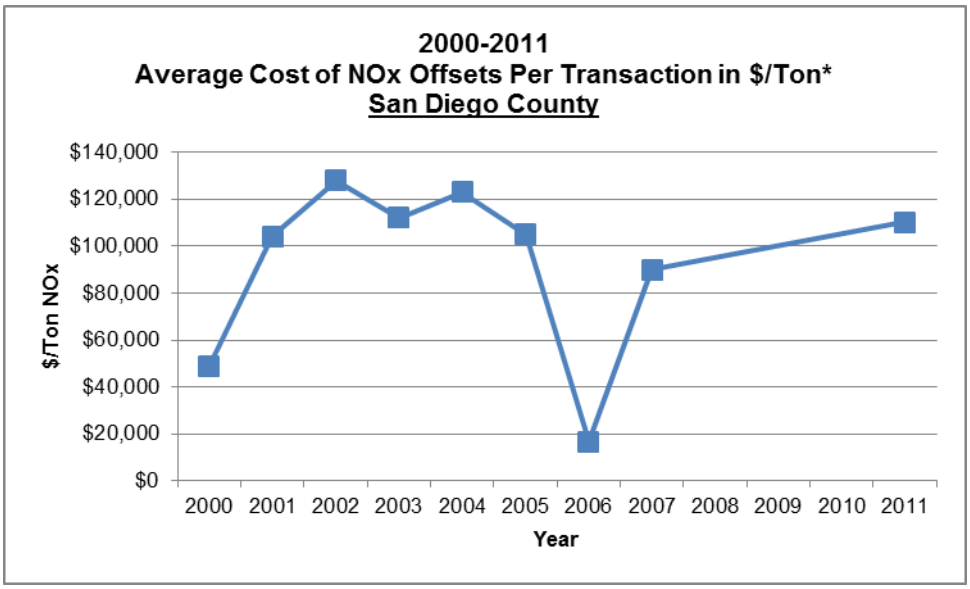
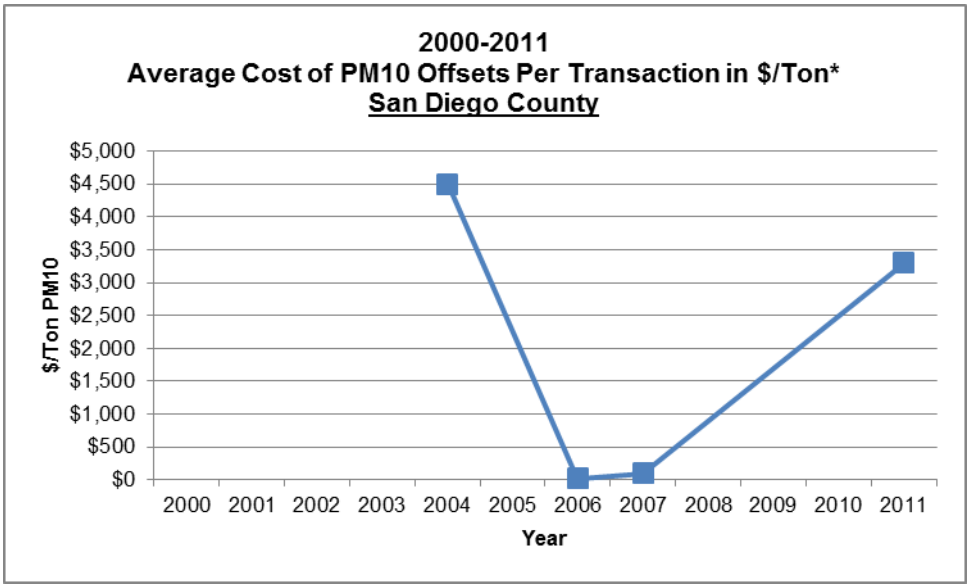


Chart 12



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

G. San Joaquin Valley

The San Joaquin Valley Air Pollution Control District reported 93 cost transactions in 2011. Of the 93 transactions reported, 18 were for HC, 54 were for NOx, 4 were for PM10, and 17 were for SOx.

Table G-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
San Joaquin Valley

Pollutant	$/Ton	Tons	Notes
HC	$1,000	0.01	
HC	$1,000	0.07	
HC	$1,000	0.29	
HC	$1,000	0.29	
HC	$1,000	2.61	
HC	$1,000	2.61	
HC	$1,000	12.42	
HC	$1,000	12.42	
HC	$1,000	25.00	
HC	$4,750	4.83	
HC	$4,750	5.25	
HC	$5,000	2.90	
HC	$5,000	7.00	
HC	$5,000	10.00	
HC	$5,000	160.00	
HC	$23,500	15.88	
HC	$23,500	22.88	
HC	$25,000	0.39	
NOx	$8,251	0.17	
NOx	$35,000	1.00	
NOx	$35,000	5.00	
NOx	$40,000	5.00	
NOx	$40,000	5.00	
NOx	$40,000	5.25	
NOx	$44,000	1.09	
NOx	$44,000	1.25	
NOx	$44,000	3.91	
NOx	$44,000	4.00	
NOx	$44,000	4.00	
NOx	$44,000	5.00	
NOx	$57,000	0.53	
NOx	$57,574	1.40	
NOx	$60,000	4.06	
NOx	$65,000	0.40	
NOx	$73,597	0.01	

Pollutant	$/Ton	Tons	Notes
NOx	$73,597	0.03	
NOx	$73,597	0.03	
NOx	$73,597	0.04	
NOx	$73,597	0.07	
NOx	$73,597	0.07	
NOx	$73,597	0.07	
NOx	$73,597	0.09	
NOx	$73,597	0.42	
NOx	$73,597	0.42	
NOx	$73,597	0.62	
NOx	$73,597	0.62	
NOx	$73,597	0.88	
NOx	$73,597	0.88	
NOx	$73,597	1.00	
NOx	$73,597	1.00	
NOx	$73,597	1.00	
NOx	$73,597	2.55	
NOx	$73,597	2.55	
NOx	$73,597	3.06	
NOx	$73,597	3.06	
NOx	$73,597	3.88	
NOx	$73,597	4.07	
NOx	$73,597	4.07	
NOx	$73,597	4.65	
NOx	$73,597	4.65	
NOx	$73,597	5.00	
NOx	$73,597	5.16	
NOx	$73,597	5.16	
NOx	$73,597	6.49	
NOx	$73,597	6.49	
NOx	$73,597	8.40	
NOx	$73,597	8.40	
NOx	$73,597	9.25	
NOx	$73,597	9.25	
NOx	$73,597	31.18	
NOx	$73,597	31.18	
NOx	$111,530	2.31	
PM10	$27,000	0.39	
PM10	$27,000	0.71	
PM10	$27,000	1.44	
PM10	$27,000	13.41	
SOx	$9,501	0.21	
SOx	$13,265	5.16	
SOx	$13,500	125.00	
SOx	$15,000	0.13	
SOx	$15,000	0.13	
SOx	$15,000	5.16	

Pollutant	$/Ton	Tons	Notes
SOx	$15,000	125.00	
SOx	$18,000	18.00	
SOx	$22,000	1.60	
SOx	$22,000	4.89	
SOx	$22,000	13.86	
SOx	$22,500	1.00	
SOx	$22,500	1.01	
SOx	$22,500	2.20	
SOx	$22,500	2.69	
SOx	$30,000	2.01	
SOx	$35,000	0.08	

Table G-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
San Joaquin Valley

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	No transactions reported (last CO transaction reported in 2007)				
HC	284.84	$6,139	$2,875	$25,000	$1,000
NOx	215.09	$65,545	$73,597	$111,530	$8,251
PM10	15.95	$27,000	$27,000	$27,000	$27,000
SOx	308.14	$19,722	$22,000	$35,000	$9,501

Chart 13

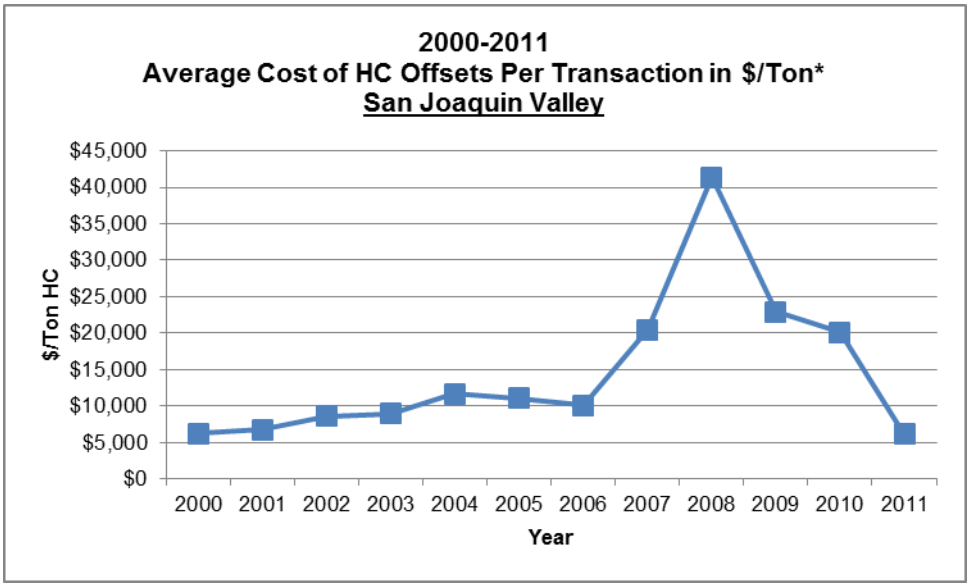


Chart 14

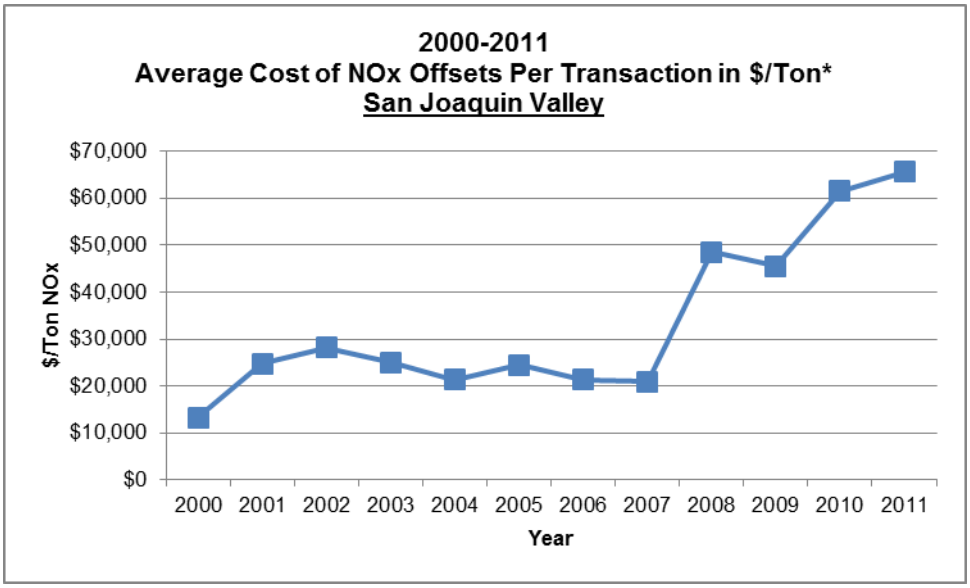
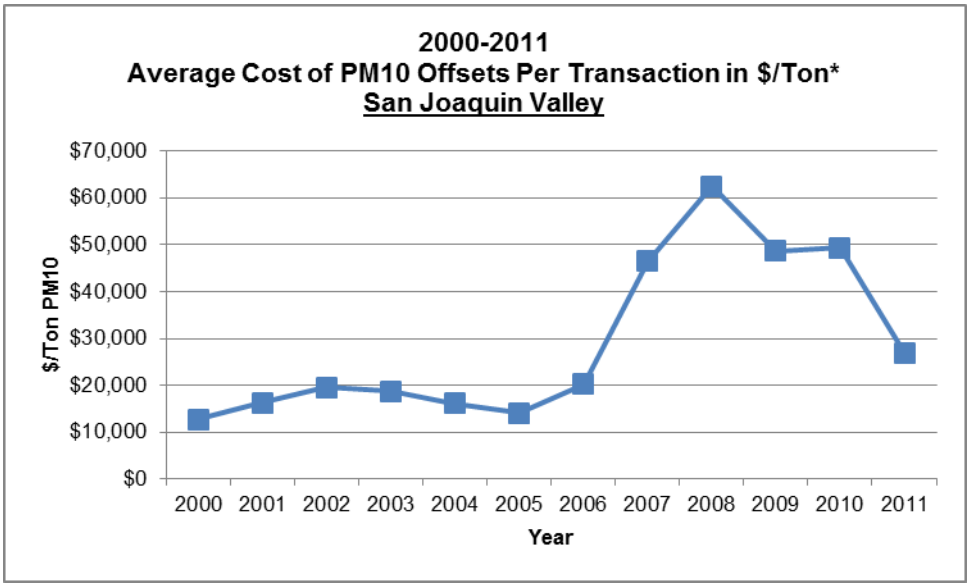


Chart 15



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

H. Santa Barbara County

The Santa Barbara County Air Pollution Control District reported 7 cost transactions in 2011. Of the 7 transactions reported, 6 were for NOx, and 1 was for PM10.

Table H-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Santa Barbara County

Pollutant	$/Ton	Tons	Notes
NOx	$60,000	3.77	
NOx	$60,000	4.00	
NOx	$60,000	4.02	
NOx	$60,000	6.96	
NOx	$75,000	10.00	
NOx	$89,700	0.54	
PM10	$20,000	0.01	

Table H-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
Santa Barbara County

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	No transactions reported (last CO transaction reported in 2006)				
HC	No transactions reported (last HC transaction reported in 2010)				
NOx	29.3	$67,450	$60,000	$89,700	$60,000
PM10	0.01	$20,000	$20,000	$20,000	$20,000
SOx	No transactions reported (last SOx transaction reported in 2006)				

Chart 16

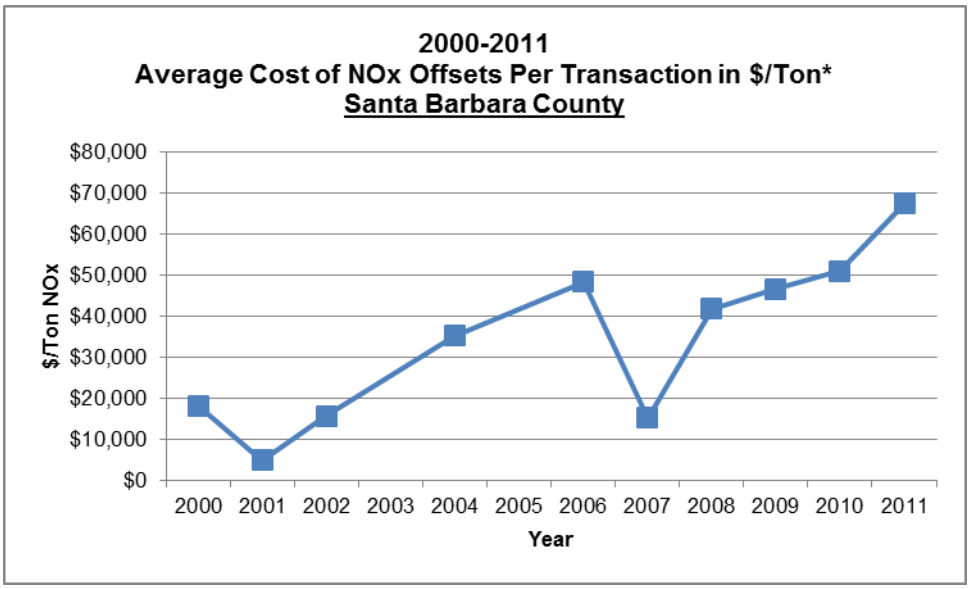
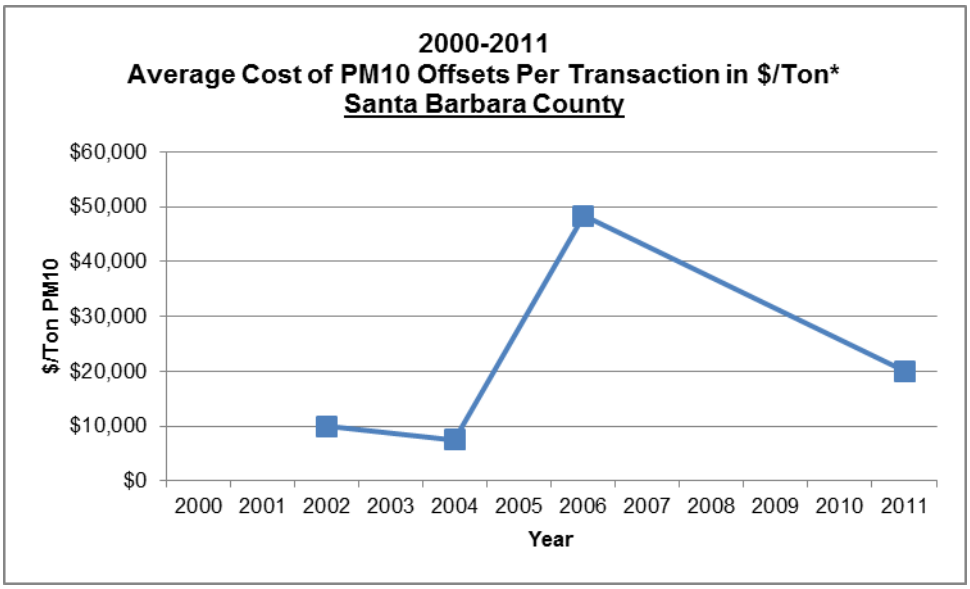


Chart 17



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

I. Shasta County

The Shasta County Air Quality Management District reported 2 cost transactions in 2011. Of the 2 transactions reported, 1 was for NOx, and 1 was for PM10.

Table I-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Shasta County

Pollutant	$/Ton	Tons	Notes
NOx	$6,750	28.00	
PM10	$191	43.00	

Table I-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
Shasta County

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	No transactions reported (last CO transaction reported in 2007)				
HC	No transactions reported (last HC transaction reported in 2007)				
NOx	28.00	$6,750	$6,750	$6,750	$6,750
PM10	43.00	$191	$191	$191	$191
SOx	No transactions reported (last SOx transaction reported in 2007)				

Chart 18

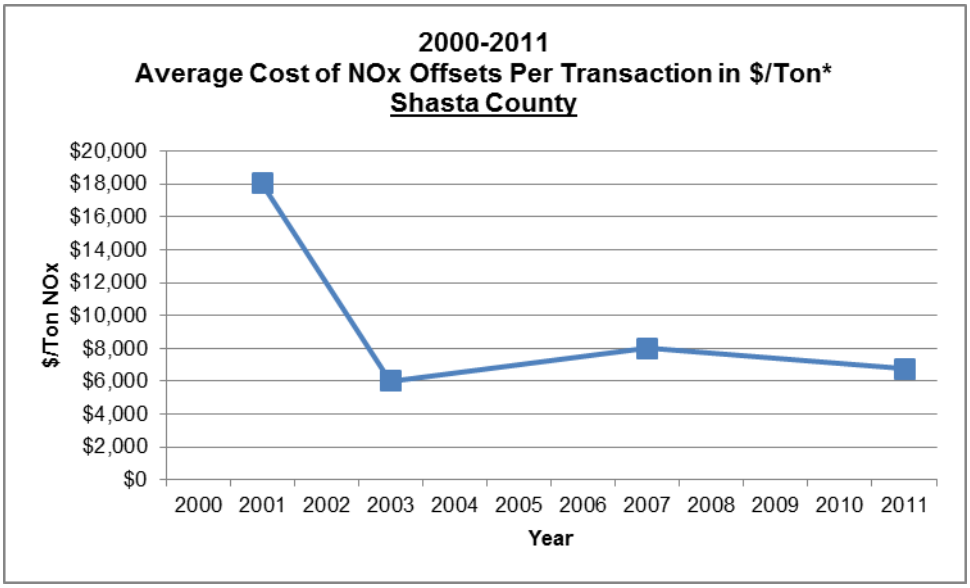
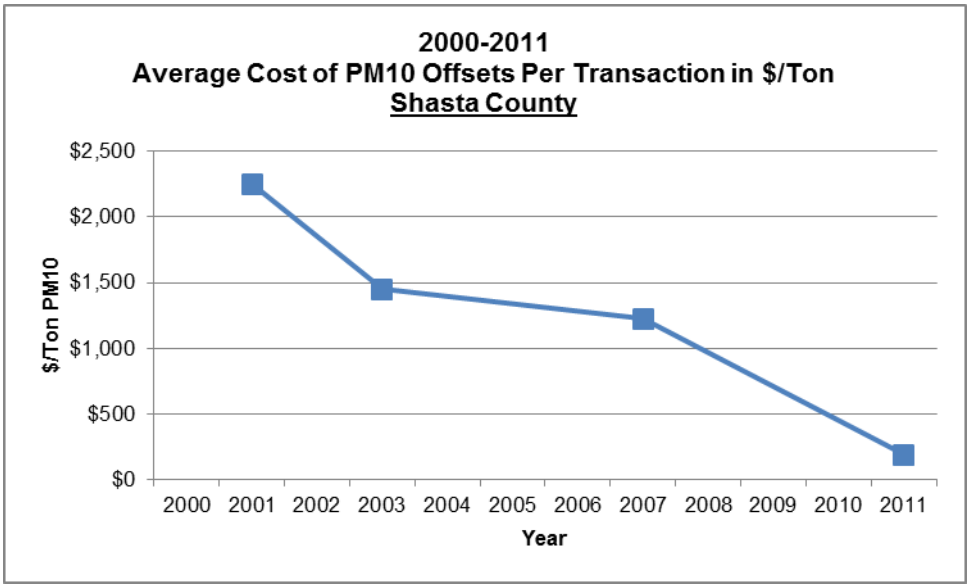


Chart 19



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

J. South Coast

The South Coast Air Quality Management District reported 54 cost transactions in 2011. Of the 54 transactions reported, 4 were for CO, 29 were for HC, and 21 were for PM10.

Table J-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
South Coast

Pollutant	$/Ton	Tons	Notes
CO	$5,479	3.29	
CO	$5,479	5.11	
CO	$5,479	38.14	
CO	$5,479	56.58	
HC	$30,137	8.03	
HC	$30,137	16.79	
HC	$31,233	0.37	
HC	$31,233	0.37	
HC	$31,233	2.56	
HC	$31,233	2.56	
HC	$31,644	0.55	
HC	$31,644	0.73	
HC	$32,329	0.91	
HC	$32,603	0.37	
HC	$32,603	0.55	
HC	$32,603	0.73	
HC	$32,603	1.28	
HC	$32,603	2.19	
HC	$32,877	0.18	
HC	$32,877	0.18	
HC	$32,877	0.18	
HC	$32,877	0.91	
HC	$32,877	1.46	
HC	$32,877	18.25	
HC	$33,973	2.01	
HC	$35,068	22.08	
HC	$38,356	0.18	
HC	$38,356	0.37	
HC	$38,356	0.73	
HC	$38,356	0.91	
HC	$38,356	1.46	
HC	$38,356	6.02	
HC	$38,356	79.39	
PM10	$147,945	0.18	
PM10	$147,945	2.37	
PM10	$531,507	0.55	
PM10	$531,507	0.91	

Pollutant	$/Ton	Tons	Notes
PM10	$630,137	0.37	
PM10	$684,932	0.18	
PM10	$684,932	0.37	
PM10	$684,932	0.73	
PM10	$684,932	2.37	
PM10	$684,932	3.10	
PM10	$712,329	0.18	
PM10	$712,329	0.37	
PM10	$712,329	0.55	
PM10	$712,329	0.73	
PM10	$712,329	0.91	
PM10	$821,918	2.92	
PM10	$1,095,890	0.91	
PM10	$1,095,890	1.46	
PM10	$1,219,178	3.29	
PM10	$1,342,466	0.18	
PM10	$1,342,466	0.18	

Table J-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
South Coast

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	103.12	$5,479	$5,479	$5,479	$5,479
HC	172.3	$33,746	$32,887	$38,356	$30,137
NOx	No transactions reported (last Nox transaction reported in 2010)				
PM10	22.81	$756,817	$712,329	$1,342,466	$147,945
SOx	No transactions reported (last SOx transaction reported in 2010)				

Chart 20

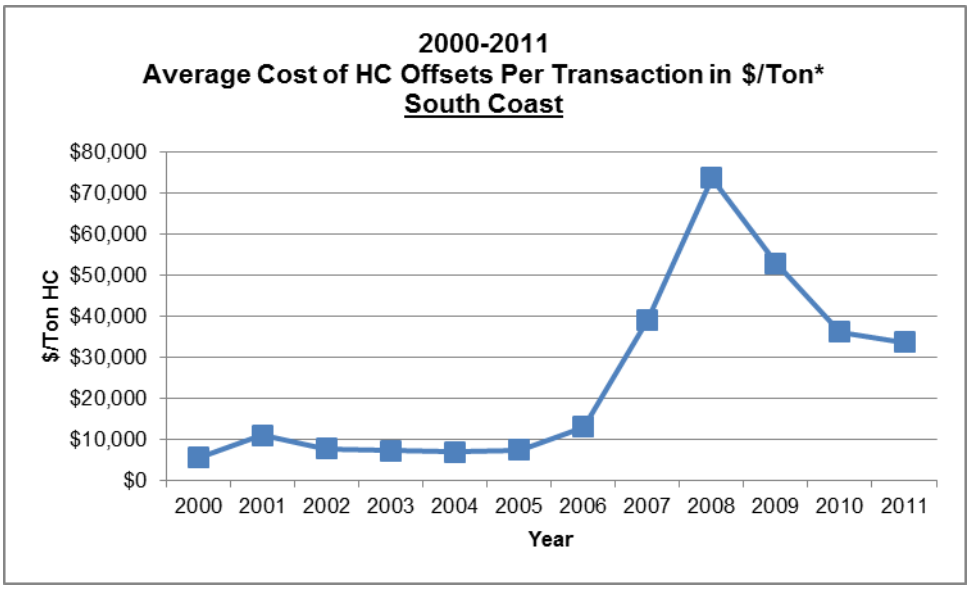
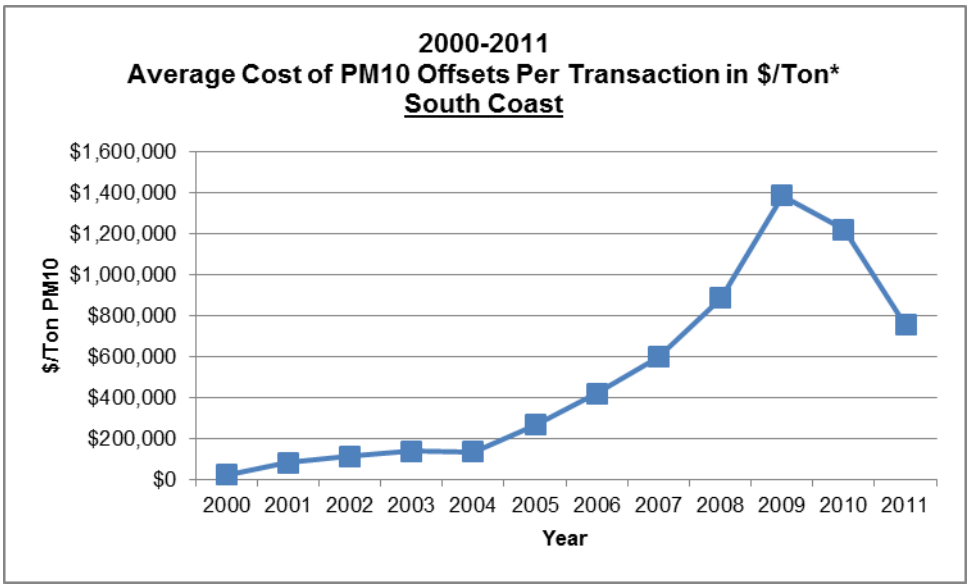


Chart 21



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

K. Ventura County

The Ventura County Air Pollution Control District reported 6 cost transactions in 2011. Of the 6 transactions reported, 4 were for HC, 1 was for NOx, and 1 was for PM10.

Table K-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Ventura County

Pollutant	$/Ton	Tons	Notes
HC	$17,500	4.22	
HC	$30,000	4.22	
HC	$39,000	2.77	
HC	$47,000	14.37	
NOx	$10,000	0.26	
PM10	$10,000	0.36	

Table K-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
Ventura County

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	No transactions reported				
HC	25.58	$33,375	$34,500	$47,000	$17,500
NOx	0.26	$10,000	$10,000	$10,000	$10,000
PM10	0.36	$10,000	$10,000	$10,000	$10,000
SOx	No transactions reported (last SOx transaction reported in 2008)				

Chart 22

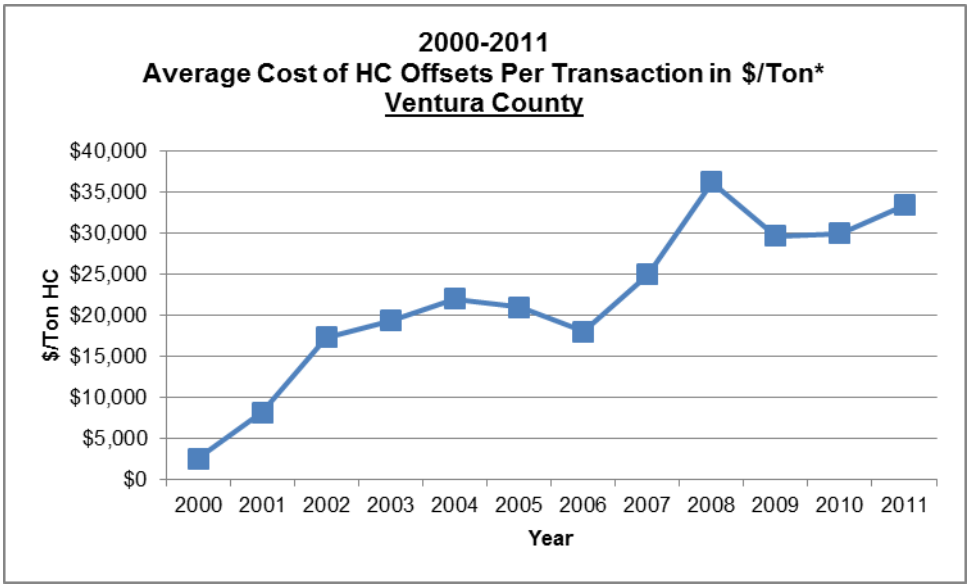


Chart 23

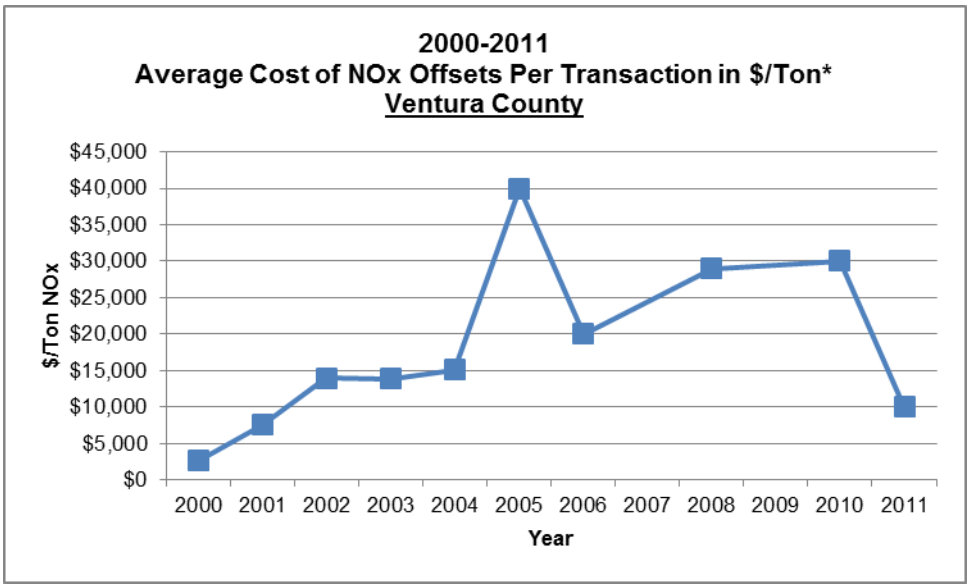
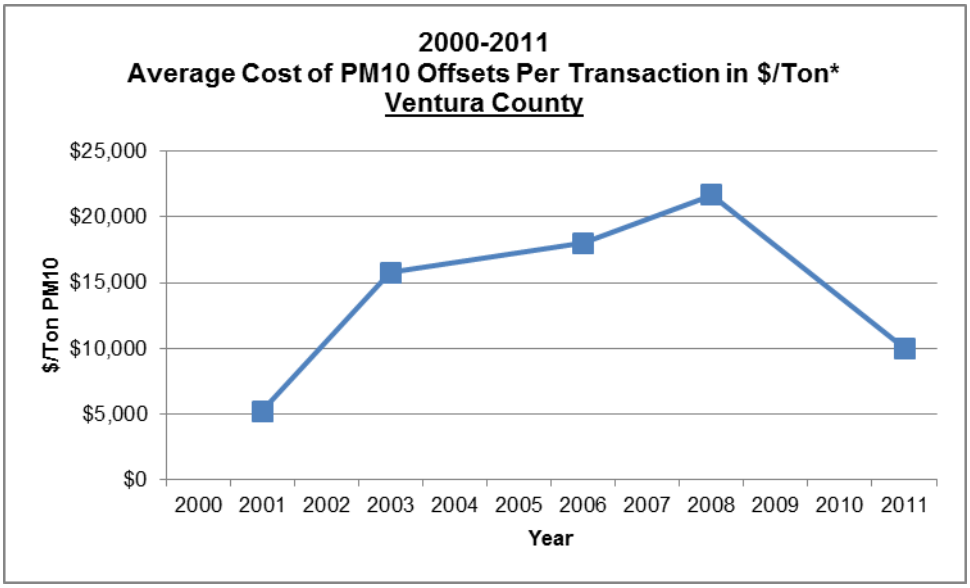


Chart 24



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

L. Yolo-Solano

The Yolo-Solano Air Quality Management District reported 9 cost transactions in 2011. Of the 9 transactions reported, 1 was for CO, 4 were for HC, 2 were for NOx, and 2 were for PM10.

Table L-1
2011 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Yolo-Solano

Pollutant	$/Ton	Tons	Notes
CO	$500	1.38	
HC	$944	0.02	
HC	$944	0.31	
HC	$9,000	1.00	
HC	$10,000	0.53	
NOx	$25,000	0.39	
NOx	$25,000	2.15	
PM10	$10,000	2.03	
PM10	$10,000	2.97	

Table L-2
2011 Summary Statistics for Emission Reduction Credit Transactions*
Yolo-Solano

Pollutant	Total Tons Traded	Average (mean)	Median	High	Low
CO	1.38	$500	$500	$500	$500
HC	1.86	$5,222	$4,972	$10,000	$944
NOx	2.54	$25,000	$25,000	$25,000	$25,000
PM10	5.00	$10,000	$10,000	$10,000	$10,000
SOx	No transactions reported (last SOx transaction reported in 2005)				

Chart 25

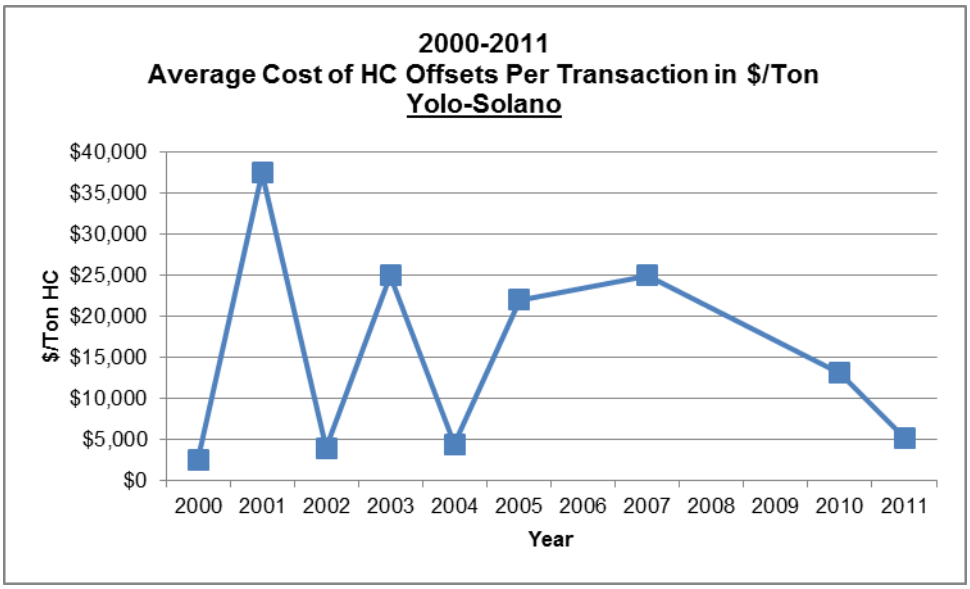


Chart 26

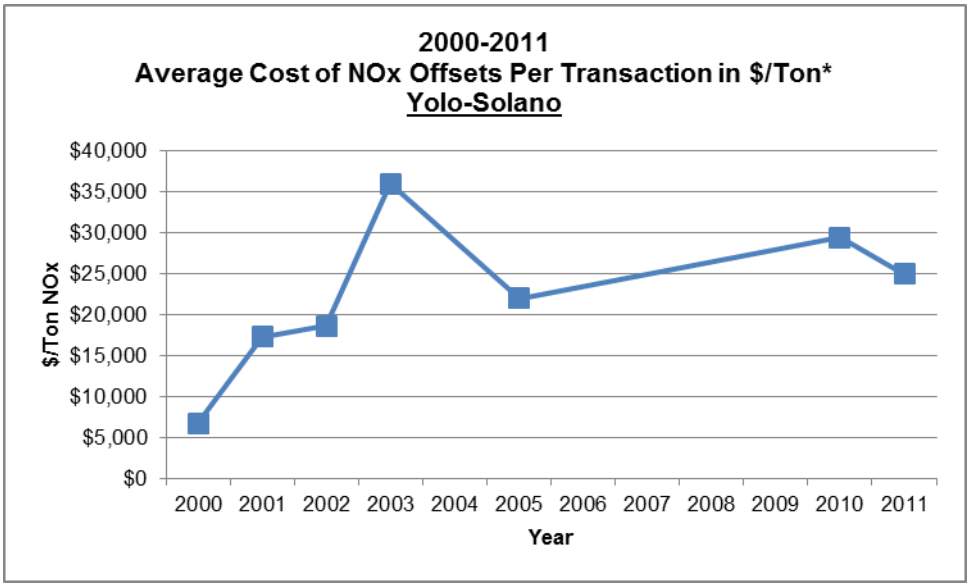
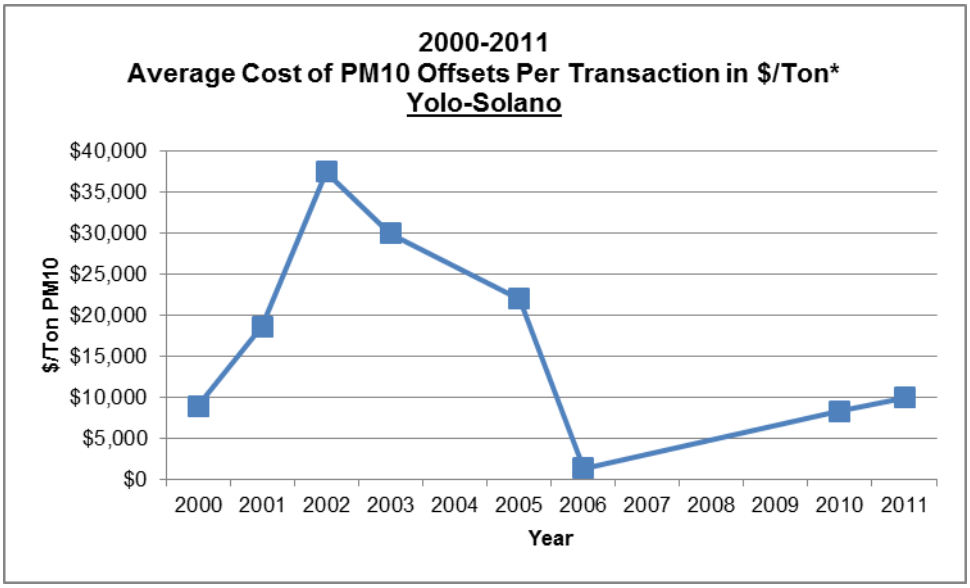


Chart 27



* Excludes asset transfer, subsidiary, barter, and other non-monetary transactions with no cost data.

APPENDIX A

HEALTH & SAFETY CODE SECTIONS 40709 & 40709.5, AND GOVERNMENT CODE SECTION 6254.7

H&SC; 40709 DISTRICT BANKING AND OFFSET SYSTEM

(a) Every district board shall establish by regulation a system by which all reductions in the emission of air contaminants that are to be used to offset certain future increases in the emission of air contaminants shall be banked prior to use to offset future increases in emissions. The system shall provide that only those reductions in the emission of air contaminants that are not otherwise required by any federal, state, or district law, rule, order, permit, or regulation shall be registered, certified, or otherwise approved by the district air pollution control officer before they may be banked and used to offset future increases in the emission of air contaminants. The system shall be subject to disapproval by the state board pursuant to Chapter 1 (commencing with Section 41500) of Part 4 within 60 days after adoption by the district.

(b) The system is not intended to recognize any preexisting right to emit air contaminants, but to provide a mechanism for districts to recognize the existence of reductions of air contaminants that can be used as offsets, and to provide greater certainty that the offsets shall be available for emitting industries.

(c) Notwithstanding subdivision (a), emissions reductions proposed to offset simultaneous emissions increases within the same stationary source need not be banked prior to use as offsets, if those reductions satisfy all criteria established by regulation pursuant to subdivision (a).

(d) This section does not apply to any district that is not required to prepare and submit a plan for attainment of state ambient air quality standards pursuant to Section 40911 if both of the following apply to the district:

(1) The district is not in a federal nonattainment area for any national ambient air quality standard unless the sole reason for the nonattainment is due to air pollutant transport.

(2) An owner or operator of a source or proposed source has not petitioned the district to establish a banking system.

(Amended by Stats. 2000, Ch. 729, Sec. 5.)

H&SC; 40709.5 REVIEW OF EMISSION CREDIT SYSTEMS

40709.5. Any district which has established a system pursuant to Section 40709 by which reductions in emissions may be banked or otherwise credited to offset future increases in the emissions of air contaminants, or which utilize a calculation method which enables internal emission reductions to be credited against increases in emissions, and as of January 1, 1988, is within a federally designated nonattainment area for one or more air pollutants, shall develop and implement a program which, at a minimum, provides for all of the following:

(a) Identification and tracking of sources possessing emission credit balances accruing from the elimination or replacement of older, higher emitting equipment.

(b) Periodic analysis of the increases or decreases in emissions which occur when credits are used to bring new or modified emission sources into operation.

(c) Procedures for verifying the emission reductions credited to the bank or accruing to internal accounts and for adjusting of credited emissions based on current district requirements.

(d) Periodic evaluation of the extent to which the system has contributed or detracted from the goal of allowing economic growth and modification of existing facilities, and has contributed to or detracted from the district's progress toward attainment of ambient air quality standards.

(e) Annual publication of the costs, in dollars per ton, of emission offsets purchased for new or modified emission sources, excluding information on the identity of any party involved in the offset transactions. This publication shall specify, for each offset purchase transaction, the year the offset transaction occurred, the amount of offsets purchased, by pollutant, and the total cost, by pollutant, of the offsets purchased. Each application to use emissions reductions banked in a system established pursuant to Section 40709 shall provide sufficient information, as determined by the district, to perform the cost analysis. The information shall be a public record.

(Amended by Stats. 1992, Ch. 612, Sec. 3. Effective January 1, 1993.)

GOVERNMENT CODE SECTION 6254.7

(a) All information, analyses, plans, or specifications that disclose the nature, extent, quantity, or degree of air contaminants or other pollution which any article, machine, equipment, or other contrivance will produce, which any air pollution control district or air quality management district, or any other state or local agency or district, requires any applicant to provide before the applicant builds, erects, alters, replaces, operates, sells, rents, or uses the article, machine, equipment, or other contrivance, are public records.

(b) All air or other pollution monitoring data, including data compiled from stationary sources, are public records.

(c) All records of notices and orders directed to the owner of any building of violations of housing or building codes, ordinances, statutes, or regulations which constitute violations of standards provided in Section 1941.1 of the Civil Code, and records of subsequent action with respect to those notices and orders, are public records.

(d) Except as otherwise provided in subdivision (e) and Chapter 3 (commencing with Section 99150) of Part 65 of the Education Code, trade secrets are not public records under this section. "Trade secrets," as used in this section, may include, but are not limited to, any formula, plan, pattern, process, tool, mechanism, compound, procedure, production data, or compilation of information which is not patented, which is known only to certain individuals within a commercial concern who are using it to fabricate, produce, or compound an article of trade or a service having commercial value and which gives its user an opportunity to obtain a business advantage over competitors who do not know or use it.

(e) Notwithstanding any other provision of law, all air pollution emission data, including those emission data which constitute trade secrets as defined in subdivision (d), are public records. Data used to calculate emission data are not emission data for the purposes of this subdivision and data which constitute trade secrets and which are used to calculate emission data are not public records.

(f) Data used to calculate the costs of obtaining emissions offsets are not public records. At the time that an air pollution control district or air quality management district issues a permit to construct to an applicant who is required to obtain offsets pursuant to district rules and regulations, data obtained from the applicant consisting of the year the offset transaction occurred, the amount of offsets purchased, by pollutant, and the total cost, by pollutant, of the offsets purchased is a public record. If an application is denied, the data shall not be a public record.

APPENDIX B

REPORTING FORM AND INSTRUCTIONS

ANNUAL EMISSION REDUCTION CREDIT TRANSACTION REPORT INSTRUCTIONS

General:

One transaction record per pollutant should be filled out for each transaction that takes place in the district between two or more parties.

Transactions should be reported in the year in which the final transaction occurs and money, or barter agreements are exchanged.

The annual report should be submitted to ARB no later than January 15 of each year. The ARB will compile all data from the districts and publish a statewide report on the cost of offsets.

For cases of offset transactions that occur across district boundaries, transactions should be reported in the district in which the offsets are credited. This is the district that will most likely have access to the transaction cost information necessary for reporting.

ANNUAL EMISSION REDUCTION CREDIT TRANSACTION REPORT FOR 2011 TRANSACTIONS

DISTRICT ID# _ _ _ _ _ _ _

POLLUTANT		CREDIT SOURCE		QUANTITY of POLLUTANT (TONS/YEAR)	
_____	NOx	_____	STATIONARY		
_____	SOx	_____	MOBILE		
_____	CO	_____	AGRICULTURAL		
_____	HC	_____	OTHER		
_____	PM10			PRICE PAID ($/TON)	_____
_____	Other				

ANNUAL or QUARTER?				BARTER TRANSACTION?	_____
Q1	Q2	Q3	Q4	SUBSIDIARY TRANSACTION?	_____
_____	_____	_____	_____	LENGTH OF LIFE/LEASE	_____

DISTRICT ID# _ _ _ _ _ _ _

POLLUTANT		CREDIT SOURCE		QUANTITY of POLLUTANT (TONS/YEAR)
_____	NOx	_____	STATIONARY	_____
_____	SOx	_____	MOBILE	
_____	CO	_____	AGRICULTURAL	
_____	HC	_____	OTHER	
_____	PM10			PRICE PAID ($/TON) _____
_____	Other			

ANNUAL or QUARTER?				BARTER TRANSACTION? _____
Q1	Q2	Q3	Q4	SUBSIDIARY TRANSACTION? _____
_____	_____	_____	_____	LENGTH OF LIFE/LEASE _____

DISTRICT ID# _ _ _ _ _ _ _

POLLUTANT		CREDIT SOURCE		QUANTITY of POLLUTANT (TONS/YEAR)
_____	NOx	_____	STATIONARY	_____
_____	SOx	_____	MOBILE	
_____	CO	_____	AGRICULTURAL	
_____	HC	_____	OTHER	
_____	PM10			PRICE PAID ($/TON) _____
_____	Other			

ANNUAL or QUARTER?				BARTER TRANSACTION? _____
Q1	Q2	Q3	Q4	SUBSIDIARY TRANSACTION? _____
_____	_____	_____	_____	LENGTH OF LIFE/LEASE _____

1. **<u>District ID #</u>: The district ID # should be in the format:**

AAYYXXX

Where AA is a two letter district code (a list of district codes is attached), YY is a two digit year (in which the transaction occurs) identifier (e.g. 11 for 2011), and XXX is a three-digit transaction number from 001 to 999. This ID number will only be used to track the origin of data and for data validation. The assignment of a transaction number will ensure quality control of data transfer between the district and the Air Resources Board. Individual transactions will not be identified in Air Resources Board summary reports.

2. **<u>Pollutant:</u> Please check one pollutant per transaction. If trade involved more than one pollutant, use separate transaction records for each pollutant traded. HC is equivalent to other acronyms used for hydrocarbons such as POC, ROC, ROG and VOC.**

3. **<u>Credit Source:</u> Please indicate the source of emission reduction credits (ERC). This information will aid in the analysis of ERC prices paid. Stationary source credits typically do not have a finite useful life, whereas mobile and agricultural source ERCs have specific limiting conditions that limit useful life. It is important that a distinction be made between these kinds of offsets when analyzing the cost of offsets.**

4. **<u>Annual/Quarter</u>: Please indicate if credits are valid on an annual basis or quarterly. Additionally, if credits are valid quarterly, indicate in which quarter they can be used. This applies to seasonal credits or credits that are only valid in a specific quarter.**

5. **<u>Quantity of Pollutant:</u> Regardless of district recording practices or the transaction agreement, please provide the quantity of pollutant in tons/year.**

Example 1: For Data Given as a Single Quarter Transactions

$$1\frac{lb}{quarter} = 1\frac{lb}{quarter} X4\frac{quarters}{year} X \frac{1}{2000}\frac{ton}{lbs} = 0.0020\frac{tons}{year}$$

Example 2: For Data Provided as an Annual Transactions

$$1\frac{lb}{day} = 1\frac{lb}{day} X365\frac{days}{year} X \frac{1}{2000}\frac{ton}{lbs} = 0.1825\frac{tons}{year}$$

Example 3: For Quarterly Credits Used to Offset Annual Sources

$$(Q_1 + Q_2 + Q_3 + Q_4) = \frac{lbs}{year}$$ **Convert to tons per year**

6. **<u>Price Paid</u>: This is the bottom line price paid by the purchaser to the owner of the credit. Government Code Section 6254.7 authorizes the district to obtain this information from applicants. Net present value should not be calculated for lease transactions. If price is given in dollars per pound, please convert to dollars per ton by multiplying by 2000 lb/ton.**

7. **<u>Barter and Subsidiary Transactions</u>: If barter was involved and/or no money was exchanged for the offsets, the district should request the applicant to calculate a dollars/ton value for the credit transaction. Barters can include one company (A) placing controls on another (B) to generate credits. The price paid should then reflect what company A paid to install equipment at company B and any additional fees paid to company B as part of the agreement. The price paid for offsets should be the value of the offset at the time of the transaction.**

   If a transaction occurred between two subsidiaries of the same parent company, check the subsidiary transaction box. This also applies to transactions that occur between agencies of the same governmental system for example between two agencies of the county. Since the price charged in barter and subsidiary transactions may not reflect the market value of credits, this information will be helpful in analyzing prices paid for credits.

8. **<u>Length of Use/Lease</u>: Please indicate the valid length of credit life for this transaction. This applies to stationary source credits that are sold as a limited life lease agreement, or to other types of credit that have a finite useful life. If no limit is placed on the useful life, leave this box blank.**

DISTRICT TWO-LETTER CODES

AM	Amador County APCD
AV	Antelope County APCD
BA	Bay Area AQMD
BT	Butte County APCD
CA	Calaveras County APCD
CO	Colusa County APCD
ED	El Dorado County APCD
FR	Feather River AQMD
GL	Glenn County APCD
GB	Great Basin Unified APCD
IM	Imperial County APCD
KE	Kern County APCD
LA	Lake County AQMD
LS	Lassen County APCD
MA	Mariposa County APCD
ME	Mendocino County AQMD
MO	Modoc County APCD
MD	Mojave Desert AQMD
MB	Monterey Bay Unified APCD
NC	North Coast Unified AQMD
NO	Northern Sierra AQMD
NS	Northern Sonoma County APCD
PL	Placer County APCD
SM	Sacramento Metropolitan AQMD
SD	San Diego County APCD
SJ	San Joaquin Valley APCD
SL	San Luis Obispo APCD
SB	Santa Barbara County APCD
SH	Shasta County AQMD
SI	Siskiyou County APCD
SC	South Coast AQMD
TE	Tehama County APCD
TU	Tuolumne County APCD
VE	Ventura County APCD
YS	Yolo-Solano AQMD

APPENDIX C

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Agricultural Source: Source of air pollution used in the production of crops, or the raising of fowl or animals located on contiguous property under common ownership.

Barter: To trade without using money.

Mobile source: Sources of air pollution such as automobiles, motorcycles, trucks, off-road vehicles, boats and airplanes.

Stationary source: Non-mobile sources such as power plants, refineries and manufacturing facilities which emit air pollutants.

Subsidiary: Serving to assist or supplement.