

Carl Moyer Program Statistics

2016 Reporting Cycle

This document provides information on Carl Moyer Program (Moyer Program) expenditures as reported by local air districts through the 2016 reporting cycle (November 14, 2016). Data are provided on the types of projects funded, the number of engines replaced or retrofitted, and the calculated emission reductions.

Background: The Moyer Program provides incentive grants to fund the incremental cost of cleaner-than-required engines, equipment, and other sources. The core principle of the program is to achieve cost-effective¹ emission reductions that are real, surplus, quantifiable, and creditable to the State Implementation Plan. Covered pollutants include oxides of nitrogen (NOx), reactive organic gases (ROG), and particulate matter (PM).

The program is currently authorized at \$69 million per year, which is allocated according to statutes that take into account population, air quality and other factors. Air districts are allowed a minimum allocation of \$200,000 and districts that accept a larger allocation must provide matching funds. Regular Moyer funds come from smog abatement fees and tire fees. Air districts use local funds, often including motor vehicle registration fees, as matching funds.

The Moyer Program is implemented as a partnership between the California Air Resources Board (CARB) and local air districts. Air districts administer Moyer Program grants and select the projects to fund. CARB works collaboratively with the districts and other stakeholders to establish Guidelines² and ensure the Program reduces pollution and provides cleaner air for Californians.

Data Differences from Last Year's 2015 Program Statistics: These 2016 Program Statistics include non-match funded projects that were not included in the 2015 date. Non-match projects reported in the Clean Air Reporting Log (CARL) database³ are usually funded with air district \$2 DMV funds and are not used to meet the district match requirements; however, non-match projects reported in CARL are Moyer compliant and creditable in the State Implementation Plan (SIP). For completeness, those projects have been added to the tables below, resulting in some differences from last year's statistics for liquidated years 8-13 in Table 5. Non-match funded projects equate to about one percent of the total program.

The other difference this year is that the Funds Executed figures have been refined to include final payment amount for those projects paid in full. Projects that have not yet been paid in full continue to be reported using the funding amount determined earlier in the process. As a result of this change the totals for a liquidated year may be slightly lower in the 2016 Program Statistics than in the 2015 Program Statistics. Those differences aside, users may estimate the program results for the year since the 2015 Yearly Reports by looking at the differences between the 2015 Program Statistics and the 2016 Program Statistics.

Funding Timeline: The Moyer Program began in 1998 and funds were first allocated in fiscal year (FY) 1998-99, called "funding year 1." The most current funding year being expended is

funding year 19 (FY2016-17), which is not complete yet. Air districts have four years to liquidate each year of funds received. See the table below for examples:

Fiscal Year Allocation	Funding Year	Liquidation Year
2011-12	14	2016
2012-13	15	2017
2013-14	16	2018

Emission Reductions: Emission reductions are calculated for the life of each project. The project life is the number of years the project achieves surplus emission reductions; it is also the contract period.

Source Categories: The data in the tables below are provided by general source category and detailed source category. For example, the general source category data group “Off-Road Other” includes off-road construction, off-road cargo handling, off-road ground support equipment, transportation refrigeration units (TRU) and forklifts. The detailed source category table disaggregates this information by these specific equipment types and provides additional information related to whether the project involves equipment repower or replacement. Tables below display the data by funding year and air district.

Funds Executed vs. Total Allocated Funds: In Table 1 below, the Total Funds Allocation represents project and administration dollars granted to air districts; administration funds are used by districts to support program implementation and outreach and are not spent on projects. Funds Executed represents the reported funds spent or dedicated to projects via contract or voucher. Funding sources include regular Moyer funds, Match, Non-Match, Multi-District, Rural Assistance Program (RAP), and Moyer Interest. Note that funds reported as executed have not necessarily been liquidated yet. Please also note that air districts may report Non-Match AB 923 funded projects to CARB for SIP credit; however, there is not a Non-Match allocation or target the air districts must reach. For that reason, funds executed may be greater than the allocation. (Please note that summation of funds may slightly vary due to rounding).

Data Sources: Moyer Program data are compiled from two primary sources: the CARL database (which provides very detailed project information for funding year 8 and subsequent years) and the Carl Moyer 2006 Status Report⁴ (which provides a summary of data for the earlier funding years; these data were reported by Excel Spreadsheet).

- Data for funding years 8-18 were generated from the CARL database. At the time of air district reporting:
 - Funding years 8-14 were fully liquidated. All funds were paid-in-full and the projects they funded were made operational.
 - Funding years 15-18 were at various stages of implementation, from contracted to liquidated.

- Project life is based on reported information for each piece of equipment. Emission reductions are calculated over the full project life, shown in the tables as life emission reductions.
- Data for Funding years 1-7 were gathered from the Carl Moyer 2006 Status Report.
 - The 2006 Status Report provided results for funding years 1-6. Incomplete data for funding year 7 were extrapolated based on an average of the funding years 1-6 data, for the purpose of estimating a complete total.
 - Project life for years 1-7 is an average 9.7 years per table IV-2 on page 2 of the 2006 Status Report, for the purpose of calculations.

Footnotes:

1. *Infrastructure projects are exempt from cost-effectiveness requirements.*
2. *Carl Moyer Guidelines:* <http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>
3. *Clean Air Reporting Log (CARL) database:* <http://www.arb.ca.gov/app/cmp/index.php>
4. *Carl Moyer 2006 Status Report:* <http://www.arb.ca.gov/msprog/moyer/status/status.htm>

Table 1: Moyer Program Summary for Funding Years 1-18²

	Engine Count ⁴	Life NOx+ROG (tons) ³	Life PM (tons) ³	Funds Executed ⁵	Total Funds Allocation ¹
Totals	61,029	183,791	6,713	\$978,620,467	\$1,135,771,499

Footnotes Referenced in Table 1:

1. Total Funds Allocated funds include project and district administration funds for years 1-18 for funds including regular Moyer, Match, Multi-district and State Reserve, Rural Assistance Program, and Moyer interest. Not all of these funds have been fully liquidated. Non-match funds do not have an allocation target.
2. Table includes reported project information for funding years 1-18. Funding years 8-18 reflect total funded engines for all source categories with the executed contract in CARL. Off-Road Other includes construction, cargo handling, ground support, transportation refrigeration units, and forklifts. Funding years 1-6 data are from the 2006 Status Report Table IV-1. Funding year 7 data were extrapolated based on an average of funding years 1-6 data and factored to account for incomplete data - see 2006 Status Report page 9 text.
3. Emission reductions are for the life of the project. For funding years 8-18 "life reductions" are derived by multiplying the annual emission reductions by the project life for each equipment. Project life for funding years 1-7 is 9.7, an average of the project lives published in the 2006 Status Report table IV-2 page 12.
4. Engine count includes repowers, retrofits, new purchases, and equipment replacements.
5. Funds Executed includes funding and payments spent on projects including regular Moyer, Match, Non-match, Multi-district and State Reserve, Rural Assistance Program, and Moyer Interest.

Table 2: Moyer Funding Years 1-18 by General Source Category - Since Inception in 1998

General Source Category	Engine Count	Life NOx+ROG (tons)	Life PM (tons)	Funds Executed
On-Road	7,337	24,499	664	\$182,922,662
Off-Road Other	2,977	39,699	1,378	\$232,462,104
Off-Road Agricultural	3,154	16,765	675	\$179,189,273
Stationary and Portable Agricultural Engines	7,751	61,261	2,357	\$111,514,081
Marine Vessels	1,986	30,289	1,404	\$141,218,229
Locomotives	218	7,891	207	\$78,674,551
Car Scrap	26,568	2,859	15	\$28,402,054
Lawn and Garden Equipment	11,035	67	3	\$1,600,075
Shore Power	4	462	11	\$8,875,880
Infrastructure	N/A	N/A	N/A	\$13,761,558
	61,029	183,791	6,713	\$978,620,467

Table 3: Moyer Funding Years 1-7 by General Source Category - from Status Report

General Source Category	Engine Count	Life NOx+ROG (tons)	Life PM (tons)	Funds Executed
On-Road	2,782	15,426	418	\$46,990,021
Off-Road Other	662	13,649	654	\$25,165,414
Off-Road Agricultural	157	628	26	\$1,778,700
Stationary and Portable Agricultural Engines	4,326	39,834	1,778	\$49,852,783
Marine Vessels	606	16,629	954	\$34,926,693
Locomotives	35	1,268	26	\$3,184,149
Car Scrap	0	0	0	0
Lawn and Garden Equipment	0	0	0	0
Shore Power	0	0	0	0
Infrastructure	0	0	0	0
	8,567	87,434	3,857	\$161,897,759

Table 4: Moyer Funding Years 8-18 by General Source Category - from CARL

General Source Category	Engine Count	Life NOx+ROG (tons)	Life PM (tons)	Funds Executed
On-Road	4,555	9,073	246	\$135,932,641
Off-Road Other	2,315	26,050	725	\$207,296,690
Off-Road Agriculture	2,997	16,137	649	\$177,410,573
Stationary and Portable Agricultural Engines	3,425	21,426	579	\$61,661,298
Marine	1,380	13,660	449	\$106,291,536
Locomotive	183	6,623	181	\$75,490,402
Car Scrap	26,568	2,859	15	\$28,402,054
Lawn and Garden Equipment	11,035	67	3	\$1,600,075
Shore Power	4	462	11	\$8,875,880
Infrastructure	0	0	0	\$13,761,558
	52,462	96,356	2,857	\$816,722,707

Table 5: Program Statistics by Funding Years 8-18²

Funding Year	Engine Count	Life NOx+ROG (tons)	Life PM (tons)	Funds Executed	Project Allocation Funds ¹
8	4,204	28,285	867	\$100,075,642	\$94,977,599
9	5,625	14,525	468	\$96,482,345	\$91,599,870
10	3,374	10,730	250	\$93,829,973	\$91,695,316
11	9,547	10,041	265	\$84,272,798	\$80,461,822
12	2,602	5,725	141	\$72,211,335	\$70,381,770
13	5,565	6,758	215	\$78,933,255	\$72,234,034
14	11,744	5,444	168	\$74,774,605	\$72,129,676
15	4,019	5,076	169	\$70,721,623	\$64,812,283
16	2,605	4,559	156	\$65,759,385	\$66,774,215
17	2,079	4,421	131	\$66,454,271	\$69,727,812
18	1,098	791	25	\$13,207,476	\$69,092,395
	52,462	96,356	2,857	\$816,722,707	\$843,886,792

1. Project Allocation Funds are the annual project allocation including regular Moyer, Match, Multi-district and State Reserve, Rural Assistance Program, and reported Moyer interest, but does not include administration funds.

2. Funding years highlighted in green are in progress and are subject to change. Liquidated years, in gray, represent fully paid and operational projects, whereas progress year data may not be finalized.

Table 6: Program Statistics by Source Category and Project Type for Funding Years 8-18

Detailed Source Category	Engine Count	Life NOx+ROG (tons)	Life PM (tons)	Funds Executed
On-Road Voucher Incentive Program - Replacement	1,738	3,578	33	\$57,741,496
On-Road TIMBER - Replacement	146	365	10	\$7,471,250
On-Road Fleet Modernization - Replacement	239	751	51	\$21,510,053
On-Road Heavy-Duty Vehicles - New Purchase	612	1,475	6	\$14,627,367
On-Road Heavy-Duty Vehicles - Repower	972	2,109	56	\$19,944,188
On-Road Heavy-Duty Vehicles - Retrofit	848	795	89	\$14,638,288
Car Scrap (VAVR) - Scrap	26,568	2,859	15	\$28,402,054
Lawn and Garden Equipment - Scrap	11,035	67	3	\$1,600,075
Locomotives - Idle Limiting Device	61	485	14	\$770,598
Locomotives - New Purchase	67	4,194	117	\$49,671,196
Locomotives - Remanufacture Kit	3	175	5	\$575,163
Locomotives - Repower	52	1,768	44	\$24,473,446
Marine Vessels - Repower	1,377	13,558	447	\$104,228,637
Marine Vessels - Retrofit	3	102	3	\$2,062,899
Marine Vessels - Shore Power	4	462	11	\$8,875,880
Off-Road Equipment - Mobile Agricultural - Replacement	2,586	13,627	560	\$156,105,354
Off-Road Equipment - Mobile Agricultural - Repower	375	2,437	83	\$20,302,714
Off-Road Equipment - Mobile Agricultural - Retrofit	1	0	0	\$5,005
Off-Road Equipment - Construction - Replacement	288	1,617	58	\$41,111,529
Off-Road Equipment - Construction - Repower	1,596	23,000	621	\$151,193,115
Off-Road Equipment - Construction - Retrofit	45	0	3	\$771,164
Off-Road Equipment - Cargo Handling - Replacement	11	60	2	\$876,732
Off-Road Equipment - Cargo Handling - Repower	25	137	1	\$3,026,966
Off-Road Equipment - Cargo Handling - Retrofit	1	0	0	\$13,249
Off-Road Equipment - Other - New Purchase	27	251	9	\$330,569
Off-Road Equipment - Other - Replacement	81	144	7	\$4,529,979
Off-Road Equipment - Other - Repower	40	700	15	\$2,087,700
Off-Road Equipment - Other - Retrofit	25	13	2	\$238,390
Off-Road Equipment - Airport Ground Support - Replacement	95	93	5	\$2,780,358
Off-Road VIP Agriculture - Replacement	35	74	6	\$997,500
Off-Road VIP Construction - Replacement	2	4	0	\$45,500
Off-Road Equipment - Forklift Engines - Retrofit	13	10	0	\$58,259
Stationary and Portable Agricultural Engines - New Purchase	32	195	8	\$179,779
Stationary and Portable Agricultural Engines - Repower	3,392	21,228	571	\$61,459,719
Stationary and Portable Agricultural Engines - Variable Frequency	1	3	0	\$21,800
Transport Refrigeration Unit - New Purchase	20	0	0	\$118,916
Transport Refrigeration Unit - Retrofit	46	21	2	\$114,264
Infrastructure - Infrastructure	0	0	0	\$13,761,558
	52,462	96,356	2,857	816,722,707

Table 7: Program Statistics by Air District and Source Category for Funding Years 8-18

Air District and Source Category	Engine Count	Life NOx+ROG (tons)	Life PM (tons)	Funds Executed
Amador County APCD				
On-Road	1	2	0.1	\$45,000
Off-Road Other	3	14	0.3	\$95,798
	4	16	0	\$140,798
Antelope Valley AQMD				
Off-Road Agriculture	24	145	5.5	\$2,540,420
Off-Road Other	19	83	3.8	\$1,866,291
Infrastructure	0	0	0.0	\$410,806
Stationary and Portable Agricultural Engines	5	49	1.5	\$302,816
Car Scrap	686	69	0.4	\$686,000
	734	345	11	\$5,806,333
Bay Area AQMD				
On-Road	374	641	13.1	\$10,912,454
Marine	320	7,982	243.8	\$28,862,501
Off-Road Agriculture	469	775	39.2	\$22,685,332
Off-Road Other	311	2,117	80.7	\$21,620,323
Locomotive	26	861	23.7	\$8,997,454
Stationary and Portable Agricultural Engines	6	18	0.6	\$64,438
Car Scrap	23,131	2,459	13.0	\$24,758,049
	24,637	14,853	414	\$117,900,551
Butte County AQMD				
Stationary and Portable Agricultural Engines	90	243	8.7	\$1,542,548
Off-Road Agriculture	67	234	11.0	\$1,884,733
On-Road	14	35	1.1	\$792,062
Off-Road Other	12	42	1.1	\$555,659
	183	554	22	\$4,775,001
Calaveras County APCD				
On-Road	8	26	1.8	\$666,552
Off-Road Other	2	45	1.6	\$189,839
Lawn and Garden Equipment	11	0	0.0	\$1,595
	21	71	3	\$857,986
Colusa County APCD				
Stationary and Portable Agricultural Engines	159	1,428	50.2	\$3,140,630
Off-Road Agriculture	15	85	22.5	\$579,648
	174	1,514	73	\$3,720,278

Eastern Kern APCD				
On-Road	3	5	0.3	\$234,490
Off-Road Other	12	59	1.9	\$905,636
Stationary and Portable Agricultural Engines	23	49	1.0	\$571,263
	38	112	3	\$1,711,388
Feather River AQMD				
Stationary and Portable Agricultural Engines	90	208	8.3	\$1,058,844
Off-Road Agriculture	89	377	19.4	\$2,777,230
Off-Road Other	2	4	0.2	\$97,600
	181	589	28	\$3,933,675
Glenn County APCD				
Off-Road Other	3	15	0.5	\$216,745
On-Road	6	0	0.5	\$77,556
Stationary and Portable Agricultural Engines	150	482	17.0	\$1,699,873
Off-Road Agriculture	27	92	4.3	\$900,231
	186	589	22	\$2,894,406
Imperial County APCD				
Stationary and Portable Agricultural Engines	92	151	4.9	\$1,780,752
Off-Road Agriculture	55	121	5.6	\$1,455,662
Infrastructure	0	0	0.0	\$229,559
	147	272	11	\$3,465,973
Lake County AQMD				
Stationary and Portable Agricultural Engines	3	3	0.1	\$37,437
Off-Road Other	2	4	0.1	\$91,976
On-Road	3	7	0.8	\$197,852
	8	15	1	\$327,265
Lassen County APCD				
Stationary and Portable Agricultural Engines	25	152	5.7	\$493,496
Off-Road Agriculture	26	64	2.8	\$965,227
On-Road	2	4	0.1	\$75,000
Off-Road Other	5	16	0.4	\$303,483
	58	236	9	\$1,837,205
Mendocino County AQMD				
On-Road	21	7	1.4	\$371,369
Off-Road Agriculture	5	33	1.0	\$475,318
Marine	10	127	4.3	\$498,337
Stationary and Portable Agricultural Engines	12	45	1.6	\$380,372
Off-Road Other	7	47	1.5	\$590,016
	55	259	10	\$2,315,412

Modoc County APCD				
Off-Road Other	4	41	1.4	\$155,914
Stationary and Portable Agricultural Engines	4	6	0.2	\$74,032
Off-Road Agriculture	1	5	0.1	\$46,180
	9	51	2	\$276,126
Mojave Desert AQMD				
Car Scrap	950	97	0.5	\$1,123,949
Infrastructure	0	0	0.0	\$1,814,829
Off-Road Other	15	91	3.3	\$1,289,175
On-Road	2	2	0.1	\$59,408
Off-Road Agriculture	1	6	0.3	\$87,198
	968	196	4	\$4,374,560
Monterey Bay Unified APCD				
Stationary and Portable Agricultural Engines	41	144	4.4	\$911,130
Off-Road Other	18	123	4.8	\$2,868,902
Marine	71	319	10.4	\$3,809,103
Off-Road Agriculture	39	134	7.2	\$1,712,310
Infrastructure	0	0	0.0	\$298,143
	169	719	27	\$9,599,588
North Coast Unified AQMD				
Off-Road Agriculture	49	110	5.3	\$1,828,543
On-Road	68	153	5.9	\$2,839,637
Off-Road Other	10	91	3.0	\$652,532
Marine	33	353	11.8	\$2,071,237
	160	707	26	\$7,391,948
Northern Sierra AQMD				
Infrastructure	0	0	0.0	\$95,642
Off-Road Agriculture	7	32	1.2	\$527,000
On-Road	11	17	1.5	\$593,134
Off-Road Other	14	55	1.9	\$1,131,258
	32	103	5	\$2,347,034
Northern Sonoma County APCD				
Off-Road Agriculture	37	34	2.3	\$1,135,959
Stationary and Portable Agricultural Engines	21	24	0.7	\$448,042
On-Road	5	14	0.4	\$265,000
Off-Road Other	3	10	0.4	\$122,100
Marine	3	12	0.4	\$194,100
Infrastructure	0	0	0.0	\$150,000
	69	94	4	\$2,315,201

Sacramento Metropolitan AQMD				
Off-Road Agriculture	519	2,225	79.5	\$42,354,177
Off-Road Other	120	804	26.5	\$9,174,315
On-Road	174	246	16.9	\$4,117,176
Stationary and Portable Agricultural Engines	635	2,303	69.2	\$9,394,510
Marine	10	39	1.0	\$235,786
Locomotive	40	1,193	35.2	\$10,703,763
	1,498	6,810	228	\$75,979,726
San Diego County APCD				
Off-Road Other	138	1,074	36.6	\$13,669,553
Marine	161	989	33.1	\$11,285,784
Off-Road Agriculture	34	136	6.0	\$2,941,046
On-Road	302	515	8.8	\$8,470,938
Stationary and Portable Agricultural Engines	20	111	3.5	\$543,990
Locomotive	5	265	3.7	\$3,027,309
Shore Power	2	156	2.9	\$2,497,105
	662	3,245	95	\$42,435,726
San Joaquin Valley APCD				
Off-Road Agriculture	854	8,816	311.3	\$56,966,574
Stationary and Portable Agricultural Engines	1,676	14,984	364.1	\$32,152,638
On-Road	479	823	39.3	\$13,302,135
Off-Road Other	69	1,101	37.2	\$7,320,057
Locomotive	29	1,749	49.5	\$19,204,476
	3,107	27,473	801	\$128,945,879
San Luis Obispo County APCD				
Off-Road Agriculture	32	55	2.6	\$1,383,860
Stationary and Portable Agricultural Engines	38	121	3.4	\$752,399
Off-Road Other	19	73	2.4	\$1,265,062
On-Road	26	65	1.5	\$1,038,138
Car Scrap	374	39	0.2	\$400,400
Marine	3	5	0.2	\$89,563
	492	358	10	\$4,929,422
Santa Barbara County APCD				
Off-Road Agriculture	25	96	4.0	\$1,959,385
Marine	36	71	2.4	\$1,306,812
Off-Road Other	14	76	3.5	\$824,992
On-Road	13	8	0.3	\$167,980
Stationary and Portable Agricultural Engines	24	118	3.6	\$516,771
Car Scrap	1,427	196	0.8	\$1,433,656
	1,539	565	15	\$6,209,595

Shasta County AQMD				
On-Road	55	152	3.3	\$2,856,657
Off-Road Other	24	88	4.0	\$1,292,363
Off-Road Agriculture	50	166	6.7	\$1,956,120
Stationary and Portable Agricultural Engines	13	43	1.6	\$229,023
	142	449	16	\$6,334,163
Siskiyou County APCD				
On-Road	18	38	1.5	\$870,000
Off-Road Other	9	49	1.7	\$564,000
Off-Road Agriculture	3	30	1.1	\$241,822
Stationary and Portable Agricultural Engines	1	12	0.4	\$9,394
	31	130	5	\$1,685,216
South Coast AQMD				
On-Road	2,931	6,220	144.9	\$86,403,480
Off-Road Other	1,452	19,402	487.5	\$138,486,983
Off-Road Agriculture	131	757	32.7	\$13,437,226
Marine	646	3,350	127.1	\$52,800,165
Stationary and Portable Agricultural Engines	6	67	1.0	\$279,922
Infrastructure	0	0	0.0	\$10,762,579
Shore Power	2	306	8.1	\$6,378,775
Lawn and Garden Equipment	11,024	67	2.6	\$1,598,480
Locomotive	83	2,555	68.6	\$33,557,401
	16,275	32,723	873	\$343,705,011
Tehama County APCD				
On-Road	7	18	0.5	\$357,194
Stationary and Portable Agricultural Engines	43	133	7.5	\$865,525
Off-Road Agriculture	47	152	8.4	\$1,576,918
	97	303	16	\$2,799,637
Tuolumne County APCD				
On-Road	13	19	1.3	\$653,799
Off-Road Other	5	23	1.0	\$220,107
Off-Road Agriculture	14	57	2.1	\$860,348
	32	99	4	\$1,734,254
Ventura County APCD				
Stationary and Portable Agricultural Engines	248	533	19.8	\$4,411,453
Marine	87	414	14.7	\$5,138,148
Off-Road Agriculture	377	1,402	66.8	\$14,132,106
On-Road	19	55	0.5	\$565,630
Off-Road Other	23	502	17.1	\$1,726,012
	754	2,907	119	\$25,973,349
Total	52,462	96,356	2,857	\$16,722,707

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