

Appendix B:
Clean Transportation Incentives
Medium- & Heavy-Duty Project Updates
Fiscal Years 2025-26 & 2026-27

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Overview

Appendix B describes the continued clean technology momentum that the California Air Resources Board (CARB), in partnership with stakeholders, has built through its medium- and heavy-duty incentive projects. Over the past 10-plus years, the Air Quality Improvement Program and Clean Transportation Incentives have supported the deployment of cleaner on-road vehicles and off-road equipment through development and implementation of its medium- and heavy-duty incentive projects, and this appendix provides status updates on these projects.

The purpose of Appendix B is to:

- Provide status updates on the projects,
- Share the positive impacts of projects, and
- Describe new implementation changes CARB has begun or will enact in the coming year to improve the projects for those they are intended to serve.

Medium- and Heavy-Duty Incentive Project Overview

To help achieve the State's air quality, climate, and zero-emission deployment goals, CARB administers a portfolio of incentive projects for medium- and heavy-duty on-road vehicles and off-road equipment. Zero-emission technologies in the heavy-duty space have advanced rapidly over the past several years and have grown significantly due, in part, to the State's historic investments. California has traditionally relied on a combination of programs and incentives to help meet these goals for cleaner on-road and off-road fleets.

Unfortunately, recent unprecedented and illegal actions taken by the federal government are hindering the State's ability to meet its goals. The resulting gaps in some of CARB's programs mean that additional incentives are critically needed to continue market momentum for zero-emission vehicles (ZEV) and off-road equipment. At the same time, CARB strives to distribute incentives equitably, providing them to those who need them most while simultaneously driving overall market momentum through high-volume vehicle deployments. This helps to maximize benefits for overburdened communities, and the projects funded by these investments include specific support to the communities most impacted by poor air quality and the impacts of climate change.

This appendix describes the implementation of fiscal year (FY) 2025-26 and FY 2026-27 Air Quality Improvement Program (AQIP) funding and provides a status update on the medium- and heavy-duty on-road vehicle and off-road equipment incentive projects. These incentive projects advance the goals of Governor Newsom's Executive Order (EO) N-27-25 to continue to expand the use of ZEVs and zero-emission technologies across vehicle types. Projects like the Clean Truck and Bus Voucher Incentive Project (HVIP) and Clean Off-Road Equipment Voucher Incentive Project (CORE) provide incentives to businesses, nonprofits, and public agencies to make clean transportation and zero-emission equipment more affordable, reliable, and accessible. The Sustainable Heavy-Duty Initiatives for Future

Technology (SHIFT) program also supports zero-emission technology by demonstrating pre-commercial technologies and funding pilot projects.

Medium- and Heavy-Duty Incentive Project Updates

Table B-1 below provides a description of CARB’s medium- and heavy-duty on-road vehicle and off-road equipment incentive projects and provides a glimpse of the numerous project benefits. Updates for each of the highlighted incentive projects are provided with current funding amounts, achievements, and current project status.

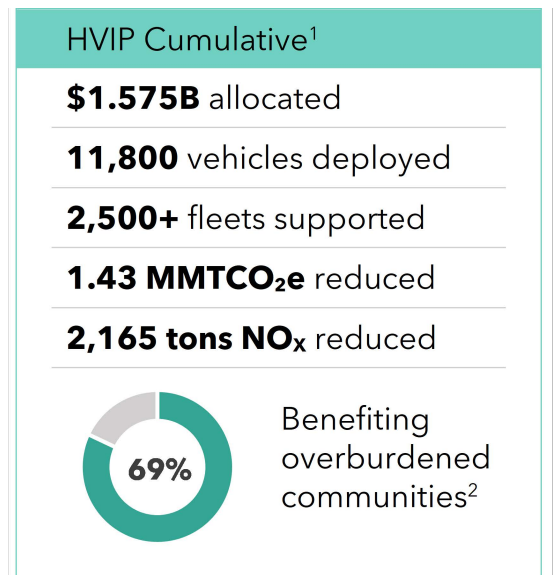
Table B-1: Medium- and Heavy-Duty On-Road Vehicle and Off-Road Equipment Incentive Projects

Project Name	Project Description	Project Status as of February 2026
<i>Clean Truck and Bus Voucher Incentive Project</i> (HVIP)	Supports purchase of cleanest available vehicles; provides vouchers to offset incremental costs of medium- and heavy-duty (MD/HD) trucks and buses. Offers purchase incentives for wide variety of MD/HD on-road vehicle types; set-asides offer focused support for certain vocations (e.g., drayage trucks, public buses: transit and school)	Ongoing Implementation; Accepting Applications
<i>Innovative Small E-Fleet Pilot Project</i> (ISEF)	Administered as a set-aside within HVIP; offers small fleets vouchers to access innovative solutions (e.g., short-term rentals, all-inclusive leases, peer-to-peer truck sharing, truck-as-a-service models, and other alternative business models)	Ongoing Implementation; Accepting Applications
<i>Public School Bus Set-Aside and Zero-Emission School Bus and Infrastructure Project</i> (ZESBI)	Administered through HVIP; provides funding for replacement of older, internal combustion engine school buses with new zero-emission school buses and complementary charging infrastructure and associated costs	Implementing projects; not accepting new applications
<i>Clean Off-Road Equipment Voucher Incentive Project</i> (CORE)	Offsets incremental cost of cleanest available off-road equipment (e.g., forklifts, transport refrigeration units, mobile power units, construction and agricultural equipment, and commercial harbor craft)	Ongoing Implementation; awaiting new funds

Project Name	Project Description	Project Status as of February 2026
<i>Sustainable Heavy-Duty Initiatives for Future Technology (SHIFT)</i>	Projects selected via competitive solicitation process; helps accelerate next generation of advanced technology vehicles, equipment, or emission controls not yet commercialized	Implementing projects; not accepting new applications
<i>Zero-Emission Truck Loan Pilot Project (ZE Truck Loan)</i>	Financing opportunities for new or used heavy-duty (HD) zero-emission vehicles; project replaces original Truck Loan Assistance Program	Ongoing Implementation; Accepting Applications
<i>Truck Loan Assistance Program</i>	Helped small business fleet owners affected by CARB's In-Use Truck and Bus Regulation to secure financing to upgrade their fleets with newer trucks. Leveraged State dollars with private investment to provide over \$3 billion to support the purchase of over 46,000 trucks resulting in more than 18,500 tons of oxides of nitrogen (NOx) emission reductions.	Closed 2023

Clean Truck and Bus Voucher Incentive Project (HVIP)

- The FY 2025-26 State Budget includes an appropriation to CARB from the Air Pollution Control Fund (APCF) of \$132.18 million. These funds are from penalties and compensation from a multi-party legal settlement with Hino Motors, a subsidiary of Toyota Motor Corporation.
- Following legislative direction that the APCF appropriation be used for HVIP, CARB is allocating the majority of the funds – \$96.57 million – to HVIP Standard, \$25 million to the HVIP Transit Bus Set-Aside to support public transit agencies ahead of Innovative Clean Transit program requirements, and \$5 million to HVIP's Innovative Small E-Fleet Pilot Project (ISEF) to



¹ Based on projects deployed through August 2025.

² Based on deployed projects funded by the Greenhouse Gas Reduction Fund.

continue supporting California small fleets and businesses as shown in Table B-2. The projected emission benefits and number of pieces of equipment are also shown in Table B-2.

- These funding amounts may be adjusted based on market demand for each HVIP category.
- Up to 5% of this appropriation is reserved to support CARB’s administration and oversight of the projects.³

Table B-2: FY 2025-26 Project Allocations for Clean Truck and Bus Voucher Incentive Project (HVIP) and Projected Benefits

Clean Truck and Bus Voucher Incentive Project (HVIP)	Air Pollution Control Fund ⁴ (millions)	GHG* (MT CO2e)	NO _x (tons)	PM2.5 (tons)	ROG (tons)	Number of Pieces of Equipment
HVIP Standard Vouchers	\$95.57	63,348	24.6	1.3	1.6	671
HVIP Transit Bus Set-Aside	\$25	2,452	4.2	0.3	0.8	133
HVIP ISEF	\$5	1,735	0.4	0.06	0.1	45

* GHG - greenhouse gas, MTCO2e - metric tons carbon dioxide equivalent, NO_x - oxides of nitrogen, PM 2.5 - fine particulate matter of 2.5 micrometers in diameter or smaller, ROG - reactive organic gas

CARB staff will also begin allowing bulk deployments of zero-emission heavy-duty vehicles in the Clean Truck and Bus Voucher Incentive Project (HVIP). Allowing existing funding in HVIP to be utilized towards bulk purchases helps to accelerate market adoption and reduces the per-vehicle costs of zero-emission vehicles. Stakeholders identified this approach as a promising strategy to stimulate additional deployments by allowing large quantities of vehicles to be requested in a single application, supporting multiple fleets through a single purchase order. This opportunity, which will utilize currently available project funds, creates a scalable pathway for high-volume purchases that can further drive down costs and expand the reach of zero-emission technologies.

- California is entering a phase where larger-scale deployment of zero-emission trucks is increasingly feasible due to growing market readiness and rising demand from fleets seeking cost-effective pathways to transition. Allowing bulk deployments in

³ The Legislature, through the State Budget, allows CARB to allocate no more than 5% of the appropriation for State Operations for implementation of the Air Pollution Control Fund monies.

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HVIP will help accelerate this progress, support high-volume purchases, and reduce per-vehicle costs.

- During the November Drive Forward Workshop, the bulk deployment concept was recommended by stakeholders to help stimulate additional deployments and drive down the costs of zero-emission on-road technology. Encouraging bulk deployments through CARB's incentive programs would enable large quantities of zero-emission trucks to be requested in a single application, with a single dealer or original engine manufacturer (OEM) submitting on behalf of multiple end-user fleets, which in turn would drive costs down through volume discounts.
- Encouraging deployments at a larger scale is one of the most cost-effective ways to bring down the cost of zero-emission trucks and accelerate market adoption, and staff aims to support this concept by updating the HVIP program. CARB staff will evaluate HVIP and its available funding to develop an application pathway to allow for bulk deployments.

A significant portion of investments were directed to small- and medium-sized fleets. From 2021 to 2023, about 70% of vouchers were requested by fleets with 50 or fewer heavy-duty vehicles based in California. From January 1, 2024, to July 31, 2025, 53%⁵ of vouchers were requested by small fleets.⁶

- While large fleets continue to have an important role in supporting early truck deployments, CARB staff expects to see demand from smaller fleets continue to grow, which will help to support CARB's focus on equity for the investment of Clean Transportation Incentives.
- Small fleets make up most of the California trucking fleet population. Of the fleets that operate Class 4-8 trucks in California, about 99% own fewer than 50 trucks.⁷

HVIP Standard

- Critical incentive project supporting heavy-duty zero-emission truck and bus market.
- Over 11,800 clean vehicles deployed, with 58% deployed in pollution-burdened communities, supporting more than 2,000 fleets.
- Relunched September 9, 2025, with record-breaking demand, exhausting \$155 million in Standard HVIP funds within one week while also securing \$69 million in Drayage Set-Aside voucher requests across multiple Original Equipment Manufacturers (OEM).
- Staff will annually review total cost of ownership (TCO) between ZEVs and diesel vehicles, targeting incentive amounts to achieve parity within three years.

⁵ [California HVIP Deployed Vehicle Mapping Tool](#).

⁶ A small fleet is defined as any entity that has (a) 20 or fewer vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 8,500 pounds under common ownership or control and domiciled in California and (b) less than \$15 million in revenue.

⁷ 2019 Department of Motor Vehicles Data.

- Beginning in 2026, HVIP will introduce eligibility for Class 2b pickup trucks for public fleets and nonprofit organizations. In addition, CARB will assess market conditions to potentially phase out Class 2b and Class 3 vouchers for private fleets as they reach cost parity with combustion vehicles.
- Beginning in 2026, staff will implement a phased-in zero-emission truck testing program using industry-established methodologies to ensure vehicles meet real-world fleet performance expectations.
- HVIP will begin piloting a bulk purchase incentive option that supports large-scale vehicle orders, leverages economies of scale, and provides fleets with lower per-unit costs.

HVIP Public Transit Buses

- 726 buses have been funded to date with \$143 million, driving growth in the zero-emission transit market.
- In this funding plan cycle, CARB staff is analyzing transit bus costs and pricing trends to determine potential voucher adjustments and establish price containment measures, while aligning HVIP eligibility definitions with the Innovative Clean Transit program to ensure fair support for both large and small transit agencies.

Innovative Small E-Fleets (ISEF)

- Since launching in 2021, ISEF has provided \$36.4 million in vouchers, with 275 vouchers for vehicles that are already on the road.
- 76% of projects have benefited overburdened communities.
- In the 2024-25 fiscal year, 91 unique small fleets were supported with an average fleet size of six vehicles, and 209 vouchers were requested.
- Staff continues exploring new innovative options including a Used Truck Voucher Pilot Concept, Advanced Fleet Management Assistance, and Insurance support.

Public School Bus (PSB) and Zero-Emission School Bus & Infrastructure (ZESBI)

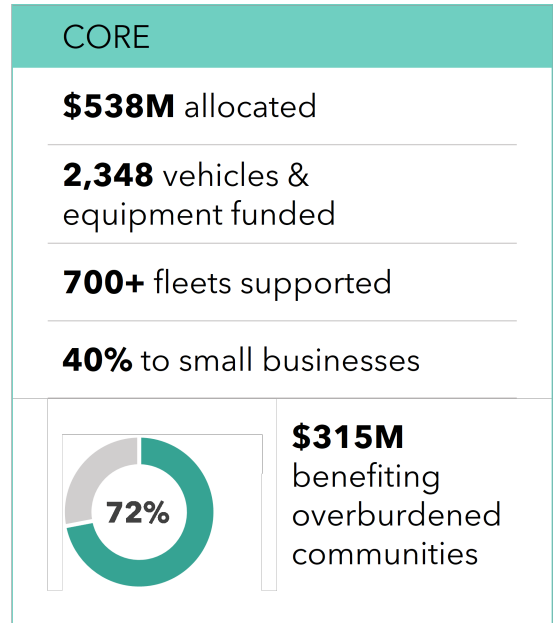
- \$640 million allocated to fund the replacement of approximately 1,400 old internal combustion school buses with new zero-emission school buses in approximately 200 public school districts.
- More than 310 zero-emission school buses have been delivered so far.
- Recent ZESBI solicitation was oversubscribed. Agreements were sent out starting December 2025 and deliveries of new zero-emission school buses are expected to start in late 2026.

Cal Fleet Advisor

- Cal Fleet Advisor was developed to provide free technical assistance for fleets navigating zero-emission technology and funding options. Senate Bill 372 ([Leyva, Chapter 639, Statutes of 2021](#)) directed CARB to develop an assistance and purchasing support project to aid in the deployment of medium- and heavy-duty zero-emission vehicles, which resulted in the creation of Cal Fleet Advisor.
- Since launching in August 2023, over 1,100 fleets have enrolled in the project, with 66% being small fleets with 10 vehicles or fewer. This percentage indicates the project has been valuable for small fleets in helping to simplify the process of exploring zero-emission vehicles.
- To increase awareness about the project, project staff continue to explore outreach methods targeted toward small fleets, such as webinars, in-person events, and social media outreach.

Clean Off-Road Equipment Voucher Incentive Project (CORE)

- Established in 2020, CORE is intended to accelerate the deployment rate of zero-emission technology in the off-road sector. CORE provides vouchers to purchasers of eligible equipment on a first-come, first-served basis.
- As of February 2026, CORE has deployed 2,348 pieces of zero-emission equipment supporting over 700 fleets, with 72% of funding issued for equipment in disadvantaged or low-income communities.
- To date, \$315 million in CORE funding has gone directly to projects located in overburdened communities, supporting cleaner air and climate benefits in the state’s most impacted communities.
- Small businesses have received approximately 40% of funding, ensuring that they continue to have strong access to program funding.
- In a CORE purchaser survey, 92% said they would not have purchased zero-emission equipment without CORE incentives.
- To date, demand for CORE funding has far exceeded available resources, with \$739 million in requests compared to \$538 million in appropriated funds.
- The estimated emissions prevented over three years of operation from delivered CORE funded equipment total 250,000 tons of carbon dioxide equivalent greenhouse gas, 240 tons of oxides of nitrogen, 260 tons of reactive organic gases, and 6.4 tons of fine particulate matter.
- For the FY 2024-25 funding cycle, \$36 million was allocated and \$104 million, or 658 units, were requested.



Sustainable Heavy-Duty Initiatives for Future Technology (SHIFT)

- \$576 million allocated along with \$556 million in project partner contributions to date.
- 690 vehicles and pieces of equipment have been funded to date, providing over 180,000 metric tons of carbon dioxide equivalent emission reductions (MTCO₂e) and 640 tons of NO_x emissions reductions.
- Electric Power Research Institute (EPRI), as the third-party administrator for SHIFT, began their role in July 2023 and have been assisting with outreach, implementation and administrative oversight of SHIFT projects.
- CARB, in collaboration with EPRI, hosted a SHIFT symposium in 2025 to bring together project participants and showcase the program to the public.
- As a result of the Advanced Technology and Demonstration Pilot Project (ATDPP) \$200 million solicitation in 2023, 12 projects were added to the SHIFT portfolio and are currently being implemented.
- Project data from past SHIFT projects have provided crucial feedback to manufacturers, fleets, and government agencies. Staff continues to work with stakeholders to develop metrics to capture the benefits associated with these projects.
- Select SHIFT projects are highlighted below in figure B-1.

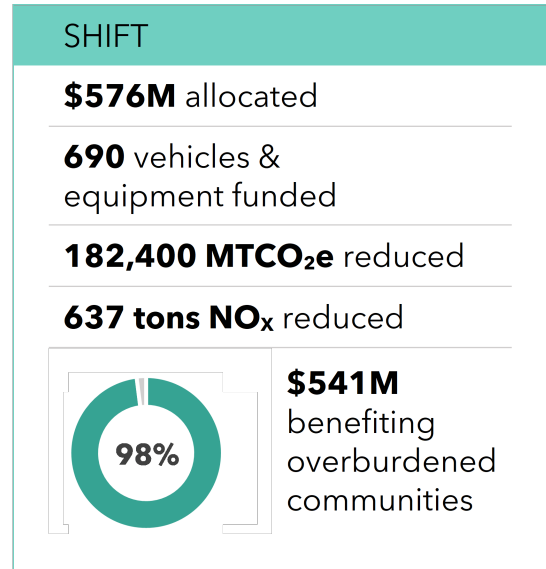


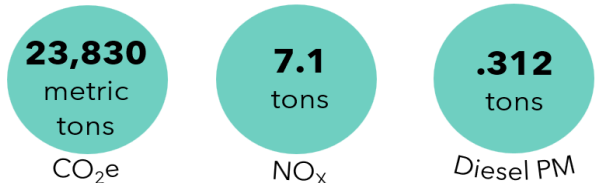
Figure B-1: Medium- and Heavy-Duty Projects with Highlighted SHIFT Projects



Drayage Truck Pilots

To demonstrate how fleets can incorporate zero-emission vehicles in drayage routes, SHIFT has deployed 230 trucks in pilot projects including GROCER, JETSI, NorCal, and Pepsi.

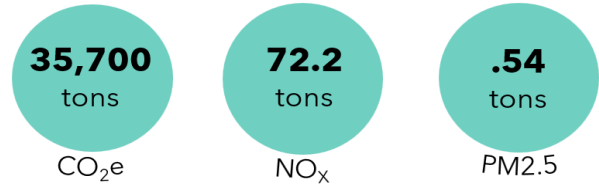
Annual Reduction Metrics



Harbor Craft Projects

SHIFT has multiple zero-emission commercial harbor craft projects that will be used in ferry, excursion, and commercial fishing operations.

Annual Reduction Metrics



Victoria Island Farms

Victoria Island Farms is using autonomous, battery-powered drones to replace traditional diesel and petroleum powered agricultural equipment while being supported by renewable, off-grid charging infrastructure.

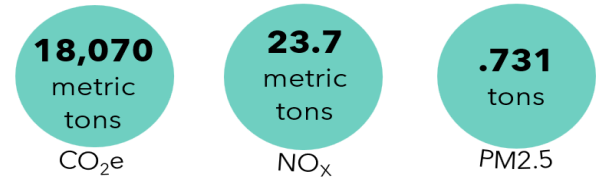
Annual Reduction Metrics



Green Zone Projects

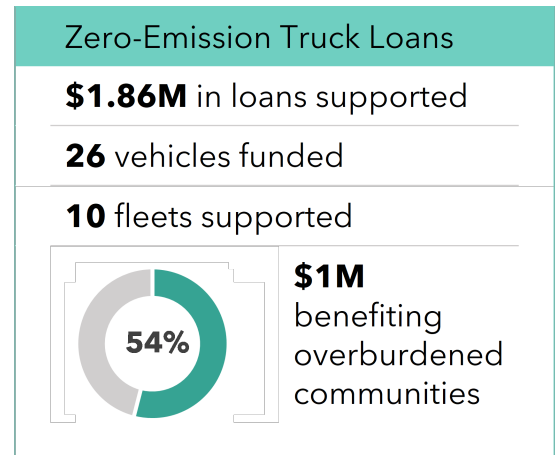
SHIFT has multiple green zone projects that will demonstrate the practicality of deploying zero-emission vehicles and equipment across municipalities and creating toolkits to help other city and county fleets deploy clean transportation options.

Annual Reduction Metrics



Zero-Emission Truck Loan Pilot

- Pilot program launched in May 2024
- 26 vehicles have been funded supporting 10 fleets, 54% of which were in overburdened communities.
- Nine participating lenders. Approximately \$1.86 million in loans supported with approximately \$465,000 contributed to reserve accounts.
- Participation is expected to grow as secondary market develops.



Looking Ahead

CARB’s investment strategy enables progress toward State climate change and air quality goals while promoting equity by ensuring investments benefit the communities most impacted by poor air quality.

New advancements are expanding technology options and reaching new market segments, supporting the adoption of clean vehicles and helping meet California’s ambitious air quality and climate change goals. As other planned and approved programs continue the push for widespread adoption of zero-emission technologies, incentives play an increasingly important role in supporting the small businesses and fleets that could be challenged to purchase new vehicles or equipment without financial assistance.

Acronyms

APCF - Air Pollution Control Fund

CARB or Board - California Air Resources Board

CO_{2e} - carbon dioxide equivalent

CORE - Clean Off-Road Equipment Voucher Project

EO - Executive Order

FY - Fiscal Year

HVIP - Clean Truck and Bus Voucher Incentive Project

ISEF - Innovative Small E-Fleet Pilot Project

M - million(s)

MD/HD - Medium- and Heavy-Duty

MMTCO_{2e} - million metric tons carbon dioxide equivalent

MTCO_{2e} - metric tons carbon dioxide equivalent

NO_x - oxides of nitrogen

OEM - Original Equipment Manufacturer

PM - particulate matter

PM_{2.5} - fine particulate matter of 2.5 micrometers in diameter or smaller

PSB - Public School Bus

ROG - reactive organic gas

SHIFT - Sustainable Heavy-Duty Initiatives for Future Technology

TCO - total cost of ownership

ZE - zero-emission

ZE Truck Loan - Zero-Emission Truck Loan Pilot Project

ZESBI - Zero-Emission School Bus and Infrastructure Project

ZEV - zero-emission vehicle