



# Sustainable Freight Transportation Projects

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## Pre-Solicitation Workshop

South Coast Air Quality Management District  
Conference Room GB  
September 30, 2016



# Workshop Agenda

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- Welcome and Introductions
- Purpose and Objectives
- Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) and Medium- and Heavy-Duty (MHD) Vehicle Investments Overview
- Pre-Solicitation Discussion
- Grant Solicitation System (GSS) – Electronic Submission
- Public Comment and Wrap-Up



# Purpose and Objective

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- Review ARFVTP and MHD advanced vehicle technology demonstrations investments.
- Review pre-solicitation for Sustainable Freight Transportation Projects.
- Discuss and solicit stakeholder input and comment on solicitation elements.
- Incorporate stakeholder feedback into solicitation for Q4 2016 release.



# Assembly Bill 8

(Perea, Ch. 401, Stats. 2013)

Assembly Bill No. 8

CHAPTER 401

An act to amend Sections 41081, 44060.5, 44125, 44225, 44229, 44270.3, 44271, 44272, 44273, 44274, 44275, 44280, 44281, 44282, 44283, 44287, 44299.1, and 44299.2 of, to add and repeal Section 43018.9 of, and to repeal Section 44299 of, the Health and Safety Code, to amend Sections 42885 and 42889 of the Public Resources Code, and to amend Sections 9250.1, 9250.2, 9261.1, and 9853.6 of the Vehicle Code, relating to vehicular air pollution, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor September 28, 2013. Filed with Secretary of State September 28, 2013.]

LEGISLATIVE COUNSEL'S DIGEST

AB 8, Perea. Alternative fuel and vehicle technologies: funding programs.  
(1) Existing law establishes the Alternative and Renewable Fuel and Vehicle Technology Program, administered by the State Energy Resources Conservation and Development Commission, to provide to specified entities, upon appropriation by the Legislature, grants, loans, loan guarantees, revolving loans, or other appropriate measures, for the development and deployment of innovative technologies that would transform California's fuel and vehicle types to help attain the state's climate change goals. Existing law specifies that only certain projects or programs are eligible for funding, including block grants administered by public entities or not-for-profit technology entities for multiple projects, education and program promotion within California, and development of alternative and renewable fuel and vehicle technology centers. Existing law requires the commission to develop and adopt an investment plan to determine priorities and opportunities for the program. Existing law also creates the Air Quality Improvement Program, administered by the State Air Resources Board, to fund air quality improvement projects related to fuel and vehicle technologies.

This bill would provide that the state board has no authority to enforce any element of its existing clean fuels outlet regulation or other regulation that requires or has the effect of requiring any supplier, as defined, to construct, operate, or provide funding for the construction or operation of any publicly available hydrogen-fueling station. The bill would require the state board to aggregate and make available to the public, no later than June 30, 2014, and every year thereafter, the number of hydrogen-fueled vehicles that motor vehicle manufacturers project to be sold or leased over the next 3 years, as reported to the state board, and the number of hydrogen-fueled vehicles registered with the Department of Motor Vehicles through April 30. The bill would require the commission to allocate \$20 million annually, as specified, until there are at least 100 publicly available hydrogen-fueling

- Extends ARFVTP funding through January 1, 2024  
✓ \$100 million per year

- To transform California's transportation market into a diverse collection of alternative fuels and technologies and reduce California's dependence on petroleum.

***“...develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.”*** (Health and Safety Code Section 44272(a))



# Key Policies and Regulations

Policy Objectives	Policy Origin	Goals and Milestones
Greenhouse Gas Reduction	AB 32, Executive Order S-3-05, LCFS	Reduce greenhouse gas emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050 in California
Petroleum Reduction	State Alternative Fuels Plan	Reduce petroleum fuel use to 15% below 2003 levels by 2020 in California
Clean Energy and Pollution Reduction	SB 350	Double renewable energy , increase energy efficiency, and increase transportation electrification
Air Quality	Clean Air Act	80% reduction in NOx from current levels by 2023
ZEV Mandate	Executive Order B-16-2012	Accommodate 1 million EVs by 2020 and 1.5 million by 2025 in California
Sustainable Freight Action Plan	Executive Order B-32-15	100,000 ZE and near-ZE advanced vehicle deployment



# Commitment to Diversity

- Increase participation of women, minority, disabled veteran and LGBT business enterprises in program funding opportunities
- Increase outreach and participation by disadvantaged communities
- Increase diversity in participation at Energy Commission proceedings
- Increase diversity in employment and promotional opportunities



# Commitment to Diversity (cont.)

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**Fairness** – Increase funding accessibility to all Californians.

**Inclusion** – Small businesses make up a significant portion of the U.S. economy.

**Job Creation** – Projects can create jobs for residents of the under-served communities.

**Diversity of Ideas** – Great ideas occur in a variety of areas.

**Diversity in Communities' Needs** – Needs vary widely from one area to the next (air quality, socioeconomic, etc.).



# ARFVTP Investment Portfolio

- Program currently in eighth fiscal year (2016-2017)
- Through December 2015, \$606M awarded to more than 545 projects:

50 Biofuel Production	7,490 EV Chargers
49 Hydrogen Fueling Stations	65 Natural Gas Fueling Stations
21,000 EV Rebates	2,809 Natural Gas Vehicles
22 Advanced Vehicle Manufacturing	14,762 Workforce Trainees
44 Advanced Vehicle Demonstrations	34 Regional Readiness Plans

*Source: FY 2016-17 ARFVTP Investment Plan Update for ARFVTP*



# Advanced Transportation Funding

STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
Research & Development	Demonstration / Proof of Concept	Pilot/Deployment	Pre-Commercialization/Diffusion	Commercial Maturity
Generate idea; Studies; Generate intellectual property (IP); business case; creation of standards	Design, integrate, and test prototype; Build company; Improve IP	Prove technical validity in the field; full system integration; Market technology	Prove manufacture process can be scaled economically; Prove technology is viable at scale; policy, regulatory, and financial incentives	Proven technology is sold and distributed
Valley of Death - Technological			Valley of Death - Commercialization	
Series A	Series B	Series C	Later Rounds	Public Markets
PON-13-506 Natural Gas Engine-Hybrid Electric R&D (\$2.7M)	PON-10-603 Advanced Medium-Duty and Heavy-Duty Vehicle Technologies Pre-Commercial Demonstrations (\$26M)			PON-09-605: Manufacturing Plants: Electric Vehicles, Alternative Fuel Vehicles, Vehicle Components & Batteries (\$19M)
GFO-16-501 Heavy-Duty NGV R&D (\$6M)	PON-13-604 Federal Cost-Share for Emerging Technologies (\$3M)			PON-11-604 Advanced Vehicle Technology Manufacturing (\$28M)
GFO-15-503 Heavy-Duty NG Engine Research (\$1M)				PON-14-604 Advanced Vehicle Technology Manufacturing (\$10M)
GFO-15-303 Advanced VGI R&D (\$16M)	PON-13-602 Used Medium-Duty Electric Vehicle Repower Demonstration (\$5M)			EV Charging Station Pilot Financing Project (\$2M)
		PON-14-605 MHD Advanced Vehicle Technology Demonstrations (\$31M)		
		GFO-15-604 Freight Transportation Projects at California Ports (\$11M)		

Source: Bloomberg New Energy Finance; Energy Commission



# ARFVTP MHD Demonstration Portfolio

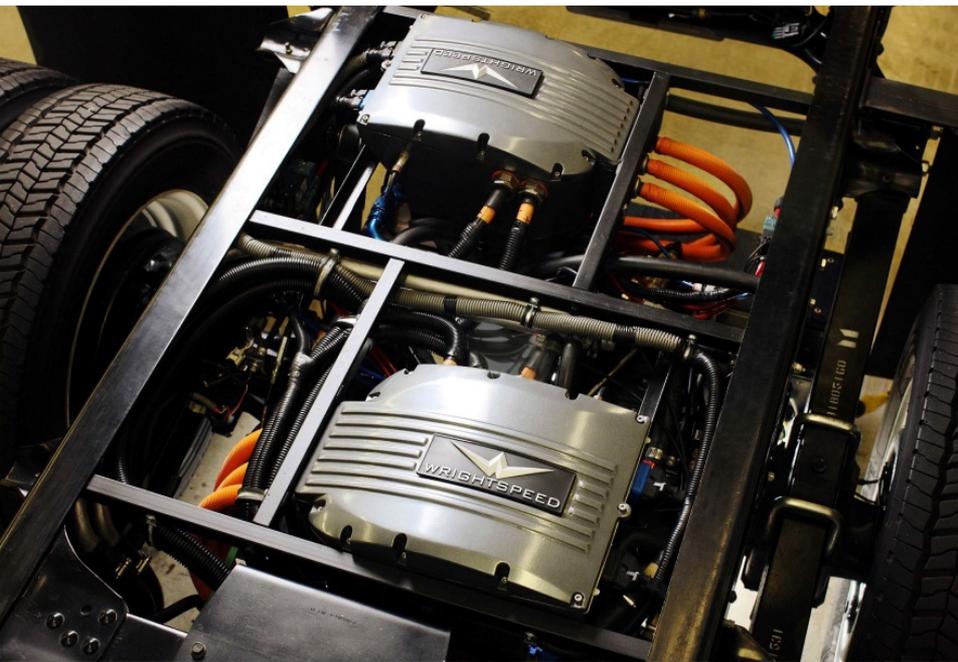
Vehicle/Technology Type	# of Projects	# of Units	Funding (millions)
Medium-Duty Hybrids, PHEVs & BEVs	8	164	\$15.8
Heavy-Duty Hybrids, PHEVs & BEVs	10	30	\$23.3
Electric Buses	7	35	\$14.6
Natural Gas Trucks	5	11	\$11.3
Fuel Cell Trucks and Buses	7	13	\$14.5
Vehicle-to-Grid	4	6	\$7.0
Off-Road Hybrids	2	2	\$4.5
E85 Hybrids	1	1	\$2.7
<b>TOTAL</b>	<b>44</b>	<b>262</b>	<b>\$93.7</b>

Source: FY 2016-17 Investment Plan Update for ARFVTP



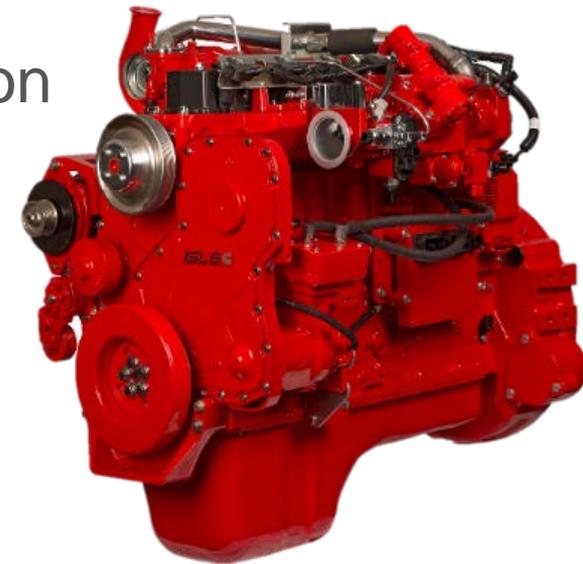
# ARFVTP MHD Demonstration Funding

- Focus on GVWR >10,001 lbs. (Vehicle Class 3 - 8)
- Myriad non-light duty platforms, vocations, on- and off-road vehicles and equipment
- Open to broad range of alternative and renewable fuel and vehicle technology types



# MHD Investment Portfolio (cont.)

- Considering enabling technologies, non-motive projects, and fueling infrastructure
- Focus on sustainable freight movement
- Funding for scale-up activities will enable a smoother transition to commercialization
- Provide technical expertise and education to help remove barriers for adoption of technologies



*Cummins-Westport, Inc.  
ISL G Low NOx Engine*



# Disadvantaged Communities

- Energy Commission uses CalEnviroScreen (CES 2.0) to identify and target investment into disadvantaged communities
- Significant investments in DACs for advanced vehicle demonstrations
- CalEnviroScreen 3.0

CALIFORNIA COMMUNITIES  
ENVIRONMENTAL HEALTH SCREENING  
TOOL, VERSION 2.0  
(CALENVIROSCREEN 2.0)

GUIDANCE AND SCREENING TOOL



August 2014

Matthew Rodriguez, Secretary  
California Environmental Protection Agency

George V. Alexeeff, Ph.D., Director  
Office of Environmental Health Hazard Assessment



# Port of LA Advanced Yard Tractor Deployment and Eco-FRATIS Drayage Truck Efficiency Project

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## ***Advanced Port Vehicles/Equipment (\$7.2M Total)***

- 20 yard tractors with low NOx engines (Cummins-Westport)
- 5 yard tractors with BEV (BYD Motors)

## ***Intelligent Transportation Systems (\$1.4M Total)***

- FRATIS, ECODrive, GEOSTAMP
- Harbor Trucking Association, LACMTA
- 100 Class 8 Trucks



# San Diego Port Tenants Association Sustainable Freight Demonstration Project

- 10 MHD Advanced Vehicle/Equipment Technologies (\$6.8M Total)
- 10 ITS Connected Vehicles (\$1.3M Total)
- 4 OEMs/Technology Integrators – BYD, Efficient Drivetrains Inc., TransPower, Peloton
- 7 Fleet Demonstrators – CEMEX, Continental Maritime, Dole Foods, Harborside, Marine Group, Pasha, TERMINALIFT
- Disadvantaged Communities Program – Greenlining Institute



# Discussion



# Pre-Solicitation Elements

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Section 1: Purpose of Solicitation

Section 2: Policy Drivers

Section 3: Availability of Funds

Section 4: Minimum/Maximum Award Amounts

Section 5: Maximum Number of Applications

Section 6: Eligibility



# Pre-Solicitation Elements

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Section 7: Project Requirements

Section 8: Match Funding Requirements

Section 9: Scoring Criteria

- a. Team Experience and Qualifications (10 pts)
- b. Path-to-Market (25 pts)
- c. Implementation (15 pts)
- d. Budget (10 pts)
- e. Economic Benefits (10 pts)
- f. Environmental Benefits & Cost-Effectiveness (30 pts)



# Public Comment Period

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Provide your name and affiliation

Three minute speaking limit



# Thank You!

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Comments Due **October 6, 2016**

Email to: [FTD@energy.ca.gov](mailto:FTD@energy.ca.gov) with  
“SFTP Demonstrations” in Subject Line

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