

## ZERO EMISSION FUNDING MATRIX

The purpose of this matrix is to show state and federal programs supporting zero emissions vehicles (ZEVs) and infrastructure.

PROGRAM	AGENCY	PURPOSE/DESCRIPTION	ELIGIBLE PROJECT TYPES	WEBSITE
AB 617 COMMUNITY AIR PROTECTION INCENTIVES	California Air Resources Board	Provides funding for projects with emissions reduction benefits to communities identified through AB 617 or AB 1550. Program aims to prioritize zero-emissions infrastructure and technology as a means to reduce toxics, criteria pollutants, and GHGs, in projects in these communities. This program is subject to annual appropriation. The state has appropriated an average of \$234 million annually for the program since 2017.	<ul style="list-style-type: none"> <li>• Site hosts of electric vehicle charging equipment at a business or workplace.</li> <li>• Provides up to 70% of costs for publicly accessible project; an additional 10 percent may be added to those maximum values for projects that serve ports, railyards, and other freight facilities.</li> </ul>	<a href="http://arb.ca.gov/our-work/programs/community-air-protection-incentives">arb.ca.gov/our-work/programs/community-air-protection-incentives</a>
ADVANCED TECHNOLOGY DEMONSTRATION PROJECTS	California Air Resources Board	Funds projects to help accelerate the next generation of advanced technology vehicles, equipment, or emission controls which are not yet commercialized, demonstrating promising technologies to reduce GHG and criteria pollutant emissions. A sub-program under the Low Carbon Transportation Program. Funding available varies between \$2 million and \$30 million annually.	<ul style="list-style-type: none"> <li>• Deployment of eligible commercially available vehicles and equipment</li> <li>• Production, installation, and supporting infrastructure operations, maintenance</li> <li>• Zero-Emission Freight and port drayage trucks, including regional hauling</li> <li>• Construction, deployment of pre-commercial vehicles, equipment with high potential to be commercialized</li> <li>• Demonstration of the deployed vehicle technology and infrastructure</li> <li>• Renewable power generation and energy storage that support vehicle, equipment, facility operations and assist in managing energy demand</li> <li>• System efficiency upgrades including process improvements</li> </ul>	<a href="http://arb.ca.gov/our-work/programs/low-carbon-transportation-investments-and-air-quality-improvement-program/low">arb.ca.gov/our-work/programs/low-carbon-transportation-investments-and-air-quality-improvement-program/low</a>  <a href="#">Advanced Technology Demonstration Projects   California Air Resources Board</a>

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CARL MOYER MEMORIAL AIR QUALITY STANDARDS ATTAINMENT PROGRAM	California Air Resources Board	Funds up to 75 percent of the eligible costs of cleaner-than-required engines, equipment, and other measures that reduce air pollution. Provides over \$60 million annually to air districts.	<ul style="list-style-type: none"> <li>• Medium- and heavy-duty trucks and buses</li> <li>• Infrastructure charging, including battery charging stations, alternative fueling stations, and shore power.</li> </ul> <p>Up to 50% of all project costs are eligible for the program and 60% of costs if the project is publicly accessible. Also provides funding for electric, hydrogen, and Natural Gas vehicles.</p>	<a href="http://arb.ca.gov/msprog/moyer/moyer.htm">arb.ca.gov/msprog/moyer/moyer.htm</a>
CLEAN CARS FOR ALL PROGRAM	California Air Resources Board, associated Air Quality Districts	Provides up to \$9,500 to retire a car and purchase or lease a new or used plug-in hybrid electric vehicle, battery electric vehicle, or a fuel cell electric vehicle. Funding subject to appropriation and budgeted in the Low Carbon Transportation Investments and Air Quality Improvement Plan. Funding varies by district. The administering air districts are South Coast, San Joaquin, Bay Area, and Sacramento.	<ul style="list-style-type: none"> <li>• Eligible vehicles are determined by the administering air district</li> <li>• Highest rebates are for low-income consumers living in a disadvantaged community and who choose the cleanest vehicle technology</li> </ul>	<a href="http://arb.ca.gov/msprog/lct/vehiclescrap.htm">arb.ca.gov/msprog/lct/vehiclescrap.htm</a>
CLEAN VEHICLE REBATE PROGRAM (CVRP)	California Air Resources Board	Provides rebates up to \$7,000 to purchase or lease a new plug-in hybrid electric vehicle, battery electric vehicle, or a fuel cell electric vehicle. Funding subject to appropriation and budgeted in the Low Carbon Transportation Investments and Air Quality Improvement Plan. Funding offered on a first-come basis. Approximately \$50 million left in funding as of February 2021, of which \$25 million is reserved for increased rebates for low- and moderate-income individuals.	<ul style="list-style-type: none"> <li>• Available for individuals, businesses, or fleets</li> <li>• Eligible light-duty vehicle technology types include plug-in hybrid electric vehicles, battery electric vehicles, and fuel cell electric vehicles as well as zero-emission motorcycles</li> <li>• Applicant and vehicle eligibility are determined by program</li> </ul>	<a href="http://cleanvehiclerebate.org/eng/ev">cleanvehiclerebate.org/eng/ev</a>

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<p>CLEAN OFF-ROAD EQUIPMENT VOUCHER INCENTIVE PROJECT (CORE)</p>	<p>California Air Resources Board</p>	<p>Aims to accelerate deployment of cleaner freight technologies by offsetting the higher cost of zero-emissions technologies in the early stages of commercial deployment. The program is intended for on and off-road vehicles at ports, freight facilities, and airports, as well as supporting infrastructure. This program is subject to appropriation; and the initial solicitation of \$44 million in funds launched in February 2020 (now closed). Vouchers have a cap of \$500,000.</p>	<p>The program funds are applicable to freight equipment powered exclusively by zero-emission technology, including:</p> <ul style="list-style-type: none"> <li>• On and off-road terminal tractors</li> <li>• Transportation Refrigeration Units</li> </ul> <p>Also provides funding for:</p> <ul style="list-style-type: none"> <li>• Forklifts</li> <li>• Container handling equipment</li> <li>• Airport cargo loaders and tugs</li> <li>• Railcar movers</li> <li>• Mobile power units</li> </ul>	<p><a href="http://californiacore.org">californiacore.org</a></p>
<p>HYBRID AND ZERO-EMISSION TRUCK AND BUS VOUCHER INCENTIVE PROJECT (HVIP)</p>	<p>California Air Resources Board</p>	<p>Encourages and accelerates the long-term transition to ZEVs in the heavy-duty market, as well as supporting investments in other emerging technology to achieve substantial greenhouse gas reductions and help meet health-based ambient air quality standards. HVIP supports on-road heavy-duty advanced technologies with high adoption barriers, including zero-emission, plug-in hybrid, electric power take-off, and engines certified to the new 0.01 g/bhp-hr optional NOx standard. in California. Vouchers are processed by approved dealerships, allowing the discount to be passed on to California fleets and operators at the point-of-sale. The program is subject to annual appropriation. HVIP is expected to re-open in spring 2021 with at least \$140 million.</p>	<ul style="list-style-type: none"> <li>• New and converted zero-emission vehicles, battery electric or fuel cell</li> <li>• Plug-in hybrids achieving 35 miles all-electric range</li> <li>• Trucks fitted with electric power take-off (ePTO)</li> <li>• Engines certified to 0.01 g/bhp-hr NOx</li> <li>• Voucher enhancements for transit and school districts and vehicles based in a disadvantaged community.</li> <li>• Elevated voucher amounts for early adopters of zero-emission drayage trucks through 2021.</li> </ul> <p>Note: The sum of HVIP and all other public incentives can cover up to 90% of vehicle costs for private fleet vehicles and 100% for public fleets.</p>	<p><a href="http://californiahvip.org">californiahvip.org</a></p>

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LOW CARBON FUEL STANDARD (LCFS) PROGRAM ZEV INFRASTRUCTURE CREDITING	California Air Resources Board	Program includes “infrastructure crediting” which gives credits directly to hosts of direct current electric vehicle charging equipment, beyond credits for dispensed fuel. Crediting for ZEV infrastructure is based directly on the capacity of the hydrogen station or EV fast charging site minus the actual fuel dispensed. Funds come from the LCFS credit market.	<ul style="list-style-type: none"> <li>• Hosts of electric vehicle charging equipment at a business or workplace. Qualified hosts are defined as those responsible for transportation fuel. Applies to EV fleet operators for fleets of electric vehicles (including electric forklifts). Chargers must be publicly accessible.</li> </ul>	<a href="http://arb.ca.gov/our-work/programs/low-carbon-fuel-standard">arb.ca.gov/our-work/programs/low-carbon-fuel-standard</a>
VOLKSWAGEN MITIGATION TRUST	California Air Resources Board	Funds cost-effective zero-emission transit, freight, marine, and light-duty infrastructure projects to ensure NOx reductions while supporting the deployment of early commercial zero emission technologies. State funds are about \$423 million total. The California Air Resources Board website says that additional information about the funding will be added to the site when available.	<ul style="list-style-type: none"> <li>• Zero-Emission School Buses</li> <li>• Zero-Emission Class 8 Freight and Port Drayage Trucks</li> </ul>	<a href="https://ww2.arb.ca.gov/our-work/programs/volkswagen-environmental-mitigation-trust-california">https://ww2.arb.ca.gov/our-work/programs/volkswagen-environmental-mitigation-trust-california</a>
VOLKSWAGEN ZERO EMISSIONS VEHICLE INVESTMENT COMMITMENT	California Air Resources Board	Addresses the adverse impacts to California’s ZEV program resulting from the sale of Volks Wagon diesel vehicles equipped with emissions defeat devices. Provides four 30-month cycles of investment totaling \$800 million for zero emissions vehicles and infrastructure. Cycle 1 (2017) committed \$120 million for zero emissions infrastructure.	<ul style="list-style-type: none"> <li>• Zero-emission charging infrastructure</li> </ul>	<a href="http://arb.ca.gov/our-work/programs/volkswagen-zero-emission-vehicle-zev-investment-commitment">arb.ca.gov/our-work/programs/volkswagen-zero-emission-vehicle-zev-investment-commitment</a>
AIR QUALITY AND AIR POLLUTION MANAGEMENT DISTRICT CLEAN VEHICLE INCENTIVES	California Air Resources Board, Various	Various Air Quality Management Districts and associated authorities offer clean vehicle rebates in addition to the state Clean Vehicle Rebate Program.	<ul style="list-style-type: none"> <li>• Eligible vehicles determined by air district.</li> </ul>	<a href="http://cleanvehiclerebate.org/eng/ev/incentives/local-rebates">cleanvehiclerebate.org/eng/ev/incentives/local-rebates</a>

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BLOCK GRANT FOR MEDIUM- AND HEAVY-DUTY ZEV REFUELING INFRASTRUCTURE INCENTIVE PROJECTS	California Energy Commission	The Medium Duty / Heavy Duty (MD/HD) Block Grant Project will provide incentives for various Medium Duty / Heavy Duty ZEV infrastructure projects throughout California. Project funding is forthcoming in mid to late 2021.	<ul style="list-style-type: none"> <li>• Medium Duty / Heavy Duty charging infrastructure</li> <li>• Medium Duty / Heavy Duty hydrogen refueling infrastructure</li> <li>• Eligible projects and incentive amounts TBD.</li> </ul>	<a href="https://energy.ca.gov/solicitations/2020-07/gfo-20-603-block-grant-medium-duty-and-heavy-duty-zero-emission-vehicle">energy.ca.gov/solicitations/2020-07/gfo-20-603-block-grant-medium-duty-and-heavy-duty-zero-emission-vehicle</a>
CLEAN TRANSPORTATION PROGRAM	California Energy Commission	The program invests in a broad array of projects which support adoption of cleaner transportation powered by alternative and renewable fuels. Over \$384.2 million is budgeted over FY 2020-23 for light, medium, and heavy-duty vehicles and charging infrastructure. Note: this total includes allocations for biofuels (\$25M), workforce training (\$7.5M), manufacturing (\$9M), recovery & reinvestment (\$10M).	<ul style="list-style-type: none"> <li>• Electric vehicles &amp; charging infrastructure</li> </ul> <p>Also provides funding for:</p> <ul style="list-style-type: none"> <li>• Medium &amp; heavy-duty vehicles (construction equipment, buses, trucks)</li> <li>• Biofuels</li> <li>• Hydrogen Fuel Infrastructure</li> <li>• Workforce Development</li> </ul>	<a href="https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program">https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program</a>
ZERO EMISSION VEHICLE INCENTIVES	California Public Utilities Commission	Various utilities and associated authorities offer clean vehicle rebate and electric vehicle incentives.	<ul style="list-style-type: none"> <li>• Eligible vehicles determined by public utility.</li> </ul>	<a href="https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/zero-emission-vehicles">https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/zero-emission-vehicles</a>

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TRADE CORRIDOR ENHANCEMENT PROGRAM	California Transportation Commission	Provides funding for infrastructure improvements on federally designated Trade Corridors of National and Regional Significance, on California's portion of the National Highway Freight Network, as identified in California Freight Mobility Plan, and along other corridors which have a high volume of freight movement. Funds public freight infrastructure improvements, including eligible projects with zero-emission charging infrastructure. Provides approximately \$300 million per year in state funding and approximately \$515 million over 3 years in National Highway Freight Program funds.	<ul style="list-style-type: none"> <li>Public zero-emission freight infrastructure projects</li> </ul>	<a href="http://catc.ca.gov/programs/sb1/trade-corridor-enhancement-program">catc.ca.gov/programs/sb1/trade-corridor-enhancement-program</a>
ADVANCED TRANSPORTATION AND CONGESTION MANAGEMENT TECHNOLOGIES DEPLOYMENT	Federal Highway Administration	The FAST Act (federal transportation funding legislation) established the Advanced Transportation and Congestion Management Technologies Deployment Program to make competitive grants for the development of model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance and infrastructure return on investment. Federal Funds: \$60 million/year.	<ul style="list-style-type: none"> <li>Advanced traveler information systems;</li> <li>Advanced transportation management technologies;</li> <li>Advanced public transportation systems;</li> </ul>	<a href="https://cms7.fhwa.dot.gov/research/technology-innovation-deployment/grant-programs">https://cms7.fhwa.dot.gov/research/technology-innovation-deployment/grant-programs</a>

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ALTERNATIVE FUELS CORRIDORS	Federal Highway Administration	Section 1413 of the FAST Act (federal transportation funding legislation) designates alternative fuel corridors to establish a national network of publicly accessible alternative fueling and charging infrastructure along national highway system corridors. This program does not provide direct funding, but corridor designation adds priority for projects seeking funding through the Congestion Mitigation and Air Quality Improvement (CMAQ) funding program.	<ul style="list-style-type: none"> <li>• EV Charging</li> <li>• Other alternative fuels</li> <li>• While this program does not provide direct funding, corridor designation is a tool for ZEV planning and may help leverage funding for actual fueling station development.</li> </ul>	<a href="https://www.fhwa.dot.gov/environment/alternative_fuel_corridors">fhwa.dot.gov/environment/alternative_fuel_corridors</a>
CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)	Federal Highway Administration	The FAST Act (federal transportation funding legislation) provides from \$2.3 - \$2.5 billion in CMAQ funding each year. (2016 - 2020). Funds are apportioned to state DOTs and then distributed to MPOs and RTPAs in air quality non-attainment and maintenance areas to implement transportation programs and projects that help meet Clean Air Act requirements. Federal Funds: \$2.499 billion.	<ul style="list-style-type: none"> <li>• Diesel Engine Retrofits and Emissions Control Technologies (including port equipment)</li> <li>• Electric and CNG Vehicles and infrastructure (including port equipment)</li> <li>• Congestion Reduction and Traffic Flow Improvements</li> </ul>	<a href="https://www.fhwa.dot.gov/fastact/factsheets/cmaq/cfs.cfm">https://www.fhwa.dot.gov/fastact/factsheets/cmaq/cfs.cfm</a>
TECHNOLOGY ADVANCEMENT PROGRAM	San Pedro Bay Ports	The Ports' Technology Advancement Program (TAP) is focused on clean technologies and associated infrastructure for port-related mobile sources that operate in and around ports. The program requires a 50% non-port funding match for all projects. Based on the ports' 2020 TAP Annual Report, over \$403 million has been spent on the program since 2007, and approximately \$47.7 million in TAP funds were invested in 2020 program projects. There is no annual funding limit listed.	<ul style="list-style-type: none"> <li>• Zero- or near-zero emissions cargo-handling equipment</li> <li>• Near-zero and zero-emissions heavy-duty on-road trucks.</li> <li>• Hybrid, alternative fuel, or low emissions harbor craft technologies</li> <li>• Alternative fuel or low emissions ship technologies</li> <li>• Hybrid, near-zero, or zero emissions locomotive technologies</li> </ul>	<a href="https://cleanairactionplan.org/technology-advancement-program/#:~:text=The%20Ports'%20Technology%20Advancement%20Program,market%20as%20quickly%20as%20possible.">https://cleanairactionplan.org/technology-advancement-program/#:~:text=The%20Ports'%20Technology%20Advancement%20Program,market%20as%20quickly%20as%20possible.</a>

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DIESEL EMISSIONS REDUCTION ACT (DERA)	U.S. Environmental Protection Agency	The Diesel Emissions Reduction Act, created under the Energy Policy Act of 2005, awards up to \$100 million annually in national grants to projects which achieve significant reductions in diesel emissions and exposure. Seventy percent of funding is for projects using EPA or California Air Resources Board (CARB) verified or certified diesel emission reduction technologies. The program also includes rebates funding vehicle replacements and retrofits. 2020 funding for projects totaled \$46 million; the program was reauthorized to continue into 2024.	<ul style="list-style-type: none"> <li>The grants fund zero emission vehicles, including on-road vehicles such as drayage trucks, locomotives, and marine vessels.</li> </ul>	<a href="https://www.epa.gov/dera">https://www.epa.gov/dera</a>
HYDROGEN FUEL CELL TECHNOLOGIES OFFICE	U.S. Department of Energy	U.S. Department of Energy (DOE) announced approximately \$64 million in Fiscal Year 2020 funding for 18 projects that will support the H2@Scale vision (H2@Scale is a U.S. Department of Energy clean energy program) for affordable hydrogen production, storage, distribution, and use. These projects will fuel the next round of research, development, and demonstration (RD&D) activities under H2@Scale’s multi-year initiative to fully realize hydrogen’s benefits across the economy. Federal Funds: \$64 million.	<ul style="list-style-type: none"> <li>Modeling and analysis</li> <li>Materials compatibility Research and Development</li> <li>Integration of hydrogen in the grid</li> <li>Safety and component Research and Development</li> <li>Co-generation of hydrogen and added-value products</li> <li>Technology performance verification.</li> </ul>	<a href="https://energy.gov/eere/fuelcells/hydrogen-and-fuel-cell-technologies-office">energy.gov/eere/fuelcells/hydrogen-and-fuel-cell-technologies-office</a>