



Funding Opportunities for Freight and Marine

Hydrogen and Fuel Cells in the Ports and Shipping
Banning's Landing Community Center

October 10, 2018

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Funding for Trucks, Freight and Port Equipment

Today's topics...

- Low Carbon Transportation (LCT)
- Community Air Protection
- VW Environmental Mitigation Trust

Low Carbon Transportation

GHG reductions and AB 1550 benefits

\$560M for 2017-18

Community Air Protection

Criteria, toxics, GHG reductions for communities

\$250M for 2017-18

VW Mitigation Trust

NOx mitigation

\$423M for 2017+

ARB's Suite of LCT Projects



Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) + Low NOx Engine Incentives

- Numbers as of October 1, 2018:
 - Over 5,000 vouchers and \$317M committed
 - \$73 available for all technologies, plus \$8M for Low NOx small fleets
 - Additional \$125M following CARB Board approval this month
- 2017-18 incentives for hydrogen fuel cell technology
 - \$300,000 for fuel cell buses and trucks plus \$100,000 infrastructure enhancement with 5 or more vehicles



LCT Projects (cont'd)



Clean Off-Road Equipment (CORE) Voucher Incentives

- \$40M for first-come, first-served vouchers
 - Yard trucks, large forklifts, RTGs, TRUs, rail car movers
 - Ground support equipment – aircraft tugs and cargo loaders
- Solicitation for statewide administrator ~ November 2018
- Vouchers available ~ late summer 2019
- Project Lead: Eloy Flores, eloy.florez@arb.ca.gov

LCT Projects (cont'd)



Advanced Technology Demonstration Projects Awarded to-date

- \$84M awarded; 11 agreements, including:
 - 5 Class 8 fuel cell on-road trucks
 - Electric top loader with fuel cell range extender and inductive charging
 - Fuel cell yard truck and battery electric yard truck head-to-head comparison
 - Fuel cell passenger ferry



LCT Projects (cont'd)



Zero- and Near Zero-Emission Freight Facilities Project – preliminary awards

- \$205M available; preliminary awards to 11 projects, including:
 - Shore-to-Store: 10 Kenworth-Toyota Class 8 FC trucks, 2 large-capacity Shell hydrogen stations in Wilmington and Ontario
 - 2 FC yard trucks in the Port of LA
 - 4 FC next gen hybrid delivery vans and
 - 15 FC hybrid delivery vans, both for UPS
- Projects “awarded” when agreements fully executed



<https://ww2.arb.ca.gov/news/carb-announces-more-200-million-new-funding-clean-freight-transportation>

Plan for Infrastructure Early

- * Utility considerations
- * Station location(s)
- * Near-term vs. at-scale
- * Station footprint
- * Opportunities for energy storage
- * Renewable requirements
- * Fueling window(s)
- * Capitol and O&M costs
- * Time considerations (CEQA, design, permitting, contracting)
- * Fuel costs and incentives (LCFS)

Proposed FY 2018-19 Funding Plan for Clean Transportation Investments

Project Category	Allocation (millions)	Minimum AB 1550 Investment
Light-Duty Vehicles and Transportation Equity		
Clean Vehicle Rebate Program (CVRP)	\$200	22%
Transportation Equity Projects	\$75	82%
Heavy-Duty and Off-Road Equipment		
Clean Truck and Bus Vouchers	\$125	75%
Freight Equipment Demonstration and Pilot Commercial Deployment	\$55	≥50%
TOTAL	\$455	≥45%

Community Air Protection Program

Bay Area AQMD - \$50M

- * First-come, first-served
 - * Hayward to Richmond along HWY 880/80
 - * Refinery Corridor
- * Apply online

www.baaqmd.gov/plans-and-climate/community-health-protection-program/grant-program

South Coast AQMD - \$107.5M

- * Approved Year 1 Communities
 - * Wilmington/West Long Beach/Carson
 - * San Bernardino/Muscoy
 - * East LA/Boyle Heights/West Commerce
- * Kickoff meetings and steering committee meetings in October/November

www.aqmd.gov/ab617

San Joaquin Valley APCD - \$80M

- * Approved Year 1 Communities
 - * South Central Fresno & City of Shafter
- * Establishing Steering Committee now

www.valleyair.org/community



Volkswagen Environmental Mitigation Trust

- * \$423 million for NOx mitigation (Consent Decree Appendix D)
 - * Funding for zero-emission and low NOx technologies
 - * Beneficiary Mitigation Plan approved last May
 - * Projects administered statewide by BAAQMD, SCAQMD and SJVAPCD
 - * Public workgroup meetings late fall/winter
 - * Funding available starting in early 2019

Beneficiary Mitigation Plan

Eligible Mitigation Action (Project) Category	Allocation (millions)	Disadvantaged or Low-Income Community Benefit
Zero-Emission Transit, School, Shuttle Buses	\$130	50%
Zero-Emission Class 8 Freight and Port Drayage Trucks	\$90	50%
Zero-Emission Freight / Marine Projects - Forklifts and Port Cargo Handling Equipment, Airport GSE, Shorepower, Zero-emission Ferry, Tugboat, and Towboat Repowers	\$70	75%
Combustion Freight / Marine - Low NOx Class 7-8 trucks, Tier 4 Freight Switchers, Tier 4 or Hybrid Ferry, Tugboat, and Towboat Repowers	\$60	50%
Light-Duty ZEV Infrastructure	\$10	35%
Reserve (including administrative costs)	\$63	
TOTAL	\$423	> 50%

Class 8 Freight & Port Drayage Trucks

Allocation: \$90 million

- * Focus on later/future deployment of zero-emission technologies for heavy heavy-duty trucks



Class 8 Truck Years 1-2	Class 8 Truck Years 3-5
Up to \$200,000*	To be re-evaluated as costs decrease*

* Not to exceed 75 percent for non-government owned or 100 percent for government owned

- * Compliant 1992 to 2012 model year replacements
- * Staff estimates at least 50 percent of allocation will benefit disadvantaged or low-income communities

Zero-Emission Freight and Marine

Allocation: \$70 million

- * Funds the most cost-effective zero-emission freight or marine projects to ensure NOx reductions while supporting deployment of early commercial zero-emission technologies

Airport GSE	Forklifts & Port Cargo Handling Equipment	Ferry or Tugboat all electric repower	Shorepower
Up to full incremental cost*	Up to \$175,000*	Up to \$2.5 million*	Up to \$2.5 million*

* Not to exceed 75 percent for non-government owned or 100 percent for government owned

- * At least 75 percent of allocation will benefit disadvantaged or low-income communities



Contact Information

- * Leslie Goodbody
 - * 916-323-2961, leslie.goodbody@arb.ca.gov
- * FY2018-19 LCT Funding Plan
 - * Board Hearing – October 25, 2018
- * Office of Community Air Protection
 - * Kyle Goff, kyle.goff@arb.ca.gov
 - * www.arb.ca.gov/msprog/cap/capfunds.htm
- * Volkswagen Environmental Mitigation Trust
 - * For updates and to join the listserve:
https://www.arb.ca.gov/msprog/vw_info/vsi/vw-mititrust/vw-mititrust.htm
 - * Questions? email vwmititrust@arb.ca.gov
- * CaliforniaHVIP.org