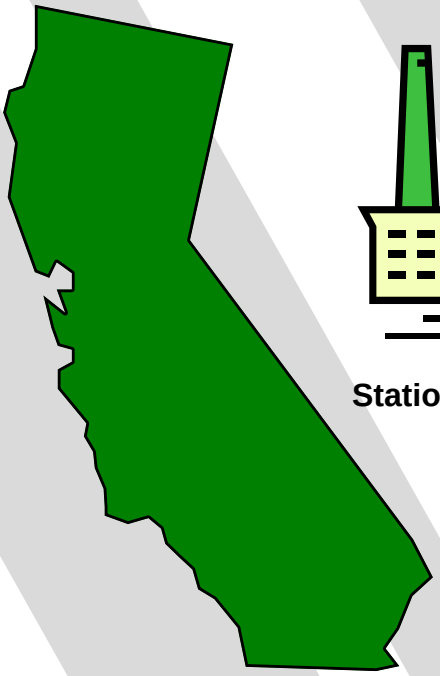
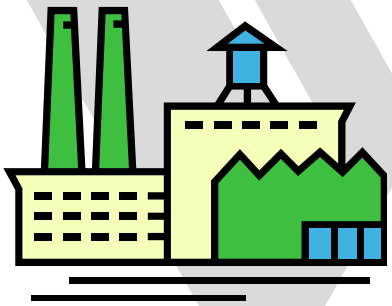
Emission Reduction Offset Transaction Costs Summary Report for 2015

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 2015

May 2016

Prepared by

Regulatory Assistance Section
Project Assessment Branch
Industrial Strategies Division

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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 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 2015 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 2015. Districts that are required to report their emission reduction offset transactions reported to ARB if they had or did not have any offset transactions. A total of 293 transactions were reported to have taken place in California in 2015. This report does not include information covering thirty-one subsidiary transactions where there were no associated costs. Of the remaining 262 transactions, 3 were for carbon monoxide (CO), 141 were for hydrocarbons (HC), 33 were for oxides of nitrogen (NOx), 78 were for particulate matter with aerodynamic diameter less than 10 microns (PM10), and 7 were for sulfur oxides (SOx). A specific breakdown of all transactions by district is presented in Table V-1 (see page 9). 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 collected and reported statewide data on all offset transactions since 1993. The number of reported transactions increased through the years, but decreased in 2002 through 2004, and in 2009. In 2015, the number of reported transactions decreased.

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

Chart ES-1 shows that in 2015, the number of reported transactions decreased for HC, NOx and PM10. Chart ES-2 shows that in 2015, the number of tons traded for HC,

NOx and PM10 increased.

More information on California offset transactions that occurred from 1999 through 2015 can be found at ARB's Emission Reduction Credit Offsets webpage at: www.arb.ca.gov/nsr/erco/erco.htm.

Chart ES-1

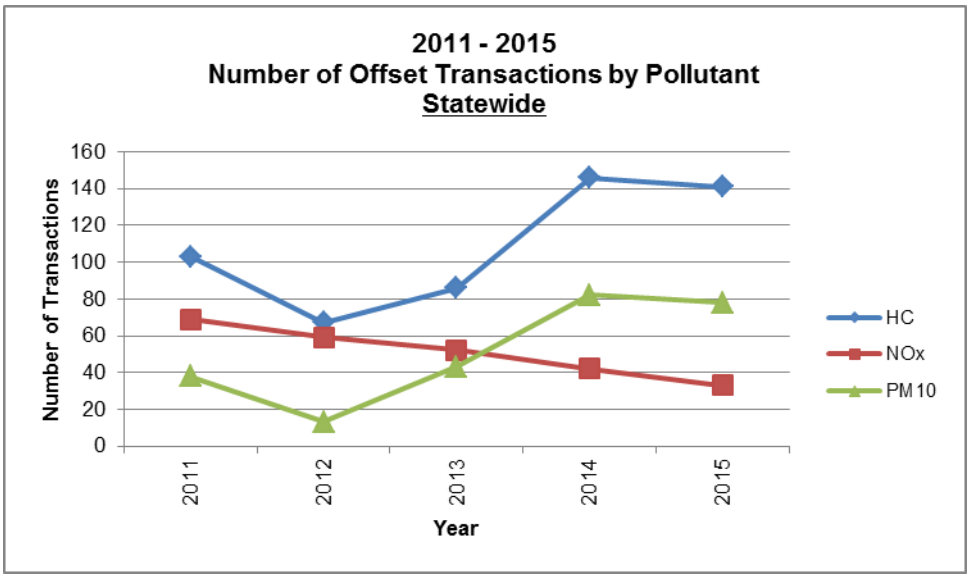
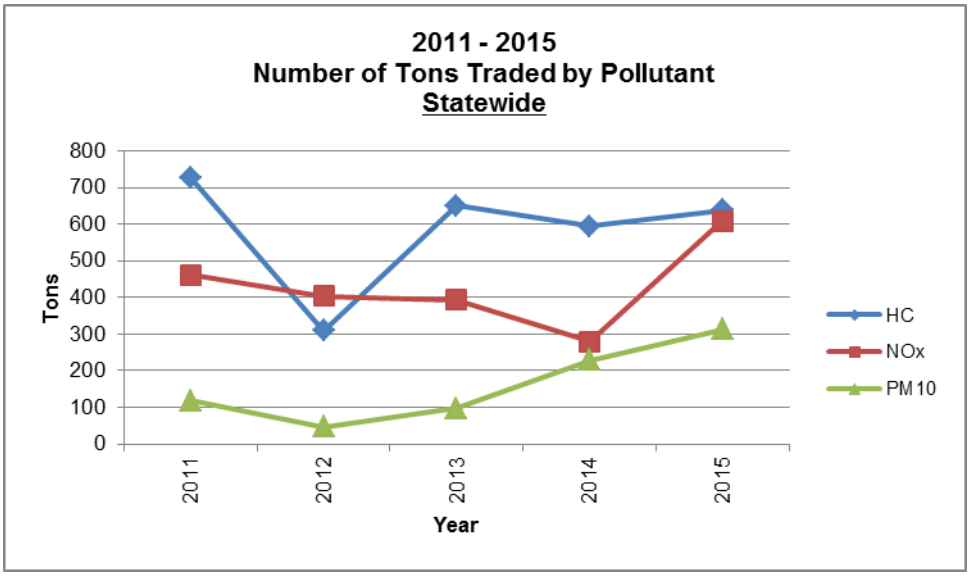


Chart ES-2



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I. INTRODUCTION

Section 40709.5(e) of the Health and Safety Code mandates that districts 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, 2015, as provided 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, and 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 2015 STATEWIDE DATA

Table V-1 presents the 293 reported transactions that took place in California in 2015, listed by individual district. There were thirty-one subsidiary transactions listed in Table V-1 that is not used in calculating the results of Tables A through E and Charts 1 through 11. As discussed earlier, staff did not include 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 36.

Of the 262 cost transactions, 3 were for CO, 141 were for HC, 33 were for NOx, 78 were for PM10, and 7 were for SOx. Districts that are required to report their offset transactions, reported to ARB regardless of whether they had any offset transactions. Table V-2 lists the districts that reported no transactions in 2015.

In 2015, five districts reported transactions. Tables A-1, B-1, C-1, D-1 and E-1, present information for CO, HC, NOx, PM10 and SOx reported by each of these five districts. Each table lists the pollutant, cost per ton of pollutant, and the total tons of pollutant traded. 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 is 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 and E-2 provide the total tons traded and the average, median, 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), Charts 1 - 11 illustrate the average cost of offsets per transaction for the past five years.

Table V-1
2015 California Emission Reduction Credit Transaction Costs by District
Reported in Total Tons Traded

District	Pollutant	$/Ton	Tons	Notes
Bay Area	HC	$6,500	25.00	Stationary
Total of 19 Transaction	HC	$6,800	3.30	Stationary
	HC	$7,000	51.20	Stationary
	HC	$7,000	2.93	Stationary
	HC	$8,000	0.39	Stationary
	NOx	$12,000	140.52	Stationary
	NOx	$12,000	2.19	Stationary
	NOx	$14,000	2.13	Stationary
	NOx	$14,500	3.80	Stationary
	NOx	$14,500	3.60	Stationary
	NOx	$14,500	3.57	Stationary
	NOx	$14,500	4.60	Stationary
	NOx	$14,500	17.77	Stationary
	NOx	$15,000	80.00	Stationary
	NOx	$15,000	32.90	Stationary
	NOx	$15,000	60.00	Stationary
	NOx	$15,000	7.10	Stationary
	NOx	$15,000	80.00	Stationary
	NOx	$15,000	60.00	Stationary
Imperial County	HC	$850	1.17	1 Year Agricultural Offset
Total of 143 Transactions	HC	$850	1.15	1 Year Agricultural Offset
	HC	$850	1.99	1 Year Agricultural Offset
	HC	$850	1.39	1 Year Agricultural Offset
	HC	$1,000	1.53	1 Year Agricultural Offset
	HC	$1,000	0.53	1 Year Agricultural Offset
	HC	$1,000	3.43	1 Year Agricultural Offset
	HC	$1,000	1.53	1 Year Agricultural Offset
	HC	$1,000	4.46	1 Year Agricultural Offset
	HC	$1,000	0.91	1 Year Agricultural Offset
	HC	$1,000	0.92	1 Year Agricultural Offset
	HC	$1,000	1.81	1 Year Agricultural Offset
	HC	$1,000	0.64	1 Year Agricultural Offset
	HC	$1,000	4.81	1 Year Agricultural Offset
	HC	$1,000	2.54	1 Year Agricultural Offset
	HC	$1,000	2.00	1 Year Agricultural Offset
	HC	$1,000	1.50	1 Year Agricultural Offset
	HC	$1,000	2.75	1 Year Agricultural Offset
	HC	$1,000	2.12	1 Year Agricultural Offset
	HC	$1,000	0.76	1 Year Agricultural Offset
	HC	$1,000	0.94	1 Year Agricultural Offset

District	Pollutant	$/Ton	Tons	Notes
Imperial (continued)	HC	$1,000	4,83	1 Year Agricultural Offset
	HC	$1,000	1.19	1 Year Agricultural Offset
	HC	$1,000	3.92	1 Year Agricultural Offset
	HC	$1,000	0.61	1 Year Agricultural Offset
	HC	$1,000	1.97	1 Year Agricultural Offset
	HC	$1,000	1.42	1 Year Agricultural Offset
	HC	$1,000	0.37	1 Year Agricultural Offset
	HC	$1,000	1.96	1 Year Agricultural Offset
	HC	$1,000	1.02	1 Year Agricultural Offset
	HC	$1,000	2.52	1 Year Agricultural Offset
	HC	$1,000	6.21	1 Year Agricultural Offset
	HC	$1,200	2.48	1 Year Agricultural Offset
	HC	$1,300	6.22	1 Year Agricultural Offset
	HC	$1,300	6.92	1 Year Agricultural Offset
	HC	$1,300	5.78	1 Year Agricultural Offset
	HC	$1,500	1.49	1 Year Agricultural Offset
	HC	$1,500	0.10	1 Year Agricultural Offset
	HC	$1,500	3.93	1 Year Agricultural Offset
	HC	$1,500	0.73	1 Year Agricultural Offset
	HC	$1,500	4.00	1 Year Agricultural Offset
	HC	$1,500	0.73	1 Year Agricultural Offset
	HC	$1,500	1.01	1 Year Agricultural Offset
	HC	$1,500	1.32	1 Year Agricultural Offset
	HC	$1,500	0.18	1 Year Agricultural Offset
	HC	$1,500	3.11	1 Year Agricultural Offset
	HC	$1,500	2.78	1 Year Agricultural Offset
	HC	$1,500	0.57	1 Year Agricultural Offset
	HC	$1,500	2.60	1 Year Agricultural Offset
	HC	$1,500	27.86	1 Year Agricultural Offset
	HC	$1,500	6.27	1 Year Agricultural Offset
	HC	$1,500	6.82	1 Year Agricultural Offset
	HC	$1,500	8.49	1 Year Agricultural Offset
	HC	$1,500	6.14	1 Year Agricultural Offset
	HC	$1,500	5.78	1 Year Agricultural Offset
	HC	$1,500	7.87	1 Year Agricultural Offset
	HC	$1,500	4.73	1 Year Agricultural Offset
	HC	$1,500	6.47	1 Year Agricultural Offset
	HC	$1,500	5.87	1 Year Agricultural Offset
	HC	$1,500	2.85	1 Year Agricultural Offset
	HC	$1,500	2.15	1 Year Agricultural Offset
	HC	$1,500	0.60	1 Year Agricultural Offset
	HC	$1,500	1.75	1 Year Agricultural Offset
	HC	$1,500	2.33	1 Year Agricultural Offset
	HC	$1,500	0.85	1 Year Agricultural Offset

District Imperial (continued)	Pollutant	$/Ton	Tons	Notes
	HC	$1,500	1.22	1 Year Agricultural Offset
	HC	$1,500	1.60	1 Year Agricultural Offset
	HC	$1,500	1.16	1 Year Agricultural Offset
	HC	$1,500	6.26	1 Year Agricultural Offset
	HC	$1,500	1.11	1 Year Agricultural Offset
	HC	$1,500	2.03	1 Year Agricultural Offset
	HC	$1,500	2.27	1 Year Agricultural Offset
	HC	$1,500	3.18	1 Year Agricultural Offset
	HC	$1,500	0.61	1 Year Agricultural Offset
	HC	$1,500	0.61	1 Year Agricultural Offset
	HC	$1,500	0.49	1 Year Agricultural Offset
	HC	$1,500	0.51	1 Year Agricultural Offset
	HC	$1,500	1.04	1 Year Agricultural Offset
	HC	$1,500	4.81	1 Year Agricultural Offset
	HC	$1,500	0.51	1 Year Agricultural Offset
	HC	$1,500	1.41	1 Year Agricultural Offset
	HC	$1,500	1.02	1 Year Agricultural Offset
	HC	$1,500	3.17	1 Year Agricultural Offset
	HC	$1,500	0.58	1 Year Agricultural Offset
	HC	$1,500	5.60	1 Year Agricultural Offset
	HC	$1,500	11.88	1 Year Agricultural Offset
	HC	$1,500	0.68	1 Year Agricultural Offset
	HC	$1,500	2.33	1 Year Agricultural Offset
	HC	$1,500	0.35	1 Year Agricultural Offset
	HC	$2,000	3.83	1 Year Agricultural Offset
	HC	$2,500	0.89	1 Year Agricultural Offset
	HC	$2,500	8.11	1 Year Agricultural Offset
	NOx	$3,000	0.29	1 Year Agricultural Offset
	NOx	$3,000	0.80	1 Year Agricultural Offset
	NOx	$3,000	1.23	1 Year Agricultural Offset
	NOx	$3,000	1.80	1 Year Agricultural Offset
	NOx	$3,000	0.33	1 Year Agricultural Offset
	NOx	$3,000	2.56	1 Year Agricultural Offset
	NOx	$3,000	6.72	1 Year Agricultural Offset
	PM10	$0	7.47	Stationary 30+ Years
	PM10	$300	4.62	1 Year Agricultural Offset
	PM10	$300	0.17	1 Year Agricultural Offset
	PM10	$300	1.03	1 Year Agricultural Offset
	PM10	$300	1.24	1 Year Agricultural Offset
	PM10	$300	1.11	1 Year Agricultural Offset
	PM10	$300	5.11	1 Year Agricultural Offset
	PM10	$300	3.39	1 Year Agricultural Offset
	PM10	$300	1.71	1 Year Agricultural Offset

District Imperial (continued)	Pollutant	$/Ton	Tons	Notes
	PM10	$300	0.03	1 Year Agricultural Offset
	PM10	$300	0.78	1 Year Agricultural Offset
	PM10	$300	3.04	1 Year Agricultural Offset
	PM10	$300	14.16	1 Year Agricultural Offset
	PM10	$300	1.12	1 Year Agricultural Offset
	PM10	$300	0.97	1 Year Agricultural Offset
	PM10	$350	3.18	1 Year Agricultural Offset
	PM10	$350	20.00	1 Year Agricultural Offset
	PM10	$350	3.19	1 Year Agricultural Offset
	PM10	$350	7.07	1 Year Agricultural Offset
	PM10	$350	2.59	1 Year Agricultural Offset
	PM10	$350	1.41	1 Year Agricultural Offset
	PM10	$350	4.58	1 Year Agricultural Offset
	PM10	$350	5.04	1 Year Agricultural Offset
	PM10	$350	6.90	1 Year Agricultural Offset
	PM10	$350	2.49	1 Year Agricultural Offset
	PM10	$350	6.26	1 Year Agricultural Offset
	PM10	$350	0.49	1 Year Agricultural Offset
	PM10	$350	1.97	1 Year Agricultural Offset
	PM10	$350	2.63	1 Year Agricultural Offset
	PM10	$350	18.10	1 Year Agricultural Offset
	PM10	$350	6.17	1 Year Agricultural Offset
	PM10	$350	8.66	1 Year Agricultural Offset
	PM10	$400	6.08	1 Year Agricultural Offset
	PM10	$400	4.69	1 Year Agricultural Offset
	PM10	$400	2.31	1 Year Agricultural Offset
	PM10	$400	1.00	1 Year Agricultural Offset
	PM10	$500	0.78	1 Year Agricultural Offset
	PM10	$500	18.61	1 Year Agricultural Offset
	PM10	$500	0.30	1 Year Agricultural Offset
	PM10	$500	2.70	1 Year Agricultural Offset
	PM10	$500	7.65	1 Year Agricultural Offset
	PM10	$500	2.77	1 Year Agricultural Offset
	PM10	$500	0.99	1 Year Agricultural Offset
	PM10	$500	2.64	1 Year Agricultural Offset

District	Pollutant	$/Tons	Tons	Notes
San Joaquin Total of 40 Transactions	CO	$1.00	1.50	Stationary / Annual
	CO	$1.00	0.70	Stationary / Annual
	HC	$1.00	0.10	Stationary / Annual
	HC	$1.00	0.37	Stationary / Annual
	HC	$3,850	71.70	Stationary / Annual
	HC	$4,200	1.45	Stationary / Annual

District **San Joaquin** (continued)	Pollutant	$/Ton	Tons	Notes
	HC	$4,200	1.45	Stationary / Annual
	HC	$4,200	13.36	Stationary / Annual
	HC	$4,250	3.35	Stationary / Annual
	HC	$4,500	0.22	Stationary / Annual
	HC	$4,500	3.47	Stationary / Q1, Q2, Q3
	NOx	$18,641	0.66	Stationary / Annual
	NOx	$18,642	0.74	Stationary / Annual
	NOx	$26,000	5.00	Stationary / Annual
	NOx	$29,500	5.00	Stationary / Annual
	NOx	$34,500	31.50	Stationary / Annual
	NOx	$34,500	30.00	Stationary / Annual
	NOx	$34,500	0.20	Stationary / Q2
	NOx	$34,500	2.00	Stationary / Q4
	NOx	$37,500	1.17	Stationary / Annual
	NOx	$40,000	0.26	Stationary / Annual
	PM10	$7,600	1.11	Stationary / Annual
	PM10	$7,600	0.52	Stationary / Annual
	PM10	$16,000	31.50	Stationary / Annual
	PM10	$16,000	0.50	Stationary / Q1
	PM10	$16,000	15.84	Stationary / Q3, Q4
	PM10	$16,000	26.34	Stationary / Q4
	PM10	$16,000	3.33	Stationary / Q4
	PM10	$16,000	18.66	Stationary / Q4
	PM10	$16,000	7.00	Stationary / Q4
	PM10	$16,000	1.00	Stationary / Annual
	PM10	$17,250	2.00	Stationary / Annual
	PM10	$21,000	0.75	Stationary / Q4
	SOx	$1.00	0.38	Stationary / Annual
	SOx	$1.00	0.41	Stationary / Annual
	SOx	$10,350	2.35	Stationary / Annual
	SOx	$16,000	3.87	Stationary / Annual
	SOx	$16,500	1.89	Stationary / Annual
	SOx	$16,500	19.60	Stationary / Annual
	SOx	$18,000	0.31	Stationary / Annual

District	Pollutant	$/Ton	Tons	Notes
South Coast Total of 90 Transactions	HC	$0	0.18	Stationary
	HC	$0	0.18	Stationary
	HC	$0	0.18	Stationary
	HC	$0	0.18	Stationary
	HC	$0	0.18	Stationary
	HC	$0	0.37	Stationary
	HC	$0	0.55	Stationary
	HC	$0	0.55	Stationary
	HC	$0	0.55	Stationary

District South Coast (continued)	Pollutant	$/Ton	Tons	Notes
	HC	$0	0.73	Stationary
	HC	$0	0.73	Stationary
	HC	$0	0.91	Stationary
	HC	$0	1.10	Stationary
	HC	$0	1.10	Stationary
	HC	$0	1.28	Stationary
	HC	$0	1.46	Stationary
	HC	$0	1.46	Stationary
	HC	$0	1.64	Stationary
	HC	$0	2.01	Stationary
	HC	$0	2.19	Stationary
	HC	$0	4.56	Stationary
	HC	$0	8.03	Stationary
	HC	$0	9.13	Stationary
	HC	$0	10.04	Stationary
	HC	$16,302	38.87	Stationary
	HC	$16,427	3.47	Stationary
	HC	$16,443	8.21	Stationary
	HC	$18,378	0.37	Stationary
	HC	$18,378	0.37	Stationary
	HC	$18,630	1.46	Stationary
	HC	$18,635	10.40	Stationary
	HC	$19,022	0.37	Stationary
	HC	$19,022	0.37	Stationary
	HC	$19,195	0.55	Stationary
	HC	$19,195	0.55	Stationary
	HC	$19,335	0.91	Stationary
	HC	$19,335	0.91	Stationary
	HC	$21,863	1.46	Stationary
	HC	$21,868	10.40	Stationary
	HC	$21,902	6.94	Stationary
	HC	$21,902	6.94	Stationary
	HC	$21,906	9.13	Stationary
	HC	$22,703	0.37	Stationary
	HC	$22,909	1.10	Stationary
	HC	$23,001	9.13	Stationary
	HC	$23,009	27.38	Stationary
	HC	$23,032	3.10	Stationary
	HC	$23,288	3.65	Stationary
	HC	$23,784	0.37	Stationary
	HC	$23,789	2.56	Stationary
	HC	$24,640	3.47	Stationary
	HC	$24,818	0.55	Stationary
	HC	$24,865	0.37	Stationary
	HC	$25,205	0.73	Stationary
	HC	$25,205	2.92	Stationary
	HC	$25,275	0.91	Stationary

District South Coast (continued)	Pollutant	$/Ton	Tons	Notes
	HC	$26,297	27.38	Stationary
	HC	$33,333	0.18	Stationary
	HC	$35,714	0.91	Stationary
	NOx	$90,971	19.16	Stationary
	NOx	$119,444	0.18	Stationary
	PM10	$0	0.18	Stationary
	PM10	$0	0.37	Stationary
	PM10	$0	0.55	Stationary
	PM10	$0	2.19	Stationary
	PM10	$486,486	0.37	Stationary
	PM10	$490,909	0.55	Stationary
	PM10	$493,151	0.73	Stationary
	PM10	$500,000	0.18	Stationary
	PM10	$529,522	0.91	Stationary
	PM10	$535,406	0.18	Stationary
	PM10	$535,406	0.18	Stationary
	PM10	$535,406	0.18	Stationary
	PM10	$545,455	0.55	Stationary
	PM10	$545,455	0.55	Stationary
	PM10	$545,455	0.55	Stationary
	PM10	$547,945	1.46	Stationary
	PM10	$549,451	0.91	Stationary
	PM10	$555,556	0.18	Stationary
	PM10	$555,556	0.18	Stationary
	PM10	$555,556	0.18	Stationary
	PM10	$567,465	0.37	Stationary
	PM10	$572,715	0.55	Stationary
	PM10	$574,065	1.28	Stationary
	PM10	$575,342	0.73	Stationary
	PM10	$575,342	0.73	Stationary
	PM10	$576,207	1.64	Stationary
	PM10	$576,220	1.64	Stationary
	SOx	$0	3.70	Stationary
	SOx	$0	4.70	Stationary
Yolo-Solano Total of 1 Transaction	CO	$10,000	1.44	1 Year Agricultural Offset

Table V-2
Districts with No Offset Transactions to Report in 2015

District	Year of Last Reported Offsets
Amador County Air Pollution Control District	N/A*
Antelope Valley Air Pollution Control District	N/A*
Butte County Air Quality Management District	2011
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	2014
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*
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 AQMD	2014
Monterey Bay Unified Air Pollution Control District	2006
North Coast Unified Air Quality Management	N/A*
Northern Sierra Air Quality Management District	N/A*
Northern Sonoma County Air Pollution Control	N/A*
Placer County Air Pollution Control District	2014
Sacramento Metro Air Quality Management District	2013
San Diego County Air Pollution Control District	2012
San Luis Obispo County Air Pollution Control	2003
Santa Barbara Air Pollution Control District	2014
Shasta County Air Quality Management District	2014
Siskiyou County Air Pollution Control District	N/A*
Tehama County Air Pollution Control District	2010
Tuolumne County Air Pollution Control District	N/A*
Ventura County Air Pollution Control District	2014

* 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 2015 DATA BY DISTRICT

A. Bay Area

The Bay Area Air Quality Management District reported 19 cost transactions in 2015. Of those 19 transactions, 5 were for HC and 14 were for NOx.

Table A-1
2015 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Bay Area

Pollutant	$/Ton	Tons
HC	$6,500	25.00
HC	$6,800	3.30
HC	$7,000	51.20
HC	$7,000	2.93
HC	$8,000	0.39
NOx	$12,000	140.52
NOx	$12,000	2.19
NOx	$14,000	2.13
NOx	$14,500	3.80
NOx	$14,500	3.60
NOx	$14,500	3.57
NOx	$14,500	4.60
NOx	$14,500	17.77
NOx	$15,000	80.00
NOx	$15,000	32.90
NOx	$15,000	60.00
NOx	$15,000	7.10
NOx	$15,000	80.00
NOx	$15,000	60.00

Table A-2
2015 Summary Statistics for Emission Reduction Credit Transactions*
Bay Area

Pollutant	Total Tons Traded	Average (mean)	Median $/Ton	High $/Ton	Low $/Ton
CO	No transactions reported (last CO transaction reported in 2007)				
HC	82.82	$7,060	$7,000	$8,000	$6,500
NOx	498.18	$14,321	$14,500	$15,000	$12,000
PM10	No transactions reported (last PM10 transaction reported in 2010)				
SOx	No transactions reported (last SOx transaction in 2013)				

Chart 1

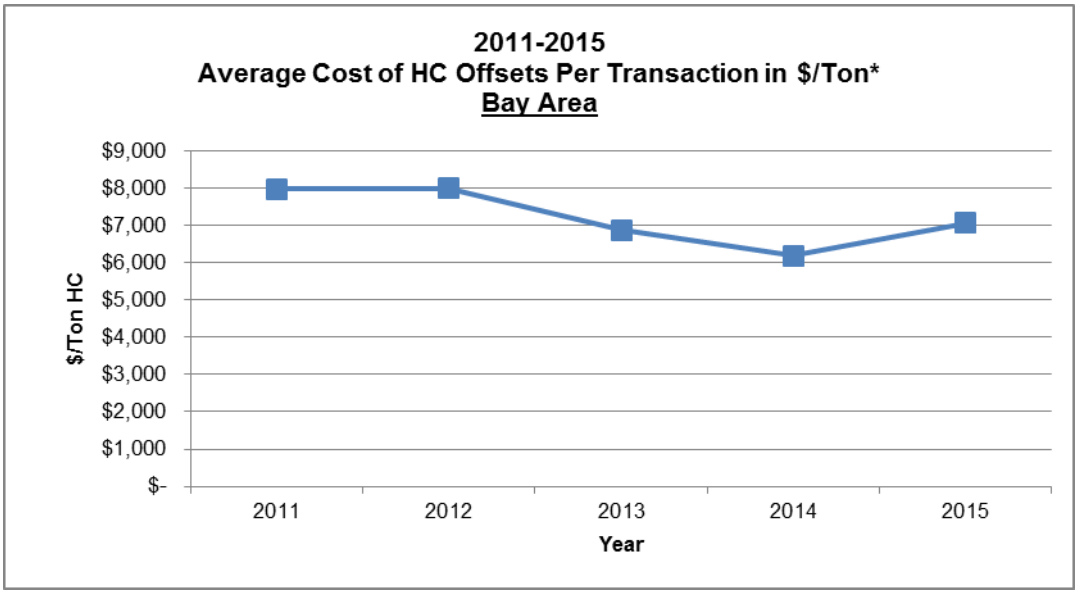
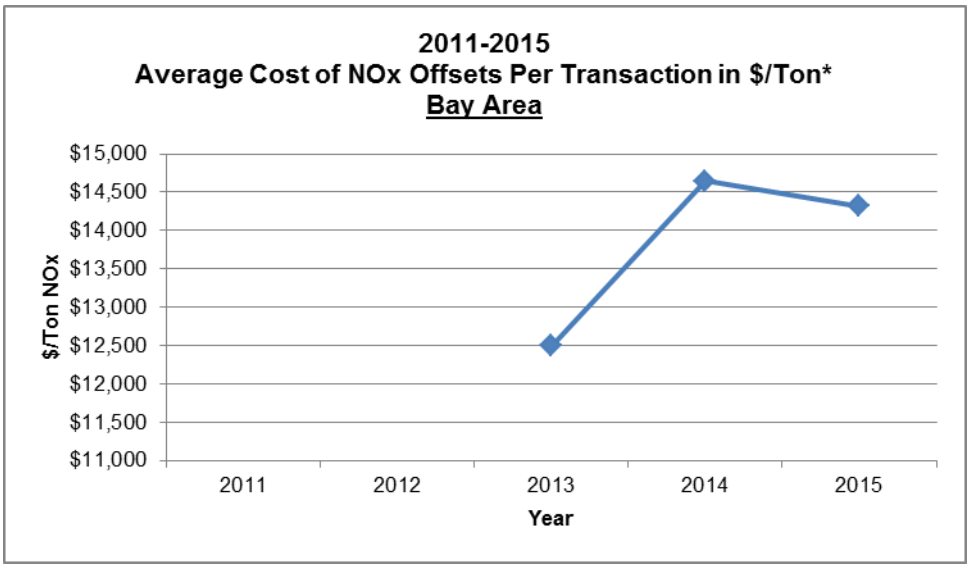


Chart 2



* 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 142 cost transactions in 2015. Of those 142 transactions, 92 were for HC, 7 were for NOx and 43 were for PM10.

Table B-1
2015 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Imperial County

Pollutant	$/Ton	Tons
HC	$850	1.17
HC	$850	1.15
HC	$850	1.99
HC	$850	1.39
HC	$1,000	1.53
HC	$1,000	0.53
HC	$1,000	3.43
HC	$1,000	1.53
HC	$1,000	4.46
HC	$1,000	0.91
HC	$1,000	0.92
HC	$1,000	1.81
HC	$1,000	0.64
HC	$1,000	4.81
HC	$1,000	2.54
HC	$1,000	2.00
HC	$1,000	1.50
HC	$1,000	2.75
HC	$1,000	2.12
HC	$1,000	0.76
HC	$1,000	0.94
HC	$1,000	4.83
HC	$1,000	1.19
HC	$1,000	3.92
HC	$1,000	0.61
HC	$1,000	1.97
HC	$1,000	1.42
HC	$1,000	0.37
HC	$1,000	1.96
HC	$1,000	1.02
HC	$1,000	2.52
HC	$1,000	6.21
HC	$1,200	2.48
HC	$1,300	6.22
HC	$1,300	6.92

Pollutant	$/Ton	Tons
HC	$1,300	5.78
HC	$1,500	1.49
HC	$1,500	0.10
HC	$1,500	3.93
HC	$1,500	0.73
HC	$1,500	4.00
HC	$1,500	0.73
HC	$1,500	1.01
HC	$1,500	1.32
HC	$1,500	0.18
HC	$1,500	3.11
HC	$1,500	2.78
HC	$1,500	0.57
HC	$1,500	2.60
HC	$1,500	27.86
HC	$1,500	6.27
HC	$1,500	6.82
HC	$1,500	8.49
HC	$1,500	6.14
HC	$1,500	5.78
HC	$1,500	7.87
HC	$1,500	4.73
HC	$1,500	6.47
HC	$1,500	5.87
HC	$1,500	2.85
HC	$1,500	2.15
HC	$1,500	0.60
HC	$1,500	1.75
HC	$1,500	2.33
HC	$1,500	0.85
HC	$1,500	1.22
HC	$1,500	1.60
HC	$1,500	1.16
HC	$1,500	6.26
HC	$1,500	1.11
HC	$1,500	2.03
HC	$1,500	2.27
HC	$1,500	3.18
HC	$1,500	0.61
HC	$1,500	0.61
HC	$1,500	0.49
HC	$1,500	0.51
HC	$1,500	1.04
HC	$1,500	4.81
HC	$1,500	0.51
HC	$1,500	1.41

Pollutant	$/Ton	Tons
HC	$1,500	1.02
HC	$1,500	3.17
HC	$1,500	0.58
HC	$1,500	5.60
HC	$1,500	11.88
HC	$1,500	0.68
HC	$1,500	2.33
HC	$1,500	0.35
HC	$2,000	3.83
HC	$2,500	0.89
HC	$2,500	8.11
NOx	$3,000	0.29
NOx	$3,000	0.80
NOx	$3,000	1.23
NOx	$3,000	1.80
NOx	$3,000	0.33
NOx	$3,000	2.56
NOx	$3,000	6.72
PM10	$300	4.62
PM10	$300	0.17
PM10	$300	1.03
PM10	$300	1.24
PM10	$300	1.11
PM10	$300	5.11
PM10	$300	3.39
PM10	$300	1.71
PM10	$300	0.03
PM10	$300	0.78
PM10	$300	3.04
PM10	$300	14.16
PM10	$300	1.12
PM10	$300	0.97
PM10	$350	3.18
PM10	$350	20.00
PM10	$350	3.19
PM10	$350	7.07
PM10	$350	2.59
PM10	$350	1.41
PM10	$350	4.58
PM10	$350	5.04
PM10	$350	6.90
PM10	$350	2.49
PM10	$350	6.26
PM10	$350	0.49
PM10	$350	1.97
PM10	$350	2.63

Pollutant	$/Ton	Tons
PM10	$350	18.10
PM10	$350	6.17
PM10	$350	8.66
PM10	$400	6.08
PM10	$400	4.69
PM10	$400	2.31
PM10	$400	1.00
PM10	$500	0.78
PM10	$500	18.61
PM10	$500	0.30
PM10	$500	2.70
PM10	$500	7.65
PM10	$500	2.77
PM10	$500	0.99
PM10	$500	2.64

Table B-2
2015 Summary Statistics for Emission Reduction Credit Transactions*
Imperial County

Pollutant	Total Tons Traded	Average (mean)	Median $/Ton	High $/Ton	Low $/Ton
CO	No transactions reported (last CO transaction reported in 2010)				
HC	272.94	$1,337	$1,500	$2,500	$850
NOx	13.73	$3,000	$3,000	$3,000	$3,000
PM10	189.73	$366	$350	$500	$300
SOx	No transactions reported (last SOx transaction reported in 2008)				

Chart 3

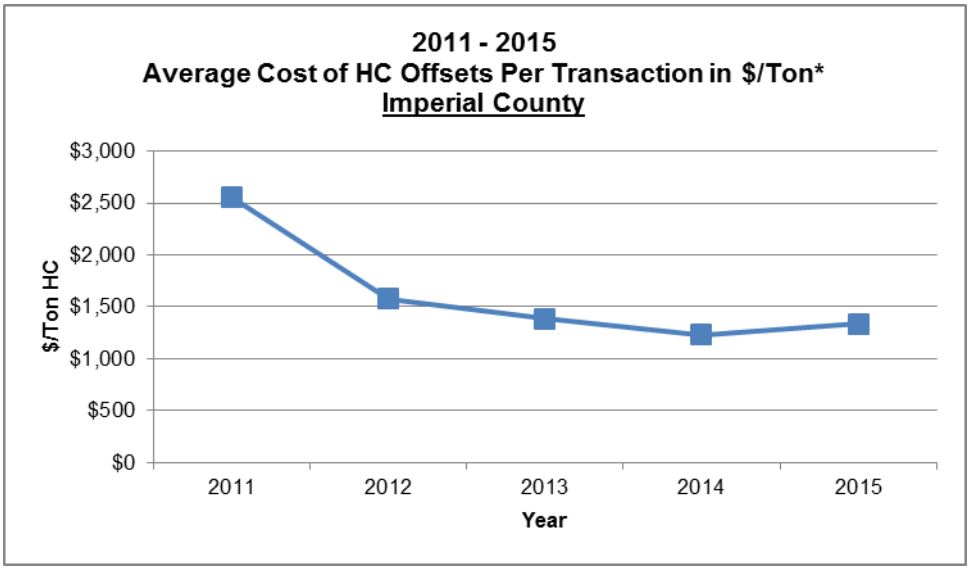


Chart 4

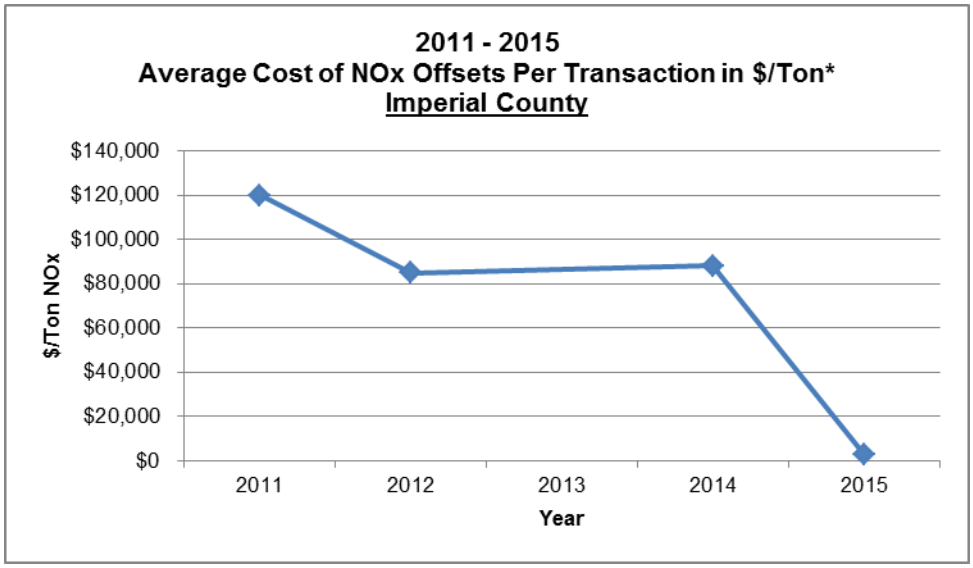
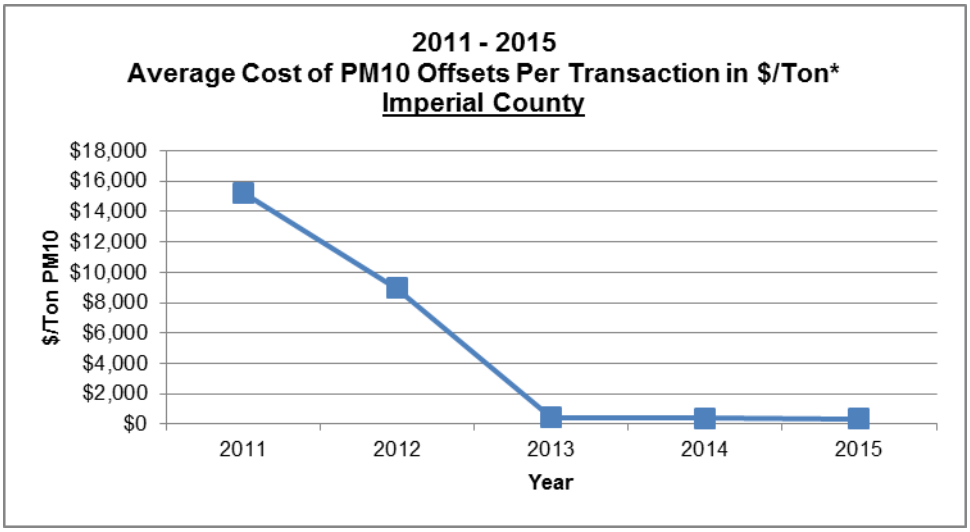


Chart 5



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

F. San Joaquin Valley

The San Joaquin Valley Air Pollution Control District reported 40 cost transactions in 2015. Of the 40 transactions reported, 2 were for CO, 9 were for HC, 10 were for NOx, 12 were for PM10, and 7 were for SOx.

Table C-1
2015 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
San Joaquin Valley

Pollutant	$/Ton	Tons
CO	$1.00	1.50
CO	$1.00	0.70
HC	$1.00	0.10
HC	$1.00	0.37
HC	$3,850	71.70
HC	$4,200	1.45
HC	$4,200	1.45
HC	$4,200	13.36
HC	$4,250	3.35
HC	$4,500	0.22
HC	$4,500	3.47
NOx	$18,641	0.66
NOx	$18,642	0.74
NOx	$26,000	5.00
NOx	$29,500	5.00
NOx	$34,500	31.50
NOx	$34,500	30.00
NOx	$34,500	0.20
NOX	$34,500	2.00
NOx	$37,500	1.17
NOx	$40,000	0.26
PM10	$7,600	1.11
PM10	$7,600	0.52
PM10	$16,000	31.50
PM10	$16,000	0.50
PM10	$16,000	15.84
PM10	$16,000	26.34
PM10	$16,000	3.33
PM10	$16,000	18.66
PM10	$16,000	7.00
PM10	$16,000	1.00
PM10	$17,250	2.00
PM10	$21,000	0.75
SOx	$1.00	0.38
SOx	$1.00	0.41
SOx	$10,350	2.35

Pollutant	$/Ton	Tons
SOx	$16,000	3.87
SOx	$16,500	1.89
SOx	$16,500	19.60
SOx	$18,000	0.31

Table C-2
2015 Summary Statistics for Emission Reduction Credit Transactions*
San Joaquin Valley

Pollutant	Total Tons Traded	Average (mean)	Median $/Ton	High $/Ton	Low $/Ton
CO	2.20	$1.00	$1.00	$1.00	$1.00
HC	95.47	$3,300	$4,200	$4,500	$1.00
NOx	76.53	$30,828	$34,500	$40,000	$18,641
PM10	108.55	$15,121	$16,000	$21,000	$7,600
SOx	28.81	$11,050	$16,000	$18,000	$1.00

Chart 6

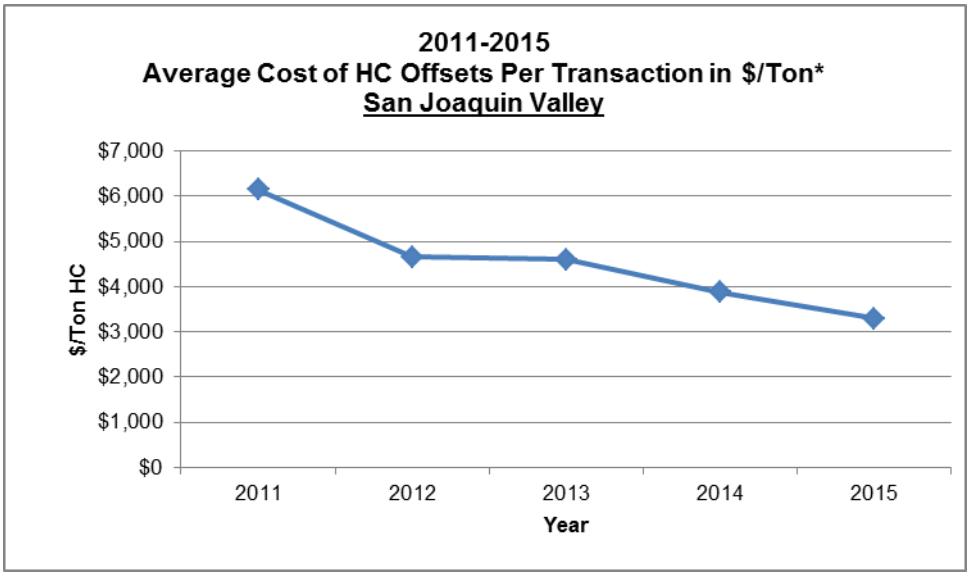


Chart 7

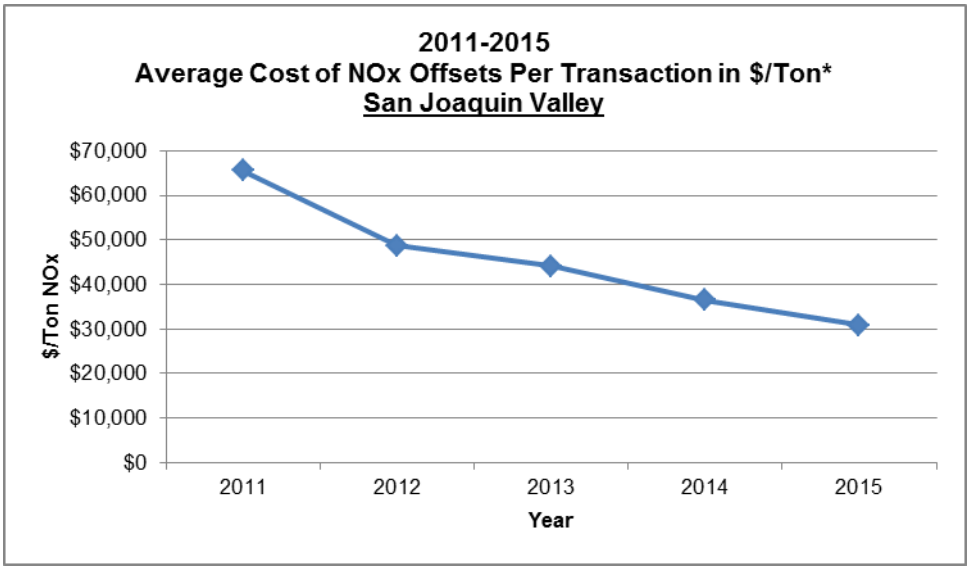
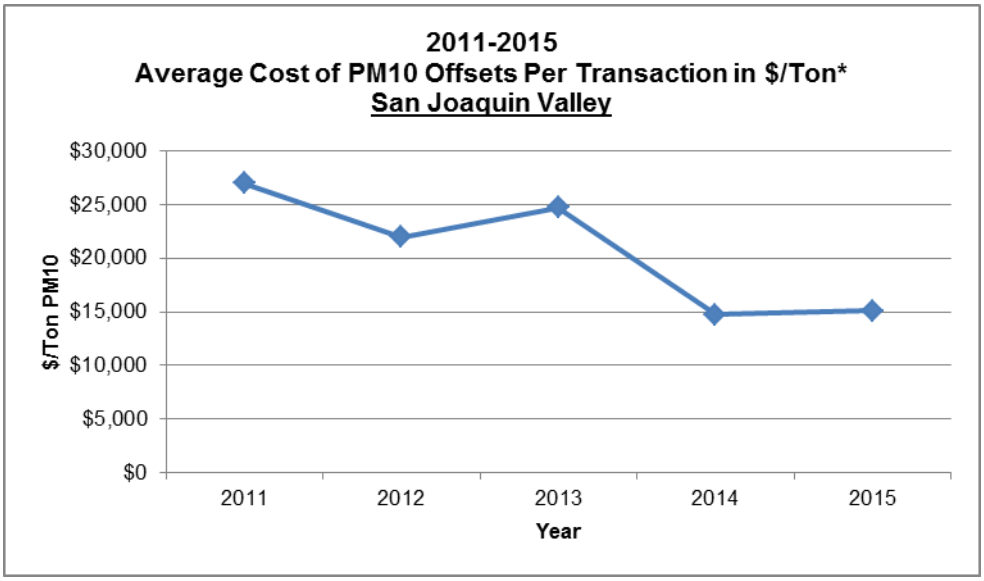


Chart 8



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

I. South Coast

The South Coast Air Quality Management District reported 60 cost transactions in 2015. Of the 60 transactions reported, 35 were for HC, 2 were for NOx and 23 were for PM10.

Table D-1
2015 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
South Coast

Pollutant	$/Ton	Tons
HC	$16,302	38.87
HC	$16,427	3.47
HC	$16,443	8.21
HC	$18,378	0.37
HC	$18,378	0.37
HC	$18,630	1.46
HC	$18,635	10.40
HC	$19,022	0.37
HC	$19,022	0.37
HC	$19,195	0.55
HC	$19,195	0.55
HC	$19,335	0.91
HC	$19,335	0.91
HC	$21,863	1.46
HC	$21,868	10.40
HC	$21,902	6.94
HC	$21,902	6.94
HC	$21,906	9.13
HC	$22,703	0.37
HC	$22,909	1.10
HC	$23,001	9.13
HC	$23,009	27.38
HC	$23,032	3.10
HC	$23,288	3.65
HC	$23,784	0.37
HC	$23,789	2.56
HC	$24,640	3.47
HC	$24,818	0.55
HC	$24,865	0.37
HC	$25,205	0.73
HC	$25,205	2.92
HC	$25,275	0.91
HC	$26,297	27.38
HC	$33,333	0.18
HC	$35,714	0.91
NOx	$90,971	19.16
NOx	$119,444	0.18

Pollutant	$/Ton	Tons
PM10	$486,486	0.37
PM10	$490,909	0.55
PM10	$493,151	0.73
PM10	$500,000	0.18
PM10	$529,522	0.91
PM10	$535,406	0.18
PM10	$535,406	0.18
PM10	$535,406	0.18
PM10	$545,455	0.55
PM10	$545,455	0.55
PM10	$545,455	0.55
PM10	$547,945	1.46
PM10	$549,451	0.91
PM10	$555,556	0.18
PM10	$555,556	0.18
PM10	$555,556	0.18
PM10	$567,465	0.37
PM10	$572,715	0.55
PM10	$574,065	1.28
PM10	$575,342	0.73
PM10	$575,342	0.73
PM10	$576,207	1.64
PM10	$576,220	1.64

Table D-2
2015 Summary Statistics for Emission Reduction Credit Transactions*
South Coast

Pollutant	Total Tons Traded	Average (mean)	Median $/Ton	High $/Ton	Low $/Ton
CO	No transactions reported (last CO transaction reported in 2014)				
HC	186.76	$22,246	$21,096	$35,714	$16,302
NOx	19.34	$105,208	$105,208	$119,444	$90,971
PM10	14.78	$544,525	$547,945	$576,220	$486,486
SOx	No transactions reported (last SOx transaction reported in 2013)				

Chart 9

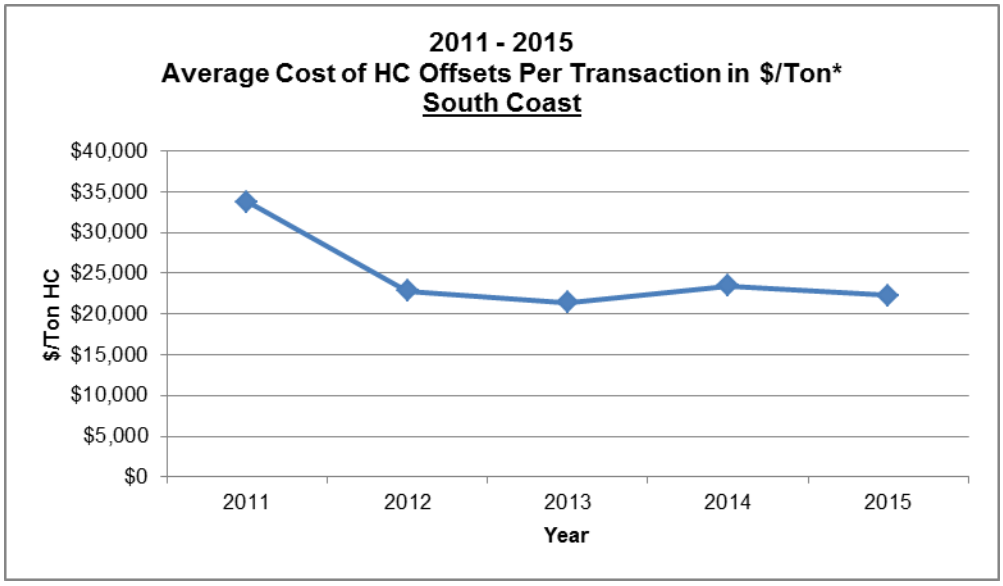


Chart 10

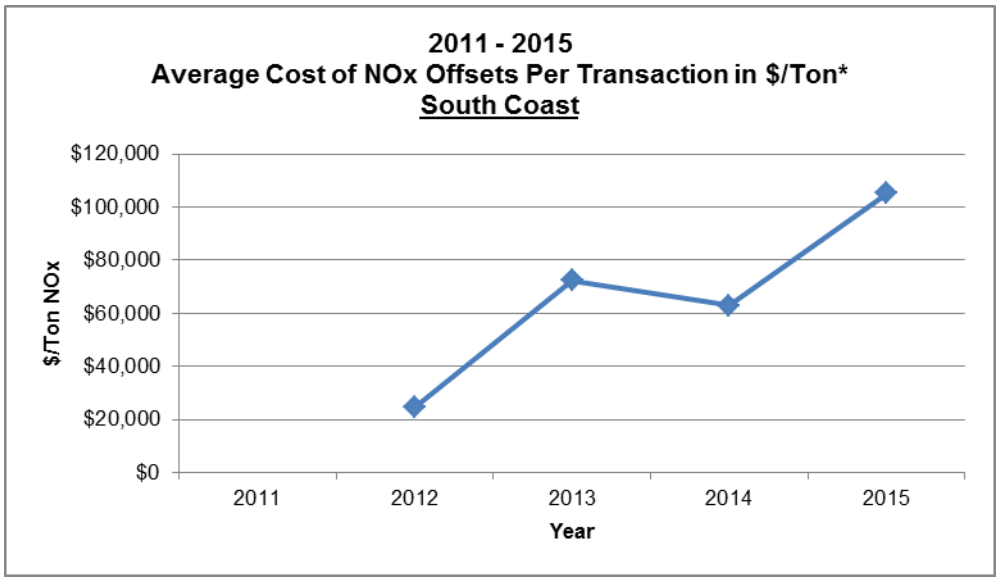
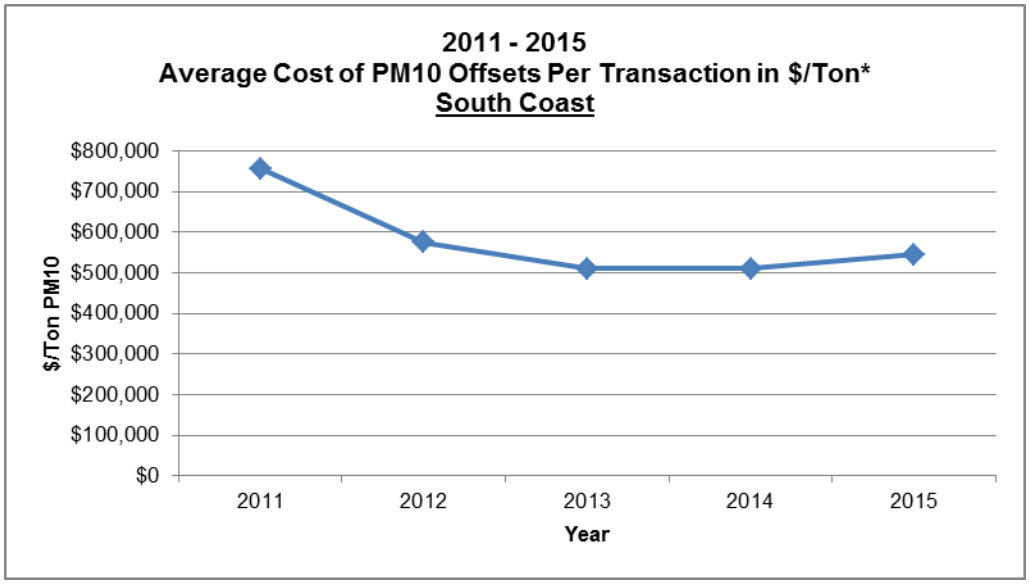


Chart 11



J. Yolo-Solano

The Yolo-Solano Air Quality Management District reported one CO cost transaction in 2015.

Table E-1
2015 Emission Reduction Credit Transaction Costs
Reported in Total Tons Traded
Yolo-Solano County

Pollutant	$/Ton	Tons
CO	$10,000	1.44

Table E-2
2015 Summary Statistics for Emission Reduction Credit Transactions*
Yolo-Solano County

Pollutant	Total Tons Traded	Average (mean)	Median $/Ton	High $/Ton	Low $/Ton
CO	1.44	$10,000	$10,000	$10,000	$10,000
HC	No transactions reported (last HC transaction reported in 2011)				
NOx	No transactions reported (last NOx transaction reported in 2011)				
PM10	No transactions reported (last PM10 transaction reported in 2011)				
SOx	No transactions reported (last SOx transaction reported in 2005)				

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

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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 2013 TRANSACTIONS

DISTRICT ID# _ _ _ _ _ _ _

POLLUTANT
_____ NOx
_____ SOx
_____ CO
_____ HC
_____ PM10
_____ Other

CREDIT SOURCE
_____ STATIONARY
_____ MOBILE
_____ AGRICULTURAL
_____ OTHER

QUANTITY of POLLUTANT (TONS/YEAR) _____

PRICE PAID ($/TON) _____

ANNUAL or QUARTER?

Q1 _____ Q2 _____ Q3 _____ Q4 _____

BARTER TRANSACTION? _____

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?

Q1	Q2	Q3	Q4
_____	_____	_____	_____

BARTER TRANSACTION? _____

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?

Q1	Q2	Q3	Q4
_____	_____	_____	_____

BARTER TRANSACTION? _____

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. 13 for 2013), 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.