



Air Resources Board



Matthew Rodriguez
Secretary for
Environmental Protection

Mary D. Nichols, Chair
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Edmund G. Brown Jr.
Governor

TO: Jack Kitowski, Chief
Mobile Source Control Division

FROM: Cynthia Marvin, Chief
Transportation and Toxics Division

DATE: October 21, 2016

SUBJECT: GREENHOUSE GAS REDUCTION FUND: AIR RESOURCES BOARD
EXPENDITURE RECORD FOR FISCAL YEAR 2016-17 – LOW CARBON
TRANSPORTATION

Thank you for submitting the final expenditure record (attached) on behalf of Air Resources Board's (ARB) Mobile Source Control Division on October 21, 2016 to satisfy the requirements of Senate Bill 1018 (Budget and Fiscal Review Committee, Chapter 39, Statutes of 2012) for expenditures from the Greenhouse Gas Reduction Fund (Fund). We appreciate the iterative consultation process with your staff on the development of this record to support expenditures from the Fund for the Low Carbon Transportation Program.

This memorandum documents that ARB's Transportation and Toxics staff concurred on October 21, 2016 that the attached record is consistent with the statutory requirements of Government Code Section 16428.9 and with ARB's expectations, as documented in the *Funding Guidelines for Agencies that Administer California Climate Investments*.

The ARB Expenditure Record for the Low Carbon Transportation Program for Fiscal Year 2016-17, along with this memorandum, will be published on the ARB Cap-and-Trade Auction Proceeds website at: www.arb.ca.gov/auctionproceeds.

If you have any questions concerning this memorandum, please contact me at (916) 324-0062 or via email at Cynthia.Marvin@arb.ca.gov.

Attachment

cc: See next page.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

Greenhouse Gas Reduction Fund: Expenditure Record

Fiscal Year: 2016-17

Air Resources Board
Low Carbon Transportation

Authorizing legislation: Item 3900-101-3228 of the Budget Act of 2016, Senate Bill (SB) 826 (Leno, Chapter 23, Statutes of 2016), as amended by Assembly Bill (AB) 1613 (Committee on Budget, Chapter 370, Statutes of 2016) appropriates \$368 million from the Greenhouse Gas Reduction Fund (GGRF) to the Air Resources Board (ARB) for Low Carbon Transportation to reduce greenhouse gas (GHG) emissions. The Budget Act of 2016 further specifies that the funding be allocated as follows: \$133 million to the Clean Vehicle Rebate Project (CVRP); \$80 million to light-duty equity projects, with at least \$60 million for the Enhanced Fleet Modernization Program (EFMP) and EFMP Plus-up (car scrap and replace) and up to \$20 million for other light-duty equity projects; and \$150 million to heavy-duty vehicle and off-road equipment projects.

ARB prepared an expenditure record in September 2016 for \$133 million in CVRP funding. This expenditure record reflects the remaining Fiscal Year (FY) 2016-17 funds available to ARB for Low Carbon Transportation of \$235 million.

These Low Carbon Transportation investments expand existing ARB clean transportation programs that provide incentives for zero-emission and plug-in hybrid passenger vehicles, clean transportation options for lower-income consumers and disadvantaged communities, clean trucks and buses, and advanced freight and other heavy-duty technology. These investments are being implemented through the administrative framework established for ARB's Air Quality Improvement Program.

(1) A description of each expenditure proposed to be made by the state agency pursuant to the appropriation

<input type="checkbox"/> Agency that will administer funding	<ul style="list-style-type: none">▪ ARB
<input type="checkbox"/> Amount of proposed expenditure and appropriation reference	<ul style="list-style-type: none">▪ The total expenditure is \$368 million per Item 3900-101-3228 of the Budget Act of 2016, including \$133 million for CVRP.
<input type="checkbox"/> Estimated amount of expenditures for State agency administrative costs	<ul style="list-style-type: none">▪ The total expenditure includes \$5 million for State Operations costs for the Low Carbon Transportation Program, including CVRP.

- If applicable, identify laws or regulations that govern how GGRF funds will be used
 - AB 1532 (Pérez, Chapter 807, Statutes of 2012), SB 535 (de León, Chapter 830, Statutes of 2012), SB 1018 (Budget and Fiscal Review Committee, Chapter 39, Statutes of 2012), and SB 862 (Committee on Budget and Fiscal Review, Chapter 36, Statutes of 2014) provide the general framework for how the auction proceeds will be administered to further the purposes of AB 32.
 - Two laws provide additional guidance on ARB's investments:
 - SB 1275 (De León, Chapter 530, Statutes of 2014) establishes the Charge Ahead California Initiative with the goals of placing one million zero-emission and near zero-emission vehicles in California by 2023 and increasing access to these vehicles for lower-income consumers and consumers in disadvantaged communities. SB 1275 provides direction to ARB on implementation of its light-duty vehicle incentive programs including those funded with Cap-and-Trade auction proceeds.
 - SB 1204 (Lara, Chapter 524, Statutes of 2014) creates the California Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program, funded with Cap-and-Trade auction proceeds, to support the development, demonstration, pre-commercial pilot, and early commercial deployment of zero-emission and near zero-emission technologies with priority given to projects that benefit disadvantaged communities. SB 1204 establishes specific requirements related to how ARB prioritizes and selects projects.

-
- Continuation of existing Expenditure Record
 - This fiscal year's appropriation will support a continuing program that will fund many of the same types of projects that have already been funded under the FY 2013-14 Expenditure Record, FY 2014-15 Expenditure Record, and the Revised FY 2015-16 Expenditure Record.
 - Agricultural Worker Vanpools in the San Joaquin Valley, Zero-Emission Freight Equipment Pilot Commercial Deployment Project, Rural School Bus Pilot Project, and Low NOx Engine Incentives with Renewable Fuels are included as additional project types under this Expenditure Record for FY 2016-17.

-
- Project category
 - Low Carbon Transportation
-

- ARB approved the proposed *Fiscal Year 2016-17 Funding Plan for Low Carbon Transportation and Fuels Investments and the Air Quality Improvement Program* (FY 2016-17 Funding Plan) at a public meeting on June 23, 2016 and modified it on October 20, 2016.¹ The Funding Plan describes in detail each of the expenditures that will be made pursuant to this appropriation. These projects are summarized in Table 1 and described below.

Table 1: Low Carbon Transportation Project Allocations

Low Carbon Transportation Project Category	Funding (millions)
Light-Duty Vehicles Investments (SB 1275)	
Clean Vehicle Rebate Project (CVRP)	\$133
Light-Duty Equity Projects EFMP and EFMP Plus-Up - \$60M Car Sharing and Mobility Options - \$8M Increased Public Fleet Incentives (CVRP-Eligible Vehicles) - \$3M Financing Assistance for Lower-Income Consumers - \$6M Agricultural Worker Vanpools in San Joaquin Valley - \$3M (<i>new</i>)	\$80
Heavy-Duty Vehicles and Off-Road Equipment Investments (SB 1204)	
Advanced Technology Demonstration Projects	\$34
Zero-Emission Freight Equipment Pilot Commercial Deployment Project (<i>new</i>)	\$5
Zero-Emission Truck Pilot Commercial Deployment Project	\$18
Zero-Emission Bus Pilot Commercial Deployment Project	\$42
Rural School Bus Pilot Project (<i>new</i>)	\$10
Low NOx Engine Incentives with Renewable Fuel (<i>new</i>)	\$23
Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)	\$18
State Operations	\$5
TOTAL	\$368

□ Type of projects that will be eligible for funding

- **Light-Duty Equity Projects:** These projects, which complement CVRP, are aimed at increasing use of the cleanest light-duty vehicles in disadvantaged communities and lower-income households. These pilot projects provide GHG benefits by enabling the purchase or use of lower GHG emitting passenger vehicles. Five separate pilot projects include:
 - **EFMP and EFMP Plus-up:** This pilot operates in conjunction with EFMP, the voluntary vehicle retirement (car scrap) and replacement program implemented by ARB in coordination with the Bureau of Automotive Repair. The pilot provides additional incentives above the base EFMP

¹<http://www.arb.ca.gov/msprog/aqip/fundplan/fundplan.htm>

incentive for lower-income consumers living in ZIP codes containing a disadvantaged community census tract who retire older vehicles and replace them with used or new hybrid, plug-in hybrid, or zero-emission vehicles. FY 2014-15 and FY 2015-16 EFMP Plus-up funding was limited to the San Joaquin Valley and South Coast Air Basins. However, FY 2016-17 funding is available to any air district that implements a vehicle scrap and replacement program that meets the minimum requirements established in ARB's EFMP regulation and requests to participate.

- Car Sharing and Mobility Options: This pilot provides funding for car share projects for advanced clean vehicles (i.e., hybrids, plug-in hybrids, and/or zero-emission vehicles) and associated infrastructure in disadvantaged communities to offer an alternative mode of transportation and encourage the use of clean cars. ARB funded this category in FY 2014-15. FY 2016-17 funding will support additional car sharing projects or expand existing ones.
- Increased Incentives for Public Fleets for CVRP-Eligible Vehicles: This pilot provides higher CVRP rebates for public fleet purchases of zero-emission and plug-in hybrid light-duty vehicles in or benefiting disadvantaged communities. ARB funded this category in FY 2014-15. The pilot launched in February 2015, and the FY 2016-17 Funding Plan provides continued funding.
- Financing Assistance for Lower-Income Consumers: This pilot provides financing assistance, such as loan loss guarantees or interest rate buy-down programs, for lower-income consumers interested in moving into a cleaner vehicle. Eligible vehicles include used or new hybrid, plug-in hybrid, or zero-emission vehicles. This may help some consumers who would not typically qualify for conventional financing better afford an advanced technology vehicle. This project provides GHG benefits because the eligible vehicles emit less GHGs on a lifecycle basis than conventionally fueled models. ARB funded this category in FY 2014-15. FY 2016-17 funding is intended to expand financing assistance for lower-income consumers statewide.

- Agricultural Worker Vanpools in the San Joaquin Valley **(new)**: This pilot is designed to expand access to cleaner, lower GHG-emitting transportation options for agricultural workers in the San Joaquin Valley's disadvantaged communities.

- **Advanced Technology Demonstration Projects**: These projects are intended to accelerate the introduction of advanced GHG emission reduction technologies for heavy-duty vehicles in the freight transport and other sectors. Targeting significant funding for pre-commercial demonstrations of advanced technologies can have a direct and immediate impact on the current state of technology and provide real benefits to communities that are located near freight facilities and the other facilities where these demonstrations will take place. These advanced technology projects provide direct GHG benefits by demonstrating zero- or near-zero vehicles and equipment that emit less GHGs on a lifecycle basis than conventional diesel-fueled models. These projects should also lead to commercialization and deployment of larger numbers of cleaner vehicles and equipment if successful.

- **Zero-Emission Freight Equipment Pilot Commercial Deployment Project (new)**: This project will provide incentives for zero-emission off-road freight equipment in the early stages of commercialization to accelerate deployment and drive consumer acceptance. This project provides GHG benefits because the eligible zero-emission equipment emits less GHGs on a lifecycle basis than conventionally fueled models.

- **Zero-Emission Truck and Bus Pilot Commercial Deployment Projects**: This pilot program complements HVIP by supporting pilot deployment of larger numbers of zero-emission trucks, transit buses, or school buses, including potential funding for charging or fueling infrastructure. ARB first funded this category via a competitive solicitation in FY 2014-15. FY 2016-17 funds will be awarded to the next highest scoring applications from the FY 2014-15 solicitation. The pilot project provides GHG benefits because the eligible zero-emission trucks and buses emit less GHGs on a lifecycle basis than conventional diesel-fueled models.

	<ul style="list-style-type: none"> ▪ Rural School Bus Pilot Project (<i>new</i>): This project funds cleaner buses for rural school districts including zero-emission school buses, near zero-emission plug-in hybrid school buses, and school buses with internal combustion engines or hybrid school buses operating on renewable fuels that reduce GHG emissions. The project provides GHG benefits because the eligible school buses emit less GHGs on a lifecycle basis than conventional diesel-fueled models. ▪ Low NOx Truck Incentives (<i>new</i>): This project provides incentives to truck owners for the purchase of trucks certified to the optional low NOx standards along with a requirement to use low carbon, renewable fuel to maximize GHG benefits. These trucks, operating on low carbon, renewable fuel, provide GHG benefits because the eligible trucks emit less GHG on a lifecycle basis than conventional diesel-fueled models. ▪ HVIP: This project provides vouchers, available on a first-come, first-served basis statewide, to help California fleets offset the higher up-front cost of purchasing hybrid and zero-emission trucks and buses. HVIP has operated since 2010, and the FY 2016-17 funding will enable the project to expand to meet increasing demand and target disadvantaged communities. This project provides GHG benefits because the eligible zero-emission and hybrid trucks and buses emit less GHGs on a lifecycle basis than conventional diesel-fueled models.
<p><input type="checkbox"/> Intended recipients</p>	<ul style="list-style-type: none"> ▪ Consumers, businesses, and public fleets that purchase passenger vehicles, with extra incentives available for lower-income consumers. ▪ Public and private truck and off-road equipment owners and fleets. ▪ Transit bus, shuttle bus, and school bus fleets. ▪ Car and van sharing operators and users. ▪ Advanced technology vehicle and equipment manufacturers and dealers.
<p><input type="checkbox"/> Process for selecting projects for funding</p>	<ul style="list-style-type: none"> ▪ The approved Funding Plan describes the process for selecting projects. The majority are selected via competitive solicitation. In the case of HVIP, Increased Public Fleet Incentives, and Low NOx Engine Incentives with Renewable Fuels, a project administrator is selected via competitive solicitation, and rebates or vouchers are then awarded to qualifying applicants on a first-come, first-served basis.

(2) A description of how a proposed expenditure will further the regulatory purposes of Division 25.5 (commencing with Section 38500) of the Health and Safety Code, including, but not limited to, the limit established under Part 3 (commencing with Section 38550) and other applicable requirements of law.

-
- How the expenditure is reflected in the three-year Investment Plan and the Scoping Plan
- Consistent with Investment Plan: Health and Safety Code section 39718 requires that all GGRF moneys be appropriated in a manner that is consistent with the Administration's three year Investment Plan. The *Cap-and-Trade Auction Proceeds Second Investment Plan: Fiscal Years 2016-17 through 2018-19* identifies the following investment concepts for clean transportation:²
 - Support accelerated adoption and deployment of clean passenger vehicles and transit buses.
 - Support demonstrations, pilot projects, and deployment of zero and near-zero emission heavy duty trucks, freight and non-freight equipment (e.g., forklifts, agricultural equipment, yard trucks, locomotives, ships, and other harbor craft), and airport equipment.
 - Support electric vehicle and equipment charging, hydrogen and renewable fuels and infrastructure, and electric vehicle charging and smart grid integration, including in multi-unit dwellings, small businesses, schools, retail locations, ports, truck stops, and distribution centers.
 - Support demonstration and implementation of passenger and freight efficiency measures to reduce the carbon footprint while increasing capacity and competitiveness (e.g., connected vehicles, information technology, collaborative logistics, etc.).

The Low Carbon Transportation expenditures described in the record are consistent with these investment concepts.

- Implements Climate Change Scoping Plan Recommendation: The 2014 *First Update to the Climate Change Scoping Plan* identified key strategies and recommendations to continue reducing GHG emissions and achieve the goals and purposes of AB 32. One of the key recommended actions for the transportation system is:

²<http://www.arb.ca.gov/cc/capandtrade/auctionproceeds/16-17-final-second-investment-planii.pdf> See Figure 12 for Investment Concepts for Transportation and Sustainable Communities.

“ARB, CEC, CPUC, and CDFA will support growing markets for clean passenger transportation, advanced technology trucks and equipment, and low-carbon transportation fuels and energy, including any necessary infrastructure.”³

The Low Carbon Transportation expenditures described in the record will help implement this Scoping Plan recommendation.

(3) A description of how a proposed expenditure will contribute to achieving and maintaining greenhouse gas emission reductions pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.

- | | |
|--|---|
| <input type="checkbox"/> Describe how expenditures will achieve GHG reductions or net GHG benefits | <ul style="list-style-type: none">▪ For vehicle and equipment projects, expenditures will achieve GHG reductions by funding the purchase of zero or near zero-emission vehicles or equipment which emit less GHG emissions than comparable conventionally fueled vehicles or equipment. |
| <input type="checkbox"/> Expected time frame when reductions will be achieved and how expenditure will maintain GHG reductions or net GHG benefits | <ul style="list-style-type: none">▪ The expected time frame when reductions will be achieved and the length of time these expenditures will maintain GHG reductions varies by project.▪ The HVIP, Low NOx Engine Incentives, EFMP Plus-up, and Increased Public Fleet Incentives for CVRP-Eligible Vehicles projects will all start providing benefits in 2016. These represent the majority of the expenditures. For some of the pilot projects and advanced technology demonstrations, there can be a time lag between project kickoff and vehicle deployment at which time GHG reductions will be realized. For example, the first phase of pre-commercial demonstration involves building the advanced technology vehicles and equipment, and the first phase of a car share pilot involves project development and design. ARB expects all of these projects to be awarded and grants in place by 2017, but emission reductions may not be achieved until 2018 in some cases.▪ The project life for these projects varies between 3 years and 15 years. The expected project life for each project is listed in Table A-22 in Appendix A of the FY 2016-17 Funding Plan. |
-

³ *First Update to the Climate Change Scoping Plan: Building on the Framework Pursuant to AB 32 The California Global Warming Solutions Act of 2006*, May 2014
http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf

(4) A description of how the state agency considered the applicability and feasibility of other nongreenhouse gas reduction objectives of Division 25.5 (commencing with Section 38500) of the Health and Safety Code.

<p><input type="checkbox"/> Expected co-benefits, particularly environmental, economic, public health and safety, and climate resiliency</p>	<ul style="list-style-type: none"> ▪ In addition to providing GHG benefits, these expenditures will provide air quality, public health, and economic benefits. ▪ <u>Air Quality and Public Health Benefits:</u> All clean vehicle projects will reduce criteria pollutant forming emissions of NOx, reactive organic gases (ROG), and particulate matter that contribute to ozone and particulate matter air pollution. By reducing NOx, ROG, and particulate matter emissions, these projects help California meet the health-based air quality standards and reduce toxic hot spots in California including those near freight hubs. Several of the projects will be designed to limit participation to the regions of California with the worst air quality in order to maximize air quality and public health benefits. Clean truck, bus, and heavy-duty equipment projects will also reduce emissions of diesel particulate matter, a toxic air contaminant, thereby reducing toxic risk to Californians. ▪ <u>Economic Benefits:</u> Several companies that manufacture vehicles eligible for ARB Low Carbon Transportation funding are located in California. The incentives which encourage the purchase of these vehicles provide an economic benefit to these companies and support California jobs.
<p><input type="checkbox"/> How the project will support other AB 32 objectives</p>	<ul style="list-style-type: none"> ▪ As noted above, the clean vehicle and equipment technologies being funded have air quality and public health co-benefits. ▪ These projects also direct investment toward disadvantaged communities in California and provide economic benefits to California based businesses.
<p><input type="checkbox"/> Percentage of total funding that will be expended for projects that are “located within” and “provide benefits to” disadvantaged communities, per the criteria in Volume 2 of</p>	<ul style="list-style-type: none"> ▪ For light-duty equity projects, at least 95% will be expended for projects that provide benefits to disadvantaged communities and at least 10% of these funds will be expended for projects located in disadvantaged communities. ▪ For heavy-duty vehicles and off-road equipment, at least 75% will be expended for projects that provide benefits to disadvantaged communities and at least 38% of these funds will be expended for projects located in disadvantaged communities.

ARB's Funding Guidelines

- These expenditures will improve public health by reducing emissions from vehicles and equipment operating in or near disadvantaged communities. In addition, some of these expenditures directly increase disadvantaged community residents' access to cleaner vehicles and transportation and provide an economic benefit to those lower-income Californians that receive funding. These benefits are explained in more detail in Chapter 6 of the FY 2016-17 Funding Plan, Maximizing Disadvantaged Community Benefits for Low Carbon Transportation and Fuels Investments.
- The ARB Funding Guidelines require that investments counted as benefitting disadvantaged communities must meaningfully address an important community need. Table 2-2 of the ARB Funding Guidelines identifies some common needs of disadvantaged communities, as identified by community advocates. The FY 2016-17 Low Carbon Transportation projects meet several of these needs as shown in Table 2 below:

□ Describe the disadvantaged community benefits and explain strategies the agency will use to maximize benefits

Table 2: Common Needs of Disadvantaged Communities Addressed by Low Carbon Transportation Investments

Public Health and Safety, Need 1	Reduce health harms suffered disproportionately by low-income residents/communities due to air pollutants.
Economic, Need 5	Reduce transportation costs and improve access to public transportation.
Environmental, Need 1	Reduce exposure to local environmental contaminants, such as toxic air contaminants, criteria air pollutants, and drinking water contaminants.
Environmental, Need 2	Prioritize zero-emission vehicle projects for areas with high diesel air pollution.

- ARB is pursuing a number of strategies to maximize disadvantaged community benefits. These include, among others: requiring that certain projects be located in or benefitting disadvantaged communities in order to be eligible to receive funding; providing higher incentives for lower-income consumers or vehicles that operate in disadvantaged communities for some project categories; and increasing outreach to disadvantaged communities. These approaches are discussed more fully in Chapter 6 of the FY 2016-17 Funding Plan.

(5) A description of how the state agency will document the result achieved from the expenditure to comply with Division 25.5 (commencing with Section 35800) of the Health and Safety Code.

<p>□ How the agency will track and report progress to make sure projects are implemented per GGRF requirements</p>	<ul style="list-style-type: none"> ▪ Through its grant agreements, ARB will require funding recipients to maintain records and submit regular status reports. In addition, ARB will conduct periodic reviews of selected projects. If a funding recipient does not perform in accordance with program requirements, the recipient will be subject to the remedies for non-performance.
<p>□ Approach that will be used to document net GHG reductions before and after project completion. Include citations for references that support methodology</p>	<ul style="list-style-type: none"> ▪ ARB will use several mechanisms to both prospectively estimate project GHG benefits and retrospectively document the results achieved from its expenditures. ▪ ARB has provided preliminary estimates of potential GHG benefits of proposed projects and described its quantification methodology as part of the FY 2016-17 Funding Plan, Appendix A. These GHG benefit estimates are consistent with ARB's FY 2014-15 Quantification Methodologies for Low Carbon Transportation. ▪ As detailed project solicitations are developed and projects are implemented, ARB will develop quantification methodologies for FY 2016-17 to further refine estimates in order to reflect more precisely project implementation details. Additional information on the methods for estimating emission benefits are available on ARB's Quantification Materials website.⁴ ▪ In addition to these prospective benefits estimates, ARB will design each project to collect all data necessary to document the emission reductions achieved. ARB will include data collection and reporting requirements for funding recipients as part of its project solicitations and grant agreements or other appropriate enforceable agreements. This will include all information necessary to document the benefits for disadvantaged communities, consistent with the ARB Funding Guidelines.
<p>□ Type of information that will be collected to</p>	<ul style="list-style-type: none"> ▪ As noted above, ARB will design each project to collect all data necessary to document the emission reductions achieved and will include data collection and reporting requirements for

⁴ Quantification Materials website:
<https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm>

Air Resources Board Expenditure Record for Low Carbon Transportation

document project results, as described in ARB guidelines	funding recipients as part of its project solicitations and grant agreements or other appropriate enforceable agreements. This includes the project location, the technology funded, and in some cases usage and activity data.
<input type="checkbox"/> How the agency will report on program status	<ul style="list-style-type: none">▪ ARB will provide regular updates on its Low Carbon Transportation expenditures, project status, and benefits in future annual reports to the Legislature prepared according to ARB Funding Guidelines. At a minimum, these reports will include expenditure amounts, current estimates of GHG emission reductions, and quantification of co-benefits including criteria pollutant emission reductions.
