California Air Resources Board
Zero Emission Vehicle
2023
Action Plan

Introduction

The California Air Resources Board (CARB) is focused on the transition to zero-emission vehicles (ZEVs) and low carbon transportation in all of its work, with a strong focus on equitably reducing community exposure to vehicular air pollution using a broad portfolio of regulatory, incentive, and planning strategies. These strategies embrace both upstream and downstream portions of the sector, from fuels production to vehicle design, and are implemented in partnership with the federal government, other states, CARB works to develop, promote, and support new clean technologies and to make them broadly accessible to Californians. California agencies, local governments, and communities. The subset of activities identified in this report focus on near-term, concrete, actions anticipated in 2023.

Key themes include:

- A strong emphasis on partnerships. For instance, CARB works to support national, state, and local regulators who are advancing ZEVs and low carbon transportation planning. CARB also looks to set priorities and develop programs in close collaboration with communities. These efforts include, for instance, working with US EPA to forward regulations in its jurisdiction that can cut pollution or promote ZEVs, supporting other federal efforts (both regulatory and incentive-based), collaborating with other states that seek to advance these policies, and working with regulators in California. Within California, these collaborations include ongoing work with energy, transportation, and housing regulators to ensure the transportation system continues to evolve towards an affordable, equitable, new state that reduces dependence on single-occupancy vehicles and provides more transportation choices. Similarly, CARB looks to community organizations to assist with design of programs to ensure programs serve low-income communities, communities of color and communities disproportionately impacted by air pollution and climate change.
- Recognizing important connections between sectors and working to decarbonize the economy as a whole. CARB's many fuels and power sector programs and collaborations work to reduce the carbon intensity of fuels, drop electricity sector emissions, and support economy-wide transitions – including development of needed infrastructure for a zero-emission vehicle market. CARB works to plan and develop these programs in tandem with vehicle programs. CARB is also focused on

collaborating with other agencies to ensure continuing charging and fueling infrastructure buildout occurs comprehensively and equitably, with reliable access for all.

- A deep focus on equity and environmental justice. CARB's vision for racial equity defines racial equity as a future where race is no longer a predicator for life outcomes. CARB is committed to eliminating class- and race-based disparities in vehicular pollution exposure, opening up transportation opportunities for all, including in its incentive and regulatory programs. CARB is working to develop clear metrics that assess for racial equity in its programs, with metrics in varying stages of development by program -- this includes identifying and documenting inequities, examining the root causes of inequities, and working with stakeholders and communities to understand and address, when feasible, potential adverse impacts to advance equitable alternatives and improvements.
- Anticipating future needs across categories. As the zero-emission vehicle sector continues to develop, for instance, CARB recognizes that it is important to consider materials demand and disposal for batteries as part of its zero-emission vehicle rollout and is developing regulations that help to ensure the durability of these technologies as a result.

These themes, along with emerging priorities in this evolving space, continue to inform CARB's work, along with the specific priorities described below.

1. Regulations

1.1 Advanced Clean Fleets Regulation

The proposed Advanced Clean Fleets (ACF) regulation would contribute to achieving the State's criteria pollutant and GHG reduction goals as well as cleaner technology targets needed to protect communities. The primary goal of the ACF regulation is to accelerate the market for zero-emission trucks and buses by requiring fleets that are well suited for electrification to transition to ZEVs where feasible.

The proposed regulation would contribute to the goal of achieving the Governor's Executive Order N-79-20 to reach 100 percent ZE drayage trucks by 2035 and 100 percent ZE medium and heavy-duty vehicles by 2045, where feasible. It is part of a comprehensive strategy that would, consistent with public health needs, accelerate the widespread adoption of zero-emission vehicles (ZEV) in the medium- and heavy-duty truck sector and light-duty package delivery vehicles.

The proposed regulation would apply to drayage trucks that visit the ports and intermodal railyards, public fleet vehicles, and high priority fleets that are well suited for electrification. High priority fleets are entities with $50 million in revenue or operate 50 or more trucks under common ownership and control. It would require certain fleets to deploy ZEVs starting in 2024 and would establish a clear end to medium- and heavy-duty internal combustion engine (ICE) vehicle sales in 2036. Implementing this proposed regulation is expected to save over 2,500 California's lives to 2050. These avoided cardiopulmonary mortalities and other health benefits have an estimated value of over $26 billion dollars.

The proposed regulation complements the ZEV sales required by the Advanced Clean Trucks regulation. The two regulations are expected to result in 520,000 ZEVs by 2035 and more than 1,250,000 ZEVs by 2045 together.

Website: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets

Equity Focus: The proposed ACF regulation is consistent with CARB's environmental justice goal of reducing exposure to air pollutants and reducing adverse health impacts from toxic air contaminants in all communities. Medium- and heavy-duty mobile source vehicles emit harmful pollutants both while in transit and during stationary operations across California, but frequently congregate at warehouse and distribution centers, seaports, intermodal railyards, and other locations that are commonly located near schools, hospitals, elder care facilities, and residential neighborhoods. The accelerated deployment of medium- and heavy-duty ZEVs in low-income and DACs eliminates tailpipe emissions, decreases petroleum use, reduces energy consumption, and helps California achieve its equity, air quality, and climate protection goals.

Key Collaborators: GOBiz, California Energy Commission, California Public Utilities Commission, California Transportation Commission, Caltrans, DGS, Labor and Workforce Development, Air districts, Local and Regional Governments, Tribal Governments, Federal Government, International Governments, Community-Based Organizations, Non-Governmental Organizations, Organized labor, Electricity and, Hydrogen Providers, Infrastructure Providers, Vehicle Manufacturers, Fleets, Freight Facilities, Industry, Academia, Investors/Financing Institutions

Key Actions and Results:

1. Staff have held 1 workgroup and 1 workshop in early 2023.
2. Staff plans to release modifications to the proposed regulation in March 2023 and return to the Board for a final vote during the April 2023 Board hearing. If approved, staff will complete the rulemaking process and submit the final rulemaking package to the Office of Administrative Law later this year.

After Board approval, staff will begin implementation of the regulation including preparing outreach materials and setting up reporting systems for initial requirements beginning January 1, 2024.

1.2 In-Use Locomotive Regulation

By 2023, return to the Board for adoption of the In-Use Locomotive Regulation that requires payment for locomotive emissions emitted in California (CA). Funds would be used to mitigate emissions through use and demonstration of cleaner technologies, including zero-emissions equipment and infrastructure. Use of zero-emissions equipment is encouraged by zero-emission credit until 2030 that reduces the deposit obligations if eligible zero-emissions equipment is used. Beginning in 2030, only locomotives less than 23 years of age could be operated in CA. Additionally, starting in 2030, the regulation would require Switch, Industrial and Passenger locomotives with original engine build date of 2030 or newer to be operated in a zero-emission configuration in CA and starting in 2035, Line Haul locomotives with

original engine build dates of 2035 or newer would need to be operated in a zero-emission configuration in in CA

Website: https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california

Equity Focus:

a. Over half of all railyards in California are in disadvantaged communities. Requiring Switch and Industrial locomotives to transition to zero-emission will reduce emissions from railyards.
b. Requiring locomotives to transition to zero-emission will provide cleaner air for all of California especially those railyards located in or near disadvantaged communities.
c. Use of eligible zero-emissions equipment and infrastructure in a disadvantaged community will accrue double zero-emission credit.

Key Collaborators: GoBiz, California Energy Commission, California Public Utilities Commission, Caltrans, CalSTA, Federal Government, Community-Based Organizations, Electricity and Hydrogen Providers, Industry, Grid Operators, Battery, Locomotive, and Fuel Cell Manufacturers, Railroads

Key Actions and Results:

1. Return to Board for adoption in Spring 2023
2. Begin regulatory implementation in Fall 2023

1.3 Zero Emission Forklift Rulemaking

CARB staff is currently developing a measure that would drive greater deployment of zero-emission forklifts within fleets throughout the state. This measure, which has been identified in CARB's Mobile Source Strategy, State Implementation Plan, and Sustainable Freight Action Plan, is one of several near-term actions intended to facilitate further zero-emission equipment penetration in the off-road sector.

Website: https://ww2.arb.ca.gov/our-work/programs/zero-emission-forklifts

Equity Focus: Internal-combustion forklifts emit harmful pollutants and are used at warehouse and distribution centers, industrial facilities, and other locations that are commonly near schools, hospitals, elder care facilities, and residential neighborhoods. Furthermore, these operating locations are prevalent in low-income communities and communities of color. The accelerated deployment of zero-emission forklifts would reduce emissions in such communities, decrease petroleum use, reduce energy consumption, and help California achieve its equity, air quality, and climate protection goals.

Key Collaborators: Non-Governmental Organizations, Electricity and Hydrogen Providers, Vehicle Manufactures, Fleets

Key Actions and Results:

1. September 2023 Board date

1.4 Advanced Clean Cars II

The Advanced Clean Cars II regulations continue stringent emission control of gasoline vehicles while setting a zero-emission standard for vehicle manufacturers, with the ultimate

requirement of 100% of new cars sold into California being ZEV by 2035. The Advanced Clean Cars II regulations will rapidly scale down light-duty passenger vehicle emissions starting with the 2026 model year through 2035. New ZEV requirements also include consumer assurance provisions to increase consumer confidence in ZEVs throughout their life, including standardized vehicle charging, durable electric vehicle range, transparent and standardized data requirements, and ensuring vehicles can be repaired by most mechanics. CARB developed this rule in an open and collaborative process, which concluded with Board approval in August 2022. The Office of Administrative Law approved the Advanced Clean Cars II regulations, which are effective as of November 2022.

Website: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii

Equity Focus:
In adopting Advanced Clean Cars II, the Board has guaranteed fewer smog-forming and GHG emissions that will harm Californians, especially those living along transportation corridors. Increased ZEV requirements and innovative environmental justice vehicle values will increase the likelihood lower-income individuals will be able to access the technology.

Key Collaborators: GOBiz, California Energy Commission, California Public Utilities Commission, Air Districts, Local and Regional Governments, Tribal Governments, Federal Government, Community-Base Organizations, Non-Governmental Organizations, Vehicle Manufactures, Industry, Other State Governments, Communities

Key Actions and Results:

1. Further focus efforts on ensuring an equitable transition to zero-emission vehicle technology by working closely with manufacturers, communities, and non-governmental organizations to ensure successful implementation of the ZEV Regulation and to reduce barriers for manufacturers participating in environmental justice provisions.
2. Continue to support other states seeking to adopt California's Advanced Clean Cars II regulations.

1.5 Electric Vehicle Supply Equipment (EVSE) Standards Regulation
CARB's EVSE Standards Regulation, adopted in 2019 pursuant to Senate Bill 454 (Corbett), establishes requirements that electric vehicle service providers (EVSPs) must meet with the goal of enabling drivers to access public charging infrastructure confidently and reliably. The EVSE Standards Regulation is intended to broaden access to public plug-in electric vehicle infrastructure through setting minimum payment hardware and signage requirements. In implementing the regulation, CARB continues to evaluate barriers to access and the extent to which the regulation is adequately addressing those barriers. In 2022, staff conducted a technology review including surveys of drivers' experiences at public charging stations and evaluated the availability and use of different payment methods to understand whether the requirements of the regulation remain appropriate. The initial technology review showed that more research is needed on usage of contactless payment technology, reliability and cost of payment systems, and barriers lower-income drivers experience at public charging locations.

Website: https://ww2.arb.ca.gov/our-work/programs/electric-vehicle-supply-equipment-evse-standards

Equity Focus:
The program aims to learn more about lower-income consumer preferences for paying for goods, access to contactless payment technologies, and barriers lower-income drivers experience at public charging locations.

Key Collaborators: GOBiz, California Energy Commission, Caltrans, Community-Based Organizations, Non-Governmental Organizations, Electricity and Hydrogen Providers, Infrastructure Providers, Industry, Academia

Key Actions and Results:
1. Continue to implement and track compliance with the EVSE Standards Regulation.
2. Publish the second iteration of the EVSE Standards technology review in late spring 2023, which will focus on reliability and cost of payment systems, lower-income access to contactless payment technologies, barriers to paying for charging in public, and communicating state actions to increase access to public charging stations through web content.
3. Provide an informational update to the Board on the second Technology Review in summer 2023.

1.6 Clean Miles Standard

The Clean Miles Standard is a regulation to increase zero-emission miles and reduce greenhouse gas emissions from passenger ride-hailing services offered through transportation network companies like Uber and Lyft. The regulation requires, by 2030, that 90% of vehicle miles traveled in ride-hailing fleets be zero-emission miles and that ride-hailing fleets reduce their greenhouse gas emissions to 0 grams CO2 per passenger mile traveled. CARB adopted the Clean Miles Standard regulation in May 2021 and received approval from the Office of Administrative Law in August 2022. Pursuant to Senate Bill 1014 (Skinner), the California Public Utilities Commission (CPUC) implements the standards, and the CPUC staff initiated their own rulemaking (21-11-014) for implementation of the Clean Miles Standard in 2021. The CPUC staff issued a draft proposal for Phase 1 of their proceeding in November 2022 and will continue implementation efforts throughout 2023.

Website: https://ww2.arb.ca.gov/our-work/programs/clean-miles-standard

Equity Focus:
As part of implementation of the Clean Miles Standard the CPUC is to ensure minimal negative impact on low-income and moderate-income drivers and support the goals of clean mobility for low- and moderate-income individuals. Equity is addressed through proposals for incentives, robust engagement and working groups, annual surveys, and reports on driver impacts and barriers.

Key Collaborators: California Energy Commission, California Public Utilities Commission, Local and Regional Governments, Community-Base Organization, Non-Governmental Organizations, Organized Labor, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufactures, Fleets, Academia, TNC Drivers

Key Actions and Results:
1. Regulatory requirements for zero-emission miles and greenhouse gas emissions reductions begin in 2023.

2. Continue to support CPUC in their proceeding to implement the Clean Miles Standard regulation.
3. Help provide insights on barriers for drivers transitioning to ZEVs and the financial impacts of the Clean Miles Standard implementation on drivers through surveys conducted under a CARB research contract with UC Davis titled "Assessing the Early Impacts of the Clean Miles Standard on California Ride-Hailing Drivers."

1.7 Innovative Clean Transit

The Innovative Clean Transit (ICT) regulation requires all public transit agencies to gradually transition to zero-emission technologies with a goal of a 100% zero-emission bus fleet by 2040 and encourages them to provide innovative first- and last-mile connectivity and improved mobility for transit riders.

Website: https://ww2.arb.ca.gov/our-work/programs/innovative-cleantransit/program-update

Equity Focus:
The ICT regulation provides direct health benefits to local communities because a significant number of transit buses operate in local communities. By requiring zero-emission buses, overall roadway emissions will be reduced and those communities disproportionately affected by tailpipe emissions will see the most immediate benefit. Also, the ICT regulation ensures affordable access to the cleanest transportation and prioritizes the roll out of zero-emission buses to be in disadvantaged communities..

Key Collaborators: GoBiz, California Energy Commission, California Public Utilities Commission, California Transportation Commission, Caltrans, CalSTA, DGS, HCD, Air Districts, Local and Regional Governments, Metropolitan Planning Organizations, transportation planning agencies, Federal Government, Electricity and Hydrogen Providers, Infrastructure Providers, Fleets, Academia, Vehicle Manufacturers and Supply Chain; Technology Providers; Grid Operators, Workforce Training and Development Institutions; Labor and Workforce Development; Non-Governmental Organizations; International Relationships

Key Actions and Results:
1. Continued outreach to assist small transit agencies complete rollout plans.
2. Rollout plans for small transit agencies are due June 2023
3. Target workgroups to address implementation.
4. Transit annual reporting started in 2021 and will continue through 2050.
5. Annual implementation updates will be provided to the Board.

1.8 Zero-Emission Airport Shuttle Bus Regulation

The Zero-Emission Airport Shuttle Bus regulation requires airport shuttle operators who own, operate, or lease vehicles at any of the 13 regulated California airports regulated under this rule to transition to 100 percent zero-emission vehicle (ZEV) technologies by the end of 2035. Airport shuttle fleets must meet fleet ZEV requirements according to the compliance schedule. Reporting and record keeping requirements began in 2022.

Website: https://ww2.arb.ca.gov/our-work/programs/zero-emission-airport-shuttle

Key Collaborators: California Energy Commission, Local and Regional Governments, Non-Governmental Organizations, Vehicle Manufactures, Fleets, AB 617 Communities

Key Actions and Results:

1. The Zero-Emission Airport Shuttle Bus regulation requires fleets to report and update their fleet information into the Truck Regulation Upload and Reporting System (TRUCRS) annually starting in 2022.
2. By March 1, 2023, fleet owners will have reported their information as it was on December 31 of the year prior (2022). The number of reported vehicles is expected to increase since reporting requirements began in 2022.

1.9 Advanced Clean Trucks Regulation

The purpose of the Proposed ACT Regulation is to accelerate the widespread adoption of zero-emission vehicles (ZEVs) in the medium-and heavy-duty truck sector and reduce the amount of harmful emissions generated from on-road mobile sources. The regulation requires medium- and heavy-duty vehicle manufacturers to sell an increasing percentage of sales as ZEVs starting in 2024 and increasing through 2035. The regulation is expected to result in about 100,000 zero-emission trucks by 2030 and 300,000 by 2035. Reporting and record keeping requirements began in 2022 for 2021 model year sales.

Website: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks

Equity Focus: The Proposed ACT Regulation provides solutions that overcome barriers to deploy heavy-duty ZEVs in low-income residents and promote environmental justice. The deployment of heavy-duty ZEVs in low-income and disadvantaged communities eliminates tailpipe emissions, reduces particulate matter associated with brake wear, reduces petroleum use, reduces energy consumption and helps California achieve its air quality and climate protection goals.

Key Collaborators: California Energy Commission, California Public Utilities Commission, California Transportation Commission, Caltrans, DGS, Federal Government, Non-Governmental Organizations, Organized labor, Electricity and, Hydrogen Providers, Infrastructure Providers, Vehicle Manufacturers, Fleets

Key Actions and Results:

1. Manufacturers to complete 2022 model year reporting in early 2023.
2. CARB staff to publish 2021 model year sales data.

1.10 Heavy-duty Phase 3 GHG Standards

There have been several phases of progressively more stringent greenhouse gas (GHG) standards for medium- and heavy-duty engines and vehicles. The Phase 1 GHG standards, based on off-the-shelf technologies and applicable to 2014 and later model year medium- and heavy-duty engines and vehicles, were adopted by U.S. EPA in 2011 and by CARB in 2013. The Phase 2 GHG standards, adopted by U.S. EPA in 2016 and CARB in 2018, were more technology-forcing than Phase 1. The requirements begin with model year 2021 for medium- and heavy-duty engines and vehicles and will be fully implemented by model year 2027. Phase 2 requires manufacturers to build lower GHG emitting medium- and heavy-duty vehicles, but it has no specific mandate for manufacturers to increase the penetration rate of heavy-duty zero-emission vehicles (HD-ZEV) nationwide. California is encouraging U.S. EPA to adopt Phase 3 GHG standards

more ambitious and stricter than previous regulations with significant penetration of HD-ZEVs and maximized carbon dioxide benefits.

Website: https://ww2.arb.ca.gov/our-work/programs/ghg-std-md-hd-eng-veh

Key Collaborators: Federal government, Non-governmental organizations, Vehicle manufacturers, Component Suppliers, Other State Governments, Environmental Groups, Associations

Key Actions and Results:

1. Encourage U.S. EPA to move quickly and aggressively to set increasing stringency standards through 2040 model year and to adopt stricter standards based on significant penetration of HD-ZEVs. HD-ZEV uptake rates and timelines should match those in CARB's Advanced Clean Trucks (ACT) regulation, taking into account the states that have already adopted the ACT regulation, and the upcoming CARB's Advanced Clean Fleets regulation.
2. Encourage U.S. EPA to be consistent with Biden administration's actions to encourage transition to HD-ZEVs (e.g., Inflation Reduction Act 2022, the 27th Conference of the Parties of the United Nations Framework Convention on Climate Change (COP27) international Memorandum of Understanding (MOU) and the "U.S. National Blueprint for Transportation Decarbonization" plan); to consider manufacturer's HD-ZEV targets and commitments and independent studies that forecast large HD-ZEV penetration rates nationwide
3. Review and comment on U.S. EPA's expected Federal Heavy-Duty Phase 3 Proposal in Spring 2023.

1.11 Transport Refrigeration Units

By 2023, continue implementation of the 2022 amendments to the existing TRU rule, which include a zero-emission fleet requirement for truck TRUs (beginning December 31, 2023). By 2023, begin the development of a new rule to transition non-truck TRUs to zero-emissions. The non-truck TRUs include trailer TRUs, domestic shipping container TRUs, railcar TRUs, and TRU generator sets. Timing and requirements of the new regulation are still to be determined.

Website: https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit

Equity Focus:
a. Requiring TRUs to transition to zero-emission will provide cleaner air for all of California including those located in or near disadvantaged communities.
b. CARB staff plan to incorporate a comprehensive community engagement effort to engage communities impacted by TRU activity thoughtfully and intentionally to encourage participation throughout as part of the rulemaking process for the new TRU rule.

Key Collaborators: California Energy Commission, Community-Based Organizations, Organized Labor, Electricity and Hydrogen Providers, infrastructure Providers, Fleets, Freight Facilities, Industry, TRU, Engine, Battery, and Fuel Cell Manufacturers, Grid Operators, Communities

Key Actions and Results:

1. Conduct outreach on new requirements that begin in 2023.

2. Implement new regulatory requirements.
3. Begin development for new rule transitioning non-truck TRUs to zero-emissions.

1.12 Heavy-duty Phase 3 GHG Standards

There have been several phases of progressively more stringent greenhouse gas (GHG) standards for medium- and heavy-duty engines and vehicles. The Phase 1 GHG standards, based on off-the-shelf technologies and applicable to 2014 and later model year medium- and heavy-duty engines and vehicles, were adopted by U.S. EPA in 2011 and by CARB in 2013. The Phase 2 GHG standards, adopted by U.S. EPA in 2016 and CARB in 2018, were more technology-forcing than Phase 1. The requirements begin with model year 2021 for medium- and heavy-duty engines and vehicles and will be fully implemented by model year 2027. Phase 2 requires manufacturers to build lower GHG emitting medium- and heavy-duty vehicles, but it has no specific mandate for manufacturers to increase the penetration rate of heavy-duty zero-emission vehicles (HD-ZEV) nationwide. California is encouraging U.S. EPA to adopt Phase 3 GHG standards more ambitious and stricter than previous regulations with significant penetration of HD-ZEVs and maximized carbon dioxide benefits.

Website: https://ww2.arb.ca.gov/our-work/programs/ghg-std-md-hd-eng-veh

Key Collaborators: Federal Government, Non-Governmental Organizations, Vehicle Manufactures, Component Suppliers, Other State Governments, Environmental Groups, Associations

Key Actions and Results:

1. Encourage U.S. EPA to move quickly and aggressively to set increasing stringency standards through 2040 model year and to adopt stricter standards based on significant penetration of HD-ZEVs. HD-ZEV uptake rates and timelines should match those in CARB's Advanced Clean Trucks (ACT) regulation, taking into account the states that have already adopted the ACT regulation, and the upcoming CARB's Advanced Clean Fleets regulation.
2. Encourage U.S. EPA to be consistent with Biden administration's actions to encourage transition to HD-ZEVs (e.g., Inflation Reduction Act 2022, the 27th Conference of the Parties of the United Nations Framework Convention on Climate Change (COP27) international Memorandum of Understanding (MOU) and the "U.S. National Blueprint for Transportation Decarbonization" plan); to consider manufacturer's HD-ZEV targets and commitments and independent studies that forecast large HD-ZEV penetration rates nationwide
3. Review and comment on U.S. EPA's expected Federal Heavy-Duty Phase 3 Proposal in Spring 2023.

1.13 Small Off-Road Engines

Small off-road engine (SORE) regulations apply to new engines manufactured for sale in California. New amendments that will transition the category to zero emissions were adopted in December 2021 and became effective January 1, 2023. The emission standards for NO_x and ROG are zero beginning in model year 2024 for engines used in most equipment and are tightened for engines used in generators and large pressure washers beginning in model year 2024 and zero beginning in model year 2028.

Website: https://ww2.arb.ca.gov/our-work/programs/small-off-road-engines-sore

Equity Focus: The regulations are industry-wide and apply directly to manufacturers, not to end-users. Professional landscapers will be exposed less to harmful emissions when using zero-emission equipment (ZEE) instead of SORE-powered equipment. CARB will focus outreach and engagement toward smaller, less-resourced landscaping businesses who are critical for ensuring the successful deployment of ZEE. These businesses are more difficult to reach and have shown hesitance to adopt ZEE. Small engine dealers, which are frequently a central gathering point for landscapers and a conduit for sharing equipment information, will be a critical venue for outreach and community engagement efforts. Upfront cost of ZEE can be higher than upfront cost of SORE-powered equipment, particularly for professional-grade equipment. Cost savings from decreased maintenance and fuel costs can be realized within the lifetime of equipment. Small landscaping businesses face higher risk with investment in new technology, so education on the cost- and health-related advantages of ZEE and incentive availability will be critical. More discussions will take place with communities on how ZEE can be introduced over time to make any shift in operations gradual. Language access will be an essential element of engagement.

Key Collaborators: DGS, Air Districts, Local and Regional Governments, Industry

Key Actions and Results:

1. Form a workgroup with landscapers to discuss the updated rules, the availability of incentives for purchasing ZEE, and landscapers' questions. Expect to invite interested parties to join the workgroup Spring 2023 and hold the first meeting in Early Summer 2023.
2. Conduct outreach to residents and businesses who are likely to be impacted by the updated rules. Share fact sheets, collaborate with air districts, communities, and others to ensure users are aware of 1) incentives and know how to take advantage of them, and 2) timelines of regulations. Ensure we reach organizations with internal landscaping operations, including schools and municipalities, in addition to small landscaping businesses.
3. Continue demonstration projects of ZEE, including the ZEE Roadshow.
4. Provide ZEE to air districts that they can use for demonstrations to support incentive programs.
5. Attend shows and expos with landscapers to inform them about regulations and incentive opportunities.
6. Prepare a report on implementation of regulations to provide to the Board in early 2024.

2. Incentives

2.1 Clean Vehicle Rebate Project (CVRP)

The Clean Vehicle Rebate Project supports increasing the number of ZEVs on California's roadways to meet deployment goals and achieve large-scale transformation of the fleet while also providing support to increase ZEV uptake in priority communities. CVRP provides consumers with vehicle rebates on a first-come, first-served basis for new battery-electric, fuel cell electric and plug-in hybrid vehicles, and zero-emission motorcycles. CARB tracks the number of consumers who participate, their income level and residency location, costs and types of vehicles purchased, and rebate essentiality (consumer surveys).

Website: https://cleanvehiclerebate.org/eng

Equity Focus: CVRP supports increased ZEV uptake in priority populations by providing an increased rebate amount for individuals with a low- to moderate-income (LMI) defined as 400% of the Federal Poverty Level ($120k for a family of 4) or less. Starting in 2023, CVRP will issue prepaid cards to eligible LMI applicants to be used at public charging stations to address charging barriers. CVRP provides increased incentive amounts for public fleets operating in Disadvantaged Communities.

Key Collaborators: GOBiz, California Energy Commission, California Public Utilities Commission, Caltrans, DGS, Air Districts, Local and Regional Governments, Tribal Governments, Federal Governments, International Governments, Community-Based Organizations, Non-Governmental Organizations, Electricity and Hydrogen Partners, Infrastructure Providers, Vehicle Manufactures, Fleets, Industry, Academia

Key Actions and Results:

1. Outreach and education, particularly to priority communities. A majority of in-person outreach will be accomplished through CVRP's Community Partner Network, a statewide coalition of a growing number of community-based organizations (CBOs) that have a common goal of ensuring clean air for all Californians. CVRP works with CBOs and their respective communities by breaking down barriers to ZEV ownership and providing information on available incentives.
2. Ongoing: track and collect metrics on program use
3. Updated program information regarding rebate statistics, various analyses, survey data, and outreach statistics will continue to be provided on the CVRP website, https://cleanvehiclerebate.org/eng.
4. In line with the requirements of the Budget Act of 2021, program changes for CVRP are being implemented over the course of the next few fiscal years in order to ramp down the incentive while still offering critical support to the ZEV market, particularly for lower income applicants. The next phase of changes will be implemented no earlier than February 2023 and will include an increase in the incentive amount offered to low- and moderate-income consumers, expansion of the CVRP Rebate Now preapproval pilot statewide to bring the incentive to the point of purchase for eligible low-income applicants, and inclusion of a prepaid card to eligible CVRP increased rebate applicants to be used at public charging stations to address charging barriers. More information can be found in the FY 2022-23 Funding Plan for Clean Transportation Incentives.

2.2 Electric Bicycle Incentive Project (EBIP)

The Electric Bicycle Incentive Project is a new project that aims to provide "on-the-saddle" rebates to reduce the purchase price for electric bicycles (e-bikes) to income-qualified consumers. The pilot will be designed to help Californians reduce their VMT by lowering barriers to e-bike ownership, as well as learn about bicycle safety and support local businesses. The Electric Bicycle Incentives Project will pilot an approach that aims to 1) help people replace car trips with e-bike trips, 2) increase access to electric bicycles, and 3) reduce GHG emissions.

Website: Website will be available prior to program launch in Q1 2023

Equity Focus: EBIP is currently in the development phase and staff is considering equity-centered policies such as an increased incentive amount for participants with lower incomes or participants living in Disadvantaged Communities, setting an income limit of 300% of the Federal Poverty Level or less, and implementing a hybrid needs-based approach that will reserve funds for priority applicants.

Key Collaborators: GOBiz, California Energy Commission, California Public Utilities Commission, Caltrans, DGS, Air Districts, Local and Regional Governments, Tribal Governments, Federal Governments, Community-Based Organizations, Non-Governmental Organizations, Fleets, Industry, Academia

Key Actions and Results:

1. Ongoing public process to develop program policies.
2. Program estimated to launch in Q1 2023. More information can be found in the FY 2022-23 Funding Plan for Clean Transportation Incentives.
3. Ongoing: track and collect metrics on program use

2.3 Financing Assistance for Lower-income Consumers Project

Financing Assistance project provides grants to reduce the upfront cost of advanced clean vehicle grants for lower-income consumers at the point of purchase. The project offers EVSE installation grants or prepaid charge cards along with portable level I chargers. In addition, the project facilitates access of low-income consumers to low-interest loans at 8% APR by providing loan loss reserves to participating financial institutions to mitigate their risks.

With major changes to the two pilot programs over the last few years, CARB is merging the two programs this year and launching one statewide program. The new program will replace the first-come, first-served model with a need-based model in which consumers who live in disadvantaged communities or those with great needs for incentives will be prioritized.

Incentive amounts are increased, and the program is more aligned with other incentive programs such as Clean Vehicle Rebate Project (CVRP) and Clean Cars 4 All. The new program will be administered along with Statewide Clean Cars 4 All program by a single program administrator to maximize efficiency and streamline application processing for lower-income consumers who are eligible for Financing Assistance and Statewide Clean Cars 4 All. CARB is going to select an administrator through a competitive solicitation process in the first quarter of 2023 and aims to launch the new programs in quarter 4 of 2023

Website: Clean Vehicle Assistance Program https://cleanvehiclegrants.org ; Drive Clean Assistance Program: https://communityhdc.org/dcap

Equity Focus: The Financing Assistance project is 100% equity-focused. The main eligibility criteria for participants is their income level which is currently at 300% Federal Poverty Level ($90K for a family of 4). With the implementation of the needs-based model, CARB is planning to focus on the distribution of funds to low-income consumers in disadvantaged and low-income communities by granting priority to applicants who reside in disadvantaged and low-income communities. Other measures such as a set-aside fund for priority applications and vehicle purchase price cap are in place to safeguard funds for very low-income consumers year-round.

Key Collaborators: Community-Based Organizations, Non-Governmental Organization, Infrastructure Providers, Investors/Financing Institutions

Key Actions and Results:

1. A joint solicitation to select one program administrator to run Financing Assistance Project and Statewide Clean Cars 4 All is one of the key actions for CARB in 2023. This will result in better management of communication across the projects, consolidated processing of rebate applications, cooperative relationships with dealers, more streamlined efforts, and more efficient use of outreach tools, resources, and materials. It also results in fewer administrators and reduces complexity in collaboration among programs and partners.
2. Adoption of the needs-based model in this project will safeguard funds and help keep the program open year-round for those who need them the most. CARB is planning to substitute the first-come, first-served model with the needs-based one and implement it in other equity projects moving forward.
3. In addition, the new model requires program administrators to expand their collaboration with community-based organizations (CBOs) and outreach partners to better understand the needs of various communities across the State and utilize their unique capacities of CBOs to deliver the program benefits to communities.
4. Application processing, program and eligibility criteria will be more aligned with other equity-focused programs such as Clean Cars 4 All and CVRP's increased rebates to maximize offered benefits and reduce application processing to low-income consumers.

2.4 Clean Mobility Options Voucher Pilot Program, or CMO

The Clean Mobility Options Voucher Pilot Program provides funding for various community clean transportation projects (other than vehicle ownership), including zero-emission car sharing, vanpools, electric and regular bicycle sharing, scooter sharing, microtransit and fixed route transit services for low-income and disadvantaged communities across California.

This program supports all four pillars of the Zero-Emission Vehicle Market Development Strategy, including providing clean vehicles, ZEV infrastructure, increasing consumer awareness and education, and supporting a local workforce. In addition, this program supports broader ZEV goals of reducing emissions by increasing clean transportation and mobility offerings in communities, building out the ZEV network and clean transportation ecosystem, and allowing for equity in the decision-making process, such as implementing community-led ideas and directly addressing community feedback in program design.

Website: cleanmobilityoptions.org

Equity Focus: This program supports many ZEV objectives, including increasing access to and affordability of clean mobility options for California's low-income and disadvantaged populations. In addition, the program supports reducing reliance on personal vehicles while providing mobility options that meet community-identified needs, which is a critical to improving the transportation system of the State.

Key Collaborators: California Energy Commission, Local and Regional Governments, Tribal Governments, Community-Based Organizations, Non-Governmental Organizations

Key Actions and Results:

1. Transportation needs assessment projects: 24 needs assessment projects completed in 2022. About 12 new projects will launch in mid-2023.
2. Planning and construction phase: 17 mobility projects are in the planning and construction phase.
3. Mobility projects: 3 projects launched. About 15 new mobility projects will launch in 2024.
4. Metrics: Numbers and types of clean vehicles, chargers, and clean mobility options introduced into priority communities; number of residents participating as drivers or riders; zero-emission vehicle miles traveled, and number of trips taken; and improvements in access to mobility experienced by participants.
5. Ongoing: Expand access to clean transportation and mobility options in priority communities through additional training, technical assistance, learning tools and information-sharing opportunities, and ensuring that awarded projects are responsive to community needs and preferences
6. Providing additional funding for mobility projects in 2023 and through further training, technical assistance, learning tools and information sharing opportunities.
7. Holding informational webinars through early 2023 to support interested applicants for application window 2.

2.5 Clean Cars 4 All

Clean Cars 4 All provides incentives for lower-income consumers who scrap their old light-duty vehicles and purchase new or used hybrid, plug-in hybrid, or ZEV replacement vehicles. Furthermore, participants can choose an alternative mobility option such as an electric bike and accessories, a voucher for public transit, or a combination of clean transportation options allowed under the program in lieu of purchasing a replacement vehicle. In addition, buyers of plug-in hybrid-electric vehicles (PHEVs) and battery-electric vehicles are also eligible for home charger incentives or prepaid cards for public charging facilities. This program is currently available in the South Coast Air Quality Management District, San Joaquin Valley Unified Air Pollution Control District, Bay Area Air Quality Management District, Sacramento Metropolitan Air Quality Management District, and San Diego Air Pollution Control District (coming soon). A Statewide program is also under development to support the remaining district territories.

Website: https://ww2.arb.ca.gov/our-work/programs/clean-cars-4-all

Equity Focus: The program requires a household income equal to or less than 400% of the federal poverty level ($120k for a family of 4), which will be lowered to 300% ($90K for a family of 4) later this year. In addition to income qualification, the program offers higher incentives amounts to participants that live in disadvantaged communities and choose the cleanest replacement technologies. Clean Cars 4 All also requires consumer protections and education as foundational components of the program.

Key Collaborators: Air districts, Local and Regional Governments, Tribal Governments, Federal Government, Community-Based Organizations, Non-Governmental Organizations, California Department of Consumer Affairs, DOF, Treasurer's Office, California Infrastructure and Economic Development Bank, California Dept. of Consumer Affairs, Bureau of Automotive Repair, California Infrastructure and Economic Development Bank

Key Actions and Results:

1. Select the program administrator and begin implementation of the statewide program.
2. Expand access to the program to all areas of participating air districts.
3. Annual reporting: reporting period varies annually.
4. Implement a needs-based approach to ensure that the program is accessible to households and communities that would benefit most from the assistance.
5. Ongoing: Implement revised participant survey to improve tracking and collecting metrics on program use including details of program performance relative to established goals, funding and expenditure status, program analysis, program modifications, and goals for the upcoming year
6. Increase priority community access through Access Clean California and related outreach efforts.

2.6 Sustainable Transportation Equity Project (STEP)

STEP is a competitive grant program that aims to increase transportation equity by addressing community residents' transportation needs, increasing access to key destinations and services, and reducing greenhouse gas emissions and vehicle miles traveled. STEP provides larger-scale project funding that is focused on advancing multiple clean transportation strategies within a community. Examples of STEP projects funded include new electric shuttles and e-bike lending libraries, public transit and shared mobility subsidies, urban forestry to encourage pedestrian activity, new bike paths, workforce training on EVSE installation and EV maintenance, community transportation needs assessments, and active transportation education and outreach events. All STEP projects are required to incorporate significant community engagement during all phases of project planning, development, and implementation to ensure that residents have a role in making decisions about their transportation systems. STEP awarded 13 grants (five Implementation and eight Planning and Capacity Building) from its first solicitation in 2020. Projects are now underway in communities across the state and will wrap up between 2024 and 2026.

Website: https://ww2.arb.ca.gov/lcti-step

Equity Focus: STEP projects are required to benefit disadvantaged and low-income communities. All projects are required to contribute to an increase in transportation equity, which may include providing new transportation options for residents that have lacked options in the past or removing barriers to accessing existing transportation services.

Key Collaborators: Local and Regional Governments, Tribal Governments, Community-Based Organizations, Non-Governmental Organizations, Academia

Key Actions and Results:

1. Continue public process (at least two work group meetings and one public comment period) to update the solicitation for the next round of [STEP, Planning and Capacity Building, or Clean Mobility in Schools] funding, January-March 2023
2. Conduct joint solicitation for FY 22-23 funds for STEP, Clean Mobility in Schools (CMIS), and Planning and Capacity Building, Spring/summer 2023
3. Award two to six grants through STEP and CMIS through the FY 22-23 solicitation ($15 million total from each program, $30 million total), Fall 2023

4. Continue implementation of previously awarded grants, which includes 5 Implementation grants and 8 Planning and Capacity Building grants, and continue improving evaluation of funded projects, All year

2.7 Planning and Capacity Building Grant Program

Planning and capacity building grants are intended to fund efforts that improve local understanding of residents' transportation needs, prepare communities to implement clean transportation and land use projects, and develop a foundation for organizational and community capacity building. This category of funding develops a foundation for organizational and community capacity building by enabling communities to identify and prioritize transportation choices that improve livability and quality of life for residents, build community wealth, and connect residents to good jobs, education, affordable housing, medical care, childcare, recreation, and healthy food options.

Equity Focus: This program will support community-led transportation planning, expand community transportation assessments of under-resourced community mobility needs, facilitate community engagement to leverage community knowledge, and incorporate community feedback into transportation and land-use planning and future transportation investments.

Key Collaborators: Local and Regional Governments, Tribal Governments, Community-Based Organizations, Non-Governmental Organizations

Key Actions and Results:

1. Continue public process (at least two work group meetings and one public comment period) to update the solicitation for the next round of [STEP, Planning and Capacity Building, or Clean Mobility in Schools] funding, January-March 2023
2. Conduct joint solicitation for FY 22-23 funds for STEP, Clean Mobility in Schools, and Planning and Capacity Building, Spring/summer 2023
3. Award four to 15 grants through Planning and Capacity Building through the FY 22-23 solicitation ($2 million), Fall 2023
4. Conduct solicitation for statewide Technical Assistance and Planning Grant program administrator
5. Award one grant for statewide Technical Assistance and Planning Grant administrator

2.8 California Integrated Travel Project (Cal-ITP) Payment Issuance Strategy and Demonstration

This project supports various projects across CARBs light-duty vehicle incentive projects and seeks to ensure that any transit customer, and specifically underbanked and unbanked customers, can easily pay for transit by accepting Euro Pay, Master Card, and Visa open-loop payments. CARB is collaborating with Capital Corridor Joint Powers Authority (CCJPA) and allocating funds to support this effort and expand upon the work that has begun to identify payment issuance approaches to make vehicle charging and other mobility options easier to access for low-income, banked, or unbanked individuals.

Equity Focus: CARB's contract with CCJPA in this effort will be focused to extend the benefits of the seamless payment issuance of this project to equity-focused projects such as Financing Assistance, Statewide Clean Cars 4 All, and increased rebates of CVRP. CARB is

processing a contract with CCJPA to launch some pilot projects with these projects to provide proof of concept, research, data, and lesson learned for Cal-ITP and CARB to improve the travel experience and implement scalable solutions.

Key Collaborators: Caltrans, CalSTA, Non-Governmental Organizations, Investors/Financing Institutions, Capitol Corridor Joint Power Authority

Key Actions and Results:
CARB intends to support various projects across light-duty vehicle incentive programs and regulations with this agreement with CCJPA. CARB is working to finalize the contract with CCJPA and provide funds to support their effort on Payment Issuance Strategy and Demonstrations and provide opportunities to expand the concept in clean vehicle purchase incentive programs.

This agreement will help provide recommendations on the EVSE Standards Regulation to inform potential future modifications to the regulation that will impact driver access to public charging stations. These may include:

1. Insights on the transition of payment technologies from EMV chip to cEMV for the U.S. market.
2. Identification of opportunities to improve lower-income residents' access to public charging stations.
3. Guidance on a recommended market threshold(s) upon which there is confidence residents will have access to cEMV payment technologies.

2.9 Hybrid and Zero-emission Truck and Bus Voucher Incentive Program

Incentives for long-term transition to ZEVs in the heavy-duty market and supporting investments in other emerging technology areas to achieve greenhouse gas emission reductions and ambient air quality standards. HVIP provides point-of-sale discounts at participating dealerships for dozens of eligible vehicles, making the cleanest technologies affordable for California fleets.

Website: Californiahvip.org

Equity Focus: HVIP offers dedicated set-asides and increased incentive amounts for public transits and school districts and additional funding for vehicles domiciled in a DAC. Small fleets are provided special fund-stacking allowances in standard HVIP while the Innovative Small e-Fleets Pilot within HVIP is entirely focused on equitable investments that creatively address challenges to zero-emission technology adoption for owner/operators and small fleets. HVIP continues to explore ways to support the equitable transition to ZEVs in the heavy-duty sector and deployment of clean heavy-duty technologies in priority communities. This spring, the program will begin collecting minority-owned and small business status data on new voucher requests to generate deeper insight into who the program benefits and lay the groundwork for future investments targeting priority groups.

Key Collaborators: California Energy Commission, DGS, Local and Regional Governments, Tribal Governments, Federal Government, Community-Based Organizations, Non-

Governmental Organizations, Vehicle Manufactures, Fleets, Investors/Financing Institutions, Insurance

Key Actions and Results:

1. Open $492M of FY 2022-23 funding for voucher requests from HVIP standard, drayage trucks, and transit buses in January 2023.
2. Release solicitation for HVIP administrator in spring 2023.
3. Publish new project implementation manual by March 2023 to establish all project policies and protocol for FY 2022-23.
4. Release the $35M of funding for the Innovative Small e-Fleets pilot, by summer 2023 to implement innovative funding mechanisms geared towards supporting small fleets transition to zero-emission trucks.
5. Launch $135M set aside for zero-emission public school buses in spring 2023.
6. Outreach to priority communities where appropriate.
7. To monitor progress, CARB will continue to track the number of clean trucks and buses supported, tons of air pollution reduced, growth in the number of eligible clean technology manufacturer and vehicle types, number of purchasers and fleets that have participated, clean miles driven, and percent of vouchers supporting vehicles deployed in priority communities.

2.10 Volkswagen Appendix D, the Environmental Mitigation Trust

The Volkswagen Appendix D Environmental Mitigation Trust is intended to fully mitigate all past and future excess NOx emissions from the vehicles subject to the diesel emissions settlement by requiring VW to pay about $2.7 billion into a national mitigation trust fund. California's allocation of the trust is about $423 million. The types of projects being funded fall into these five categories: zero-emission transit, school and shuttle buses; zero-emission Class 8 trucks; zero-emission freight and marine; combustion freight and marine; and light-duty ZEV infrastructure. The inclusion of funding for low-NOx combustion categories will ensure near-term NOx reductions, and investments in ZEV technologies will help accelerate the deployment of zero-emission buses, trucks and freight equipment.

Website: https://ww2.arb.ca.gov/our-work/programs/volkswagen-environmental-mitigation-trust-california

Equity Focus: Senate Bill (SB) 92 in the State Legislature set a 35 percent target for the State's Trust allocation to benefit disadvantaged or low-income communities; the Beneficiary Mitigation Plan (BMP) for the State of California set a minimum of 50 percent of the funding will benefit disadvantaged or low-income communities. At the end of 2022 the projects that benefit disadvantaged or low-income communities far exceeded the 50 percent threshold.

Key Collaborators: California Energy Commission, Air Districts

Key Actions and Results:

1. In 2022, the VW program continued to fund eligible projects throughout the State for all five categories.
2. In 2023, CARB anticipates that the second installment for most, if not all of the project categories will be available to the public.
3. CARB will continue to work with the Air Districts to ensure the project funds are going to applicants that will achieve the necessary NOx reductions along with giving preference to projects that operate in DAC's and LIC's.

2.11 Funding Agricultural Replacement Measures for Emission Reductions (FARMER)
Provides incentive funding to farmers for the replacement of older diesel vehicles and equipment with the cleanest available technology. CARB sets guidelines for the program and air districts implement the program according to the guidelines. These guidelines include the ability to fund commercially available ZEV technologies and support local demonstration projects of pre-commercial ZEV technologies.

Website: arb.ca.gov/farmer

Equity Focus: Directs funding to air districts around the State based on emissions from agricultural equipment and attainment status. Program sets target for at least 55 percent of funding to be invested in AB 1550 priority populations. Dedicated project categories have also been added to the program to provide additional funding opportunities for small farmers.

Key Collaborators: Air Districts, Local and Regional Government, Federal Government, Non-Governmental Organizations, Vehicle Manufactures, Industry, Farmers, CDFA

Key Actions and Results:
1. In 2022, the FARMER Program added a dedicated project category for zero-emission agricultural equipment (e.g., battery-electric tractors and forklifts).
2. In 2023, CARB will continue working with air districts to implement FARMER Program-eligible projects, including zero-emission vehicle and equipment replacement projects through this new project category.
3. CARB will continue tracking and supporting program administration by local air districts, including tracking the number of zero-emission equipment deployed and new zero-emission agricultural demonstration projects.

2.12 The Clean Off-Road Equipment Voucher Incentive Project (CORE)
CORE s a program that incentivizes California fleets to purchase or lease zero-emission off-road equipment. It also provides a streamlined voucher process by which potential purchasers can receive funding to help offset the higher cost of zero-emission off-road equipment.

Website: Californiacore.org

Equity Focus: Increased funding is available to encourage equipment deployments in disadvantaged and low-income communities as well as infrastructure expansion. Increased funding is also available for projects that are purchased and deployed by small businesses. Currently CORE is voluntarily requesting demographic data from professional landscapers who apply for CORE incentive funds. The data collected will help the program identify how to focus outreach efforts to lay the groundwork for future investments targeting priority groups.

Key Collaborators: California Energy Commission, Air Districts, Local and Regional Governments, Community-Based Organizations, Vehicle Manufactures, Fleets, Industry

Key Actions and Results:
1. Stakeholder workgroup meeting wrap up FY21-22 and start launch of FY22-23.

2. Series of workgroup meetings to update the Implementation Manual
3. Finalize Implementation Manual – release to public
4. Launch next round of CORE zero-emission vouchers Q2 2023
5. Continue with outreach to new equipment manufacturers, owners in disadvantaged communities, and small businesses

2.13 Carl Moyer Program

Since 1998, the Carl Moyer Program (CMP) has filled a critical niche in California's strategy to achieve clean air. CMP is a statewide emission reductions program supporting a variety of project types, including on-road heavy-duty trucks and buses, locomotives, marine vessels, off-road projects, as well as infrastructure projects. Emission reductions funded through the CMP must be surplus, permanent, enforceable, and quantifiable in order to meet the underlying statutory provisions and creditable to the State Implementation Plan. To ensure that projects are surplus to regulations, funded projects must not be required by any federal, State, or local rule or regulation. CMP has been successfully implemented through cooperative partnerships with local air districts. Air Districts review eligible applicants that can receive grants for cleaner replacement equipment, repowers, or conversions. Although CMP was established more than 24 years ago, the types of projects funded have shifted over time to meet changing local and State air quality objectives.

As a specific example supporting the transition to ZEVs and low carbon transportation, with an equity focus, in 2022 CARB expanded the On-Road Heavy-Duty Voucher Incentive Program (VIP) to allow additional funding for replacement vehicles meeting the zero-emission standard with funding up to $410,000 per Class 8 vehicle to align with the same funding updates made to the CMP for on-road heavy-duty vehicles in November 2021. VIP is part of the CMP that provides a streamlined, simple, and speedy funding option to small fleets of ten vehicles or less. Through VIP, eligible applicants can receive voucher grants toward the purchase of cleaner replacement vehicles. VIP has been an attractive funding option to support the small fleet transition to earlier than or beyond the 2010 engine emission standard requirement of the Truck and Bus Regulation.

During the November 19, 2021, Board hearing wherein the CMP cost-effectiveness limits for on-road heavy-duty zero-emission vehicles were approved, the Board members expressed strong interest in further accelerating California's transition to zero-emission heavy-duty vehicles and to advance equity work. Staff hosted the Incentive Program Advisory (IPAG) public meetings in response to that interest. The meetings, led by Vice Chair Berg and Board members Hurt and Kracov, provided a forum for discussing policy level issues related to the implementation of the CMP for on-road heavy-duty vehicles.

The 2022 IPAG public meetings identified the need to provide greater support for small fleets and small businesses statewide, as well as to further promote program participation by increasing equitable access to zero-emission technologies for on-road heavy--duty vehicles through the CMP's VIP and through the CMP's incentives for infrastructure. Staff identified VIP as a program that could meet these needs, as it already provides small fleets with grant vouchers in a simple, streamlined, and speedy process through the CMP. Furthermore, small fleets are provided a mechanism of increased equity consideration in a manner that could be explored by other incentive programs. Moreover, staff identified the CMP zero-emission technology infrastructure incentives and the potential for co-funding opportunities to support small fleets and small businesses as they transition to on-road heavy-duty electrification, unifying resources and increasing accessibility to incentives.

Website:

Carl Moyer Program - https://ww2.arb.ca.gov/our-work/programs/carl-moyer-memorial-air-quality-standards-attainment-program
VIP - https://ww2.arb.ca.gov/our-work/programs/road-heavy-duty-voucher-incentive-program

Equity Focus: As a result of the collaborative efforts of staff and those who attended the IPAG public meetings, key themes and recommendations emerged to update VIP and the CMP Guidelines Chapter 10 on infrastructure incentives to equitably support on-road heavy-duty vehicle electrification for small fleets, small businesses, and communities with priority populations statewide:

- Guidance on incentives for environmental justice areas and communities with priority populations
  - Prioritizing outreach and education in, and applications from these areas and communities
  - Reporting and tracking projects within these areas and communities
  - Require that out of all VIP projects funded, 50 percent of the projects must benefit these areas and communities
- Additional zero-emission funding opportunities with VIP
  - VIP Plus-Up: up to 15 percent increase for fleets of 4 trucks or less and an up to 10 percent increase for fleets of 4 to 10 trucks
  - Allow co-funding with zero-emission voucher projects
- Increase funding to applicants of heavy-duty truck parking facilities that provide communal charging opportunities
- Simplify eligibility process for charging stations in priority populations

Key Collaborators: Air Districts, Local and Regional Governments, Tribal Governments, Federal Governments, Non-Governmental Organizations, Fleets, AB 617 Communities, Dept of Finance, Treasurer's Office, California Infrastructure and Economic Development Bank

Key Actions and Results:

1. Staff will continue to grant and disburse CMP incentives allocated by the Legislature to the air districts.
2. Maintain communication with Air Districts to monitor implementation progress of updated On-Road Heavy-Duty VIP ZEV projects and updated CMP Chapter 10 infrastructure.
3. Continue monitoring implementation progress of SB 129 allocation of $45M to air districts in severe or extreme nonattainment (South Coast and San Joaquin Valley air districts) through Moyer for the purchase of non-diesel MHD/HHD vehicles emitting no more than 0.02g/bhp-hr NOx or lower that replace diesel vehicles. Remaining monies after FY 2022/23 exclusively dedicated to zero-emission vehicles.

2.14 Community Air Protection Program

Assembly Bill (AB) 617 (Chapter 136, Statutes of 2017) directed the California Air Resources Board (CARB or Board), in conjunction with local air quality management districts and air pollution control districts (air districts) to establish the Community Air Protection (CAP) Program. AB 617 provides a community-focused action framework to improve air quality and reduce exposure to criteria air pollutants and toxic air contaminants (TACs) in the communities most impacted by air pollution. AB 617 calls for CARB and the air districts to

actively engage with members of heavily impacted communities, follow their guidance, and address local sources of concern. AB 617 includes a variety of strategies to address air quality issues in impacted communities, including community-level monitoring, uniform emission reporting across the State, stronger regulation of pollution sources, and incentives for both mobile and stationary sources.

To support the implementation of AB 617, the California Legislature appropriated funding for incentives to support early actions to address localized air pollution in the most impacted communities, and has continued to appropriate money annually for continued incentives to benefit communities selected to participate in the Program and those under consideration for future selection. Since Fiscal Year (FY) 2017-18 the Legislature has appropriated $1,164 million from the Greenhouse Gas Reduction Fund (GGRF) and $40 million from the General Fund for CAP incentives to be administered by air districts in partnership with local communities. The Legislature directed that this funding emphasizes cleaner vehicles and equipment with priority on community guided zero-emission projects. The Legislature directed that air districts spend the initial appropriation of funds from FY 2017-18 on mobile source projects pursuant to the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) and the Proposition 1B Goods Movement Emission Reduction Program (Proposition 1B Program). The Legislature expanded the scope of the CAP incentives with subsequent appropriations to include additional project types. The project types called for consist of:

- Mobile source projects. Eligibility continues through either the Carl Moyer Program or the Proposition 1B Program, with a focus on zero-emission equipment.
- Zero-emission charging infrastructure projects. Eligibility continues with a focus on medium- and heavy-duty vehicle infrastructure.
- Stationary source projects. New eligibility for the replacement of equipment at locations of stationary sources of air pollution not subject to the Cap-and-Trade Program, which will result in direct reductions of TACs or criteria air pollutants.
- Community-identified projects. New eligibility for programs developed by an air district consistent with the actions identified in the applicable Community Emissions Reduction Program pursuant to AB 617, provided there is community input through a public process.

Most of these pots of funds must be liquidated within 5 years. The initial appropriation from FY 2017-18 has a liquidation deadline of June 30, 2023, and as of November 2021, air districts have expended nearly 100 percent of the funds. Similarly, the local air districts are on track to meet liquidation and expenditure targets for the subsequent pots of funds.

Website: https://ww2.arb.ca.gov/capp

Equity Focus: To ensure that CAP incentives expenditures reflect community priorities, air districts must invest time to build community trust and participation in the committees formed in and by the communities selected to participate in the Program, and more broadly within other communities under consideration for future selection. To show that they are focusing on priority populations and listening to community priorities, air districts are required to submit documentation of their public process and associated project lists with each request for disbursement of funds. Air districts must also continue to seek guidance from community members in how to prioritize project selection, and as part of the requirements of California Climate Investments, must routinely report information on such outreach to CARB.

Key Collaborators: Air Districts, Local and Regional Governments, Community-Based Organizations, Non-Governmental Organizations, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufactures, Fleets, Freight Facilities, Industry, Academia

Key Actions and Results:

1. Staff implementing the CAP Program expect to present a new version of their Community Air Protection Blueprint to the Board in late 2023. The Blueprint exists to guide other CARB staff, air district staff, participating community members, and other stakeholders involved in the Program, as they work to implement AB 617.
2. Following approval of the Blueprint, staff implementing CAP incentives plan to present a set of revisions to the Community Air Protection Incentives Guidelines to the Board in 2024, with the intention of incorporating new elements of the revised Blueprint into the Guidelines.
3. In addition to these new efforts, staff will continue to grant and disburse CAP incentives appropriated by the Legislature to the air districts, and air districts will continue to solicit for and select new incentive projects using these funds in-line with community guidance. CARB has already granted funds appropriated in FY 2022-23 to the air districts, and staff expects air districts to begin requesting disbursement of these funds in early 2023.
4. In addition to the current project categories available for air districts to fund using CAP incentives, CARB provided a pathway in its Guidelines for air districts to create Project Plans to allow funding new kinds of stationary source and community-identified projects upon CARB's approval. CARB has reviewed and approved dozens of these Project Plans as of 2023, and staff expect air districts to submit additional Project Plans for CARB to review this year.

2.15 Clean Mobility in Schools, or CMIS

The Clean Mobility in Schools Pilot Project (CMIS) facilitates bold transformations in transportation and mobility opportunities in and around school communities. Grants provide funding for zero-emission vehicles, charging infrastructure, active and alternative modes of transportation, and more. CMIS projects aim to increase knowledge and acceptance of zero-emission mobility options for staff, students, parents, and the surrounding communities. Additionally, projects must be located within a disadvantaged community.

Each project also aims to gain a better understanding of "mode-shifting" and what the school districts can do to further serve the school and the community in promoting and incentivizing the shift to cleaner and active modes of travel. This process includes a deeper understanding of community needs to effectively communicate and incentivize behavior shifts.

Website: https://ww2.arb.ca.gov/lcti-clean-mobility-schools-pilot-project

Equity Focus: The ZEVs will operate almost exclusively in disadvantaged communities. Grantees will leverage battery-electric school buses and other zero-emission technologies into peer-led educational programs and materials for students, faculty, staff, and community members.

Key Collaborators: GOBiz, California Energy Commission, Air Districts, Local and Regional Governments, Community-Based Organizations, Non-Governmental Organizations,

Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufactures, Fleets, Cal Recycle, CA Department of Education, School Districts

Key Actions and Results:

1. Continue implementation of previously awarded grants and launch one new grant in the Sacramento area at Twin Rivers Unified School District. The project includes ZE school buses and infrastructure, a ZE workforce training component, ZE utility carts, passenger vans, trucks, and a Class 6 truck will also be deployed.
2. Continue public process (at least two work group meetings and one public comment period) to update the solicitation for the next round of [STEP, Planning and Capacity Building, or Clean Mobility in Schools] funding, January-March 2023
3. Conduct joint solicitation for FY 22-23 funds for STEP, Clean Mobility in Schools, and Planning and Capacity Building, Spring/summer 2023
4. Award two to six grants through STEP and CMiS through the FY 22-23 solicitation ($15 million total from each program, $30 million total), Fall 2023

2.16 Rural School Bus Pilot

The Rural School Bus Pilot provides funding for zero-emission school buses (battery-electric) and charging infrastructure to replace the oldest conventionally-fueled school buses in California. May also fund new renewable-fueled school buses.

Website: https://ww2.arb.ca.gov/lcti-rural-school-bus-pilot-project

Equity Focus: Schools in rural communities with the oldest and worst polluting fleets who traditionally have had fewer opportunities for grant funding are given funding priority.

Key Collaborators: Air Districts, Local and Regional Governments, Vehicle Manufactures, Fleets, Industry, School Districts, CA Department of Education

Key Actions and Results:

1. FY 2017/18 grant will be final and closed out in 2023.
2. For 2023, ZE school bus projects will be closely coordinated with CEC's Energy Infrastructure Incentive program.

2.17 Zero-Emission Truck Loan Pilot

The Zero-Emission Truck Loan Pilot Project is a new project that is designed to combine financing for both heavy-duty ZEVs and charging or fueling infrastructure. CARB will partner with CEC to build on the existing successful relationship with CPCFA in implementing the Truck Loan Assistance Program through their California Capital Access Program. The pilot will allow CARB, CPCFA, CEC, and lenders to learn from borrowers of small business fleets what is needed to make a successful transition to zero-emission and what additional areas of support are required. The Zero-Emission Truck Loan Pilot Project fits within the larger goals of SB 372, which requires CARB to develop and provide financial and non-financial supports to medium- and heavy-duty fleets seeking to transition to zero-emission vehicles.

Equity Focus: There is targeted outreach to fleets operating in lower-income and disadvantaged communities.

Key Collaborators: California Energy Commission, Local and Regional Governments, Community-Based Organizations, Non-Governmental Organizations, Infrastructure Providers, Investors/Financing Institutions

Key Actions and Results:

1. Workgroups will be held to gather stakeholder feedback
2. The pilot project is currently under development with an anticipate launch in mid-year 2023.

2.18 Truck Loan Assistance Program

This program helps small business truck owners that fall below conventional lending criteria and are unable to qualify for traditional financing for cleaner trucks.

Website: https://ww2.arb.ca.gov/our-work/programs/truck-loan-assistance-program

Equity Focus: This program was created to assist small business truck owners who may not qualify for traditional loans.

Key Collaborators: Local and Regional Governments, Infrastructure Providers, Fleets, Investors/Financing Institutions

Key Actions and Results:

1. CARB expects that fleets will continue to utilize the program to turnover vehicles throughout 2023 to meet the final regulation deadlines and Department of Motor Vehicle registration requirements.
2. CARB staff continues to work with CPCFA and participating lenders to support zero-emission heavy-duty truck financing for small fleets. This includes exploring possible modifications to the existing loan program and incorporating learnings from the new Innovative Small e-Fleets set-aside in HVIP, where possible.
3. Prospective borrowers will be provided notifications to acknowledge that they're aware of upcoming zero-emission regulations when purchasing a vehicle.

2.19 Local Educational Agency School Bus Replacement Grant

AB 181 provided CARB and CEC with $1.5 billion in Proposition 98 General Funds to support grants to local educational agencies. CARB received $1.125 billion to replace internal combustion school buses with new zero-emission school buses, and CEC received $375 million for the accompanying infrastructure, and other associated costs. DGS, in coordination with CARB and CEC, will set statewide procurement contracts for zero-emission school buses for use by local educational agencies. Funding will be administered through HVIP as set-aside funding over 5-years, starting with the 2023-24 Fiscal Year.
Equity Focus: Funding is prioritized for small and rural school districts operating the oldest internal combustion engine school buses.
Key Collaborators: California Energy Commission, DGS, Local Educational Agencies, School Bus Manufacturers, Charging Infrastructure Installers, Utility Providers
Key Actions and Results:

1. CARB, CEC and DGS collaborating closely on required specifications for statewide procurement contracts which are expected to be in place by late 2023.

2. Solicitation to school districts is expected in early 2024.
3. Outreach to priority school districts where appropriate.

3. ZEV Market Development

3.1 CALGreen Building Codes

CARB works with the Department of Housing and Community Development (HCD) and the Building Standards Commission (CBSC) to advance infrastructure requirements in newly constructed residential and non-residential buildings to support light-duty and medium- and heavy-duty ZEV charging in the CALGreen building code.

In December 2021, CBSC approved proposed updates to the CALGreen building code. Starting January 1, 2023, the approved code requires non-residential buildings to have 20% of spaces be EV capable and 25% of EV capable spaces to have EV chargers installed. The code allows for the installation of DC fast chargers, reducing the number of required EV capable spaces. For multi-unit dwellings and hotels and motels, the code requires 10% of parking spaces to be EV capable (conduit and panel capacity for future charging station installations), 25% of spaces to be EV Ready (a level 2 cord-set compatible electrical receptacle) and an additional 5% of parking spaces have EV chargers installed for developments of 20 units or more. Additionally, for medium- and heavy-duty vehicles there will be a mandatory requirement to install charging infrastructure to support later additions of EV chargers up to 400 kW refueling in new warehouses, grocery stores, and retail buildings that have off-street loading spaces.

Website: www.dgs.ca.gov/BSC/CALGreen#codes

Equity Focus: CARB and HCD are committed to increasing access to charging in multi-unit dwellings. HCD proposes to increase the number of EV Ready spaces and installed EV chargers.

Key Collaborators: GOBiz, California Energy Commission, California Public Utilities Commission, Local and Regional Governments, Non-Governmental Organizations, Electricity and Hydrogen Providers, Vehicle Manufactures, Industry, Department of Housing and Community Development; Building Standards Commission

Key Actions and Results:

1. Continue to support the Department of Housing and Community Development and the Building Standards Commission in updating the current CALGreen Code. The Building Standards Commission is expected to hear and vote on the proposed code updates in July 2023. The proposed code updates will go into effect July 1, 2024.
2. For medium- and heavy-duty ZEV charging infrastructure requirements, CARB will continue to support the Building Standards Commission in a proposal to extend the building codes to include installation at new commercial buildings.
3. Above and beyond installation of ZEV charging infrastructure, CARB will also support HCD and BSC to consider both transportation and building electrification

holistically, for example, through the development of all-electric new construction standards that align with the Scoping Plan scenario.

3.2 Assembly Bill 8 Annual Evaluation of and Report on Hydrogen Station Network
Annual evaluation of fuel cell electric vehicle deployment and hydrogen station network development (AB 8). Under current statute, 2023 will be the last year this report is required.

Website: https://ww2.arb.ca.gov/resources/documents/annual-hydrogen-evaluation

Equity Focus: The annual report includes analyses that characterize how the hydrogen fueling station network coverage relates to disadvantaged community residents and evaluates the differences when compared to California's general population. This includes evaluation of which disadvantaged communities may be left out of convenient hydrogen station access.

Key Collaborators: GOBiz, California Energy Commission, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufactures, Industry, CDFA, DMV

Key Actions and Results:
1. Complete and transmit Annual Evaluation to CEC for final review by June 30th every year; public release follows, typically in the third quarter of each year
2. CEC publishes Joint Agency Staff Report on AB 8 by December 31st each year

3.3 Hydrogen Station Network Development Support
CARB's hydrogen fueling station validation program provides station confirmation testing services for California Energy Commission (CEC) funded (AB 8) and privately funded stations, including light-duty and medium- and heavy-duty (if applicable). Applicants of CEC funded stations are required to have stations tested to ensure that fueling events are fast, safe, and consistent prior to opening. Likewise, hydrogen fuel cell electric vehicle (FCEV) manufacturers require testing of both publicly and privately funded stations prior to opening. The program's primary goal is to accelerate the development and proliferation of a self-sufficient, safe, and reliable hydrogen fueling station network for a growing fleet of FCEVs, a key component of CARB's ZEV goals.

Key Collaborators: GOBiz, California Energy Commission, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufactures, Industry, CDFA/DMS, SAE, CSA, NREL

Key Actions and Results:
1. Conduct hydrogen fueling station confirmation testing using the hydrogen station testing equipment performance (HyStEP) device on light-duty stations as well as provide preliminary testing results for medium and heavy-duty stations.
2. CARB and CEC have an interagency agreement to fund the building of the next generation testing device, HyStEP 2.0. Design criteria have been developed in partnership with the CEC and National Renewable Energy Laboratory (NREL). CARB is finalizing the development of a Request for Proposals (RFP) to procure a device that meets the NREL criteria from a contractor. CARB staff anticipate the RFP will be available in early 2023 and will hold a webinar for applicants to ask clarifying questions. CARB staff anticipates beginning the contract in 2023.

3. Continue involvement in the SAE and CSA/ANSI standard protocols and test methods developments for light-duty fuel cell vehicles, and preliminary work on the medium and heavy-duty fueling standard protocol development.
4. Continue collaborative efforts with CDFA DMS on potential hydrogen fueling station regulations for light-duty vehicles. DMS hosted a pre-rulemaking workshop in 2022. Based on feedback from that workshop, CARB and DMS are developing a project plan for 2023 to gather data needed to formulate the regulation.

3.4 Zero-emission Vehicle (ZEV) Workforce Training and Development

This effort supports expansion of ZEV workforce training and career pathway development for priority populations, including curriculum, ZEV manufacturing and pre-apprenticeship training, train-the-trainer, tuition reimbursement, and other ZEV and infrastructure training projects in 2023. CARB is working to build partnerships and collaborate with other state and local agencies who have workforce training programs to expand and strengthen existing programs. Agencies such as CEC and the Foundation for Community Colleges are key partners in this effort.

Equity Focus: These projects focus on increasing training and career pathways specifically for priority populations, including low-income and disadvantaged communities.

Key Collaborators: GOBiz, California Energy Commission, Labor and Workforce Development, Local and Regional Governments, Tribal Governments, Community-Based Organizations, Non-Governmental Organizations, Organized Labor, Academia

Key Actions and Results:

1. Continue interagency agreement with CEC to implement the Inclusive, Diverse, Equitable, Accessible, and Local (IDEAL) ZEV Workforce Training Pilot project.
2. Develop and execute partnership with Foundation for California Community Colleges to expand and support ZEV training programs in community colleges.
3. Develop and administer solicitation for grant funding to support ZEV training and workforce development for priority populations in adult education and vocational schools.

3.5 Educational Events

Conduct events for heavy-duty ZEV fleet owners to support increased vehicle uptake such as, infrastructure requirements, maintenance, etc. CARB monitors the number of attendees at these events and seeks stakeholder input, including surveys of event effectiveness.

Website: www.arb.ca.gov/zevtruckstop

Equity Focus: There is targeted outreach to those operating in lower-income and disadvantaged communities.

Key Collaborators: California Energy Commission, California Energy Commission, Air Districts, Local and Regional Governments, Non-Governmental Organizations, Vehicle Manufactures, Fleets, Industry

Key Actions and Results:

1. Continue providing day-long educational events to address the educational needs and concerns of audience.
2. Develop shorter, more targeted educational events to increase the convenience and approachability for the audience.
3. Provide assistance and information for 200-300 participants per event
4. Ensure that the curriculum for these events continues to be designed for all operators including smaller fleets, many of which are owned and operated in underserved communities
5. As medium- and heavy-duty vehicle owners begin to electrify their fleets, CARB will monitor the number of attendees at these events and seek stakeholder input, including surveys of event effectiveness

3.6 Senate Bill 372 Medium- and Heavy-duty Zero-Emission Fleet Purchasing Assistance Program

Many of CARB's programs support the goal of SB372 which aims to make financing tools and non-financial supports available to operators of medium- and heavy-duty vehicle fleets to enable those operators to transition their fleets to zero-emission vehicles.

Website: https://ww2.arb.ca.gov/sites/default/files/truckstop/zev/zevinfo.html

Equity Focus: There is a 75% target in SB 372 for supporting fleets operating in lower-income and disadvantaged communities.

Key Collaborators: GoBiz, California Energy Commission, California Energy Commission, Air Districts, Local and Regional Governments, Community-Based Organizations, Non-Governmental Organizations, Infrastructure Providers, Vehicle Manufactures, Fleets, Industry, Investors/Financing Institutions

Key Actions and Results:

1. Improve upon and promote the website, ZEV TruckStop, with information regarding the potential financing and grant options, and other technical assistance available through the program.
2. Launch a technical assistance program for operators of medium- and heavy-duty vehicle fleets attempting to navigate the steps needed to transition their fleets to zero-emission vehicles.
3. Consult with various stakeholders and relevant state agencies regarding the research findings and policy considerations for future risk reduction strategies to enable further adoption of medium- and heavy-duty zero-emission vehicles.
4. Expand medium- and heavy duty zero-emission vehicle education opportunities and resources.
5. Conduct community listening sessions to understand barriers and provide support for transitioning to zero-emission vehicles.

4. Mobility and Technology Advancement

4.1 Advanced Technology Demonstration and Pilot Projects

Advanced Technology Demonstration and Pilot Projects are uniquely designed to take advantage of emerging opportunities. These projects are intended to accelerate the

introduction of advanced emission reducing technologies that are on the cusp of commercialization into the California marketplace. They can utilize technologies already developed and in the demonstration phase that align with the State's goals to reduce emissions.

Website: https://ww2.arb.ca.gov/lcti-advanced-technology-demonstration-and-pilot-projects

Equity Focus: Advanced Technology Demonstration and Pilot Projects are generally required to be located in or benefit priority populations and projects that provide these benefits score higher than those projects that do not. As a result, 99% of all demonstration and pilot projects are located in or benefit priority populations.

Key Collaborators: GOBiz, California Energy Commission, Air Districts, Local and Regional Governments, Federal Government, Community-Based Organizations, Non-Governmental Organizations, Organized Labor, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufactures, Fleets, Freight Facilities, Industry, Academia

Key Actions and Results:

1. Bring on board a third-party administrator for the Advanced Technology Demonstration and Pilot Project program.
2. Public Workgroup Meetings to support development of the FY 2021-2022 and FY 2022-2023 Advanced Technology Demonstration and Pilot Project solicitation
3. Issuance of the FY 2021-2022 and FY 2022-2023 Advanced Technology Demonstration and Pilot Project solicitation.
4. Execute Grant Agreements for projects selected from the FY 2021-2022 and FY 2022-2023 Advanced Technology Demonstration and Pilot Project solicitation.
5. Public workgroup meetings to support the FY 2023-2024 LCT Funding Plan for Advanced Technology Demonstration and Pilot Projects.

4.2 White Paper: Sustainable Financing Tools and Strategies for Equitable, Community-based Mobility and Transportation Solutions

CARB has a one-year research contract with Steer Group to review, identify, and assess existing and possible future financing tools and strategies for creating, supporting, and sustaining projects and programs that provide localized, zero-emission, and community-scale mobility solutions to residents of low-income and disadvantaged communities. The final resulting white paper will 1) identify and summarize financing tools that have enabled community-scale mobility projects in low-income and disadvantaged communities based on examples of projects that have been financed (at least partially) by resources other than direct grants and 2) identify and explore opportunities for financing tools and strategies that have not been tested in practice for mobility projects but that show promise based on success stories from other sectors or applications. The white paper will help CARB, other State agencies, and local communities, including existing and future CARB grantees, identify potential tools and strategies that can fund or supplement State funding for clean mobility projects, given the high degree of demonstrated need and the limited, uncertain nature of State funding.

Website: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/research-solicitations/financing-clean-mobility

Equity Focus: This contract is focused on funding and financing strategies in disadvantaged and low-income communities. The research considers equity in many ways, such as accounting for projects that will generate very limited or no funding from user fees and flagging potential inequities that could result from certain financing strategies.

Key Collaborators: California Energy Commission, California Transportation Commission, Caltrans, Local and Regional Governments, Non-Governmental Organizations, Consultants

Key Actions and Results:
1. Complete final draft of white paper, February 28, 2023
2. Consider additional research needs and potential future contracts in this area

4.3 Climate Smart Communities Consortium Research: Metrics and Evaluation Methodologies for Clean Mobility and Sustainable Transportation Equity Projects
Under this contract, UCB will: 1) Develop an evaluation model/process for CARB to use as a new standard for assessing the effectiveness, sustainability, and outcomes of CARB's clean mobility pilot projects for priority populations; 2) evaluate and compare existing clean mobility pilot projects and identify what criteria contribute to project success; 3) conduct pre-project assessments on future STEP and CMO projects; 4) conduct implementation assessments on future STEP and CMO projects; and 5) apply lessons learned and develop policy recommendations for CARB's consideration in implementing existing and future transportation equity projects.

Equity Focus: The overarching goal of CARB's clean transportation equity projects is to prioritize investments in communities most impacted by air pollution and poverty and most vulnerable to the effects of climate change (i.e., disadvantaged communities). The pilots streamline access to funding for clean mobility projects for under-resourced communities that traditionally do not have the resources available to access funds for clean transportation choices.

Key Collaborators: Academia

Key Actions and Results:
The purpose of this contract is to identify the best method to evaluate CARB's various clean mobility pilot projects: 1) identify community and researcher-preferred indicators and metrics and those important to CARB's Low Carbon Transportation reporting; 2) conduct an evaluation of CARB's clean mobility pilot projects; and 3) develop policy recommendations on successful clean transportation project elements to inform future transportation equity funding.
Deliverables/Dates:
1. Summary of Key Findings from grantee information, community of practice sessions and stakeholder feedback/August 2023.
2. Draft Technical Report describing project evaluations and indicators of project success/October 2023.
3. Summary of Lessons Learned and Policy Recommendations/October 31, 2023
4. Final Report/June 2024
5. Research Seminar/August 2024

5. External Market Development

5.1 International ZEV Alliance

Comprised of 21 jurisdictions, the International ZEV Alliance members seek to collaborate with other governments to expand the global ZEV market and enhance government cooperation on ZEV policies to strengthen and coordinate efforts to combat air pollution, limit global climate change, reduce oil dependence, and increase ZEV deployment. The collaboration includes the sharing of data, best practices, and lessons learned, and involves coordinating on action plans and long-term targets to help the group collectively achieve its ZEV deployment goals. California is a member jurisdiction, and CARB is a founding member organization.

Website: www.zevalliance.org

Equity Focus: International ZEV Alliance members are committed to continuing to take actions to overcome barriers, achieve targets, and increase ZEV uptake while emphasizing more equitable access to clean transportation and mobility options.

Key Collaborators: GOBiz, California Energy Commission, California Public Utilities Commission, International Governments, Non-Governmental Organizations, CalEPA, Other States

Key Actions and Results:

1. Continue coordination among California state agencies to provide feedback and expertise on the three focus areas for 2023: the business case for charging infrastructure, maximizing convenient overnight charging access, and tailoring light- and heavy-duty ZEV incentives.
2. Participate in relevant webinars and events hosted by the ZEV Community. (The ZEV Community is a platform for exchange and is co-hosted by the Secretariats of the ZEV Alliance and the Under2 Coalition.)
3. Participate in deep dive working sessions to facilitate knowledge sharing and collaborative problem solving on specific ZEV policy challenges.
4. Serve on the Communication Working Group to help develop a communication strategy, as the ZEV Alliance has an important role in sharing policy lessons, statements of ambition, and other updates on with a broad audience.
5. Assist in developing the ZEV Alliance Annual Assembly meeting agenda and help organize California state agencies for hosting the convening in Sacramento, California in June 2023.

5.2 Multi-State ZEV Task Force

The Multi-State ZEV Task Force is a coalition of 17 U.S. states, the District of Columbia, and the Canadian province of Quebec committed to coordinating state policies and programs to propel ZEV market growth and support their ZEV regulatory programs. The Task Force is led by the Northeast States for Coordinated Air Use Management (NESCAUM), who spearheaded the launch of the coalition in 2013. The Multi-State ZEV Task Force serves as a unique forum to catalyze, guide, and support state action to advance light-, medium-, and heavy-duty zero-emission vehicles.

Website: https://www.nescaum.org/our-work/clean-transportation/adoption-of-electric-cars

Equity Focus: Action Plans for the ZEV Task Force focus on identifying barriers and opportunities for rapid and equitable zero-emission transportation and actionable policy and program recommendations.

Key Collaborators: GOBiz, California Energy Commission, California Public Utilities Commission, Non-Governmental Organizations, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufactures, Industry, Other States

Key Actions and Results:

1. Continue dialogue and collaboration with member states, especially around development of supporting policies for 100% ZEV sales targets and implementation of actions from the Multi-State Medium- and Heavy-Duty Zero-Emission Vehicle Action Plan.
2. Continue coordination on multi-state public education campaigns and look for opportunities to leverage other awareness campaigns.
3. Coordinate and collaborate on the buildout of publicly accessible charging infrastructure.
4. Coordinate with state partners as guidance for new federal incentives are rolled out.

5.3 Veloz

Veloz is a California nonprofit that works with its unique and diverse membership to support consumer awareness and accelerate uptake of ZEVs. Veloz's Electric For All consumer awareness campaign, the largest electric vehicle marketing campaign in the state, is in its fourth phase. The organization further advances vehicle electrification through its sales dashboard, online consumer shopping tool, webinars, public summits, media outreach, monthly blog, and support of partnerships within the ZEV community. CARB is a founding member of Veloz.

Website: www.Veloz.org

Equity Focus: Veloz's public education campaign will continue in 2023 with paid advertising throughout California and across digital channels – 50% of which is focused on priority communities. In addition, the effort raises ZEV education and awareness in hard-to-reach communities through strategic partnerships with eight funded partner organizations and community outreach efforts.

Key Collaborators: GOBiz, California Energy Commission, California Public Utilities Commission, Caltrans, CalSTA, Local and Regional Governments, Community-Based Organizations, Non-Governmental Organizations, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufactures, Fleets, Industry, Academia, OPR, H2FCP

Key Actions and Results:

1. Participate in and promote Veloz's 2023 virtual summits and webinars, which gather stakeholders to help guide policy education and identify market solutions to overcoming common ZEV barriers.

2. Promote Veloz's Myths Busting Myths Electric For All public education campaign and assist with expanding the campaign's reach to priority communities.

5.4 Hydrogen Fuel Cell Partnership

In 2022, the former California Fuel Cell Partnership finalized the transition to a nationally focused non-profit 501(c)(3) named the Hydrogen Fuel Cell Partnership (H2FCP). The partnership is focused on growing the market for fuel cell electric vehicles and hydrogen fuel. Members collaborate on ideas and actions that will create a sustainable future for zero-emission cars, trucks, and other applications for hydrogen. The H2FCP program plan has three main pillars: "Drive Market Success," becoming a "Trusted Resource," and to "Win Hearts and Minds." CARB is a founding member organization.

Website: https://h2fcp.org/

Equity Focus: The Hydrogen Fuel Cell Partnership has individual tasks that focus on evaluating the equity impacts of the hydrogen fueling network, including the location of fueling stations and workforce impacts of developing a hydrogen transportation industry in California.

Key Collaborators: GOBiz, Labor and Workforce Development, Local and Regional Governments, Federal Government, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufacture, Fleets, Industry, Academia, CDFA Weights and Measures; Electric and Gas Utilities

Key Actions and Results:

1. Help communicate the benefits of fuel cell vehicles and hydrogen through outreach materials, webinars, events, social media, and media relations. Assist in providing education and outreach to state and local governments, priority communities, NGOs, and other stakeholders, securing greater awareness and support.
2. Participate in coordination and development of California's Hydrogen Hubs application (ARCHES) for federal funding under the Infrastructure Investment and Jobs Act of 2022.
3. Ensure outreach to light- and heavy-duty applications, including expanding awareness and education among fleet and transit agencies on new Advanced Clean Trucks and Innovative Clean Transit regulations.
4. Continue development of H2FCP's station map and network progress reports.
5. Integrate all new public hydrogen stations into Station Operational Status System (SOSS) and expand visualization and other capabilities to increase stakeholder and consumer value.

5.5 Transport Decarbonisation Alliance (TDA)

California is chairing the Transport Decarbonisation Alliance (TDA) through November 2023. The is a unique international collaboration among countries, cities, regions and companies to accelerate the worldwide transformation of the transport sector towards a net-zero emission mobility system before 2050.

This year, the TDA will offer participants a safe space to discuss regulatory approaches to accelerating deployment of zero emission trucks. We are partnering with and contributing to other initiatives in the clean trucks space, but remain distinct by being inclusive of

national and subnational jurisdictions at varying levels of ambition; connecting the private sector directly with regulators; focusing on the political aspects of developing and implementing regulations; and offering ad-hoc and regular meetings tailored to the needs of participants, from bi-laterals between members to large group workshops with partners and experts.

Additionally, in 2022, TDA issued a Call to Action to invest in training 10,000 active mobility professionals to ensure a pipeline of high quality active mobility projects around the world, based on global best practice knowledge and experience. The Dutch government announced an initial investment to support the concept. TDA is coordinating with the Dutch government and other Call to Action stakeholders to support next steps.

Website: https://www.tda-mobility.org/

Equity Focus: The TDA includes global south members and areas considered emerging markets. Through the TDA, there is information sharing on lessons learned and best practices across borders.

Key Collaborators: California Energy Commission, International Governments, Non-Governmental Organizations, Infrastructure Providers, Vehicle Manufactures, Fleets

Key Actions and Results:

1. Anticipate hosting several events at international conferences related to zero-emission trucks and active mobility (May, July, November).
2. Host webinars highlighting members' pursuit to reaching their climate goals (throughout the year)

6. Consumer and Worker Awareness

6.1 Access Clean California

Stemming from a priority recommendation of both CEC's SB 350 Low-Income Barriers Study and CARB's SB 350 Guidance Document, Access Clean California takes a multi-dimensional approach to outreach with the ultimate goal of streamlining access to, and coordinating outreach for, the state's clean transportation and clean energy consumer-based equity projects. To date, CARB has allocated $15 million to Access Clean California.

Access Clean California provides funding and resources to the outreach partners to help CARB spread the word about its clean transportation equity programs and build trust and capacity in priority populations. The project also created and maintains a centralized application tool (Benefits Finder) that helps users determine eligible programs and kick-start and streamline their applications. The Benefits Finder is hosted on the Access Clean California web platform and is currently available for facilitated use by the project's outreach partners via targeted outreach in priority populations. The Benefits Finder also provides a centralized income verification, which helps streamline one of the more burdensome steps for both applicants and program administrators. A case management system also helps applicants navigate their applications to multiple programs.

Website: AccessCleanCA.org

Equity Focus: The goals of Access Clean California (formerly named the One-Stop-Shop Pilot Project) are to work with local CBOs and community leaders to help increase awareness of Clean Transportation Equity funding opportunities, continue to build local community capacity, and streamline access to Clean Transportation Equity projects. These investments help to reduce barriers to participation, expand education, and raise awareness in the most impacted and underinvested communities.

Key Collaborators: California Energy Commission, California Public Utilities Commission, Caltrans, Air Districts, Local and Regional Governments, Tribal Government, Community-Based Organizations, Non-Governmental Organizations, Organized Labor

Key Actions and Results:

1. Scale-up outreach implementation and expand the outreach partner network, with an emphasis on partnering with CBOs and other local grassroots organizations, as well as increase participation from priority populations.
2. CExpand integration with existing and new programs, including the transition of the CVA Program to a needs-based model and outreach for the statewide Clean Cars 4 All program, as well as i the new Electric Bicycle Incentives Project.
3. Continue working to expand the Benefits Finder to include additional programs to fulfill the ultimate vision, as outlined in CARB's SB 350 Guidance Document of being a multi-agency platform for the state's equity-focused clean transportation and energy programs.

6.2 DriveClean.ca.gov

DriveClean.ca.gov is a consumer clean car buying guide with a focus on ZEVs that provides all vehicle models sold in California since model year 2000, ranks them by smog and GHG score, and allows sorting by fuel economy, electric range, and incentives. DriveClean delivers information on ZEV benefits, functionality, charging and fueling, and provides an extensive clean car incentives database that is searchable by zip code.

Website: www.DriveClean.ca.gov

Equity Focus: DriveClean.ca.gov aims to provide resources for all consumers on driving cleaner cars, with updates focused on better serving lower-income users.

Key Collaborators: Local and Regional Governments, Community-Based Organizations, Non-Governmental Organizations

Key Actions and Results:

1. Upgrade the DriveClean.ca.gov website in early 2023 to establish one seamless vehicle/incentives search tool with images and MSRP that delivers summed up incentives based on location and vehicle selection, and enhanced filters to better support lower-income users.
2. Create an API to allow the upgraded search tool to be embedded into other CARB consumer-facing websites and select external partner platforms.
3. Continue collaboration on consumer messaging and incorporate findings throughout the DriveClean website.

6.3 Educational Materials

CARB will provide outreach materials to support medium- and heavy-duty ZEV regulations. This material includes the newly introduced MHD ZEV informational website.

Website: https://ww2.arb.ca.gov/sites/default/files/truckstop/zev/zevinfo.html

Equity Focus: There is targeted outreach to fleets operating in lower-income and disadvantaged communities and materials are developed in multiple languages

Key Collaborators: California Energy Commission, Air Districts, Local and Regional Governments, Community-Based Organizations, Non-Governmental Organizations, Vehicle Manufactures, Industry

Key Actions and Results:

1. Continue to develop and provide materials requested by medium- and heavy-duty CARB programs
2. Continue to send mailers to regulated community
3. Update, develop and evolve new and existing digital assistance such as the ZEV TruckStop webpage
4. Continue to target smaller fleets, many of which are owned and operated in underserved communities
5. Continue to provide outreach material development to support medium- and heavy-duty ZEV regulations