



Securing California's Clean Transportation Energy Future

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New Motor Vehicle Board
8th Industry/Attorney Roundtable
Sacramento



Alternative and Renewable Fuels and Vehicle Technology Program

- California Nation State
- Key Policy Drivers and Purpose
- California Alternative Fuels Plan
- Program Activities and Funding



California Nation-State Statistics

- Population: 36.8 million
- GDP: \$1.8 trillion - 8th largest economy
- GHG Emissions: 440 MMT (2004)
 - 7.2% of U.S. Emissions (Pew Center)
 - 10th largest emitter on global scale
 - Transportation accounts for 38 % of all GHG emissions
- Vehicles: 26.3 million cars + 0.92 million trucks
- Annual Fuel Consumption: 20 billion gallons
 - 16 billion gallons gasoline
 - 4 billion gallons diesel
 - 3rd largest consumer of vehicle fuels after China and US

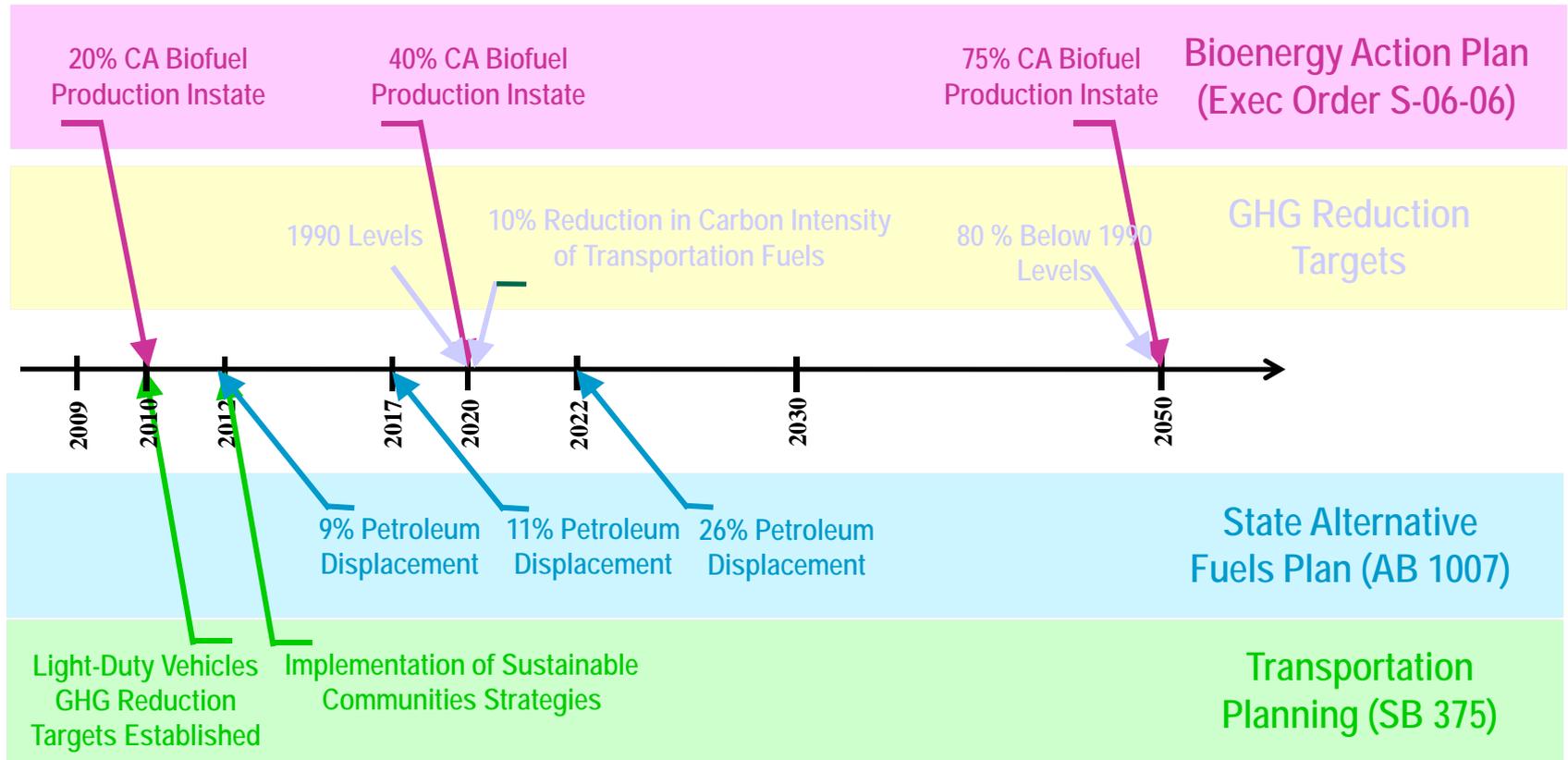


Setting the Foundation

- Legislative and Policy Context
 - Global Warming Solutions Act of 2006
 - Low Carbon Fuel Standard
 - State Alternative Fuels Plan (AB 1007)
- Market Transformation
 - Public Interest Energy Research Program (PIER)
 - Alternative and Renewable Fuel and Vehicle Technology Program (AB 118 & AB 109)



Transportation Energy Policy Targets





Alternative and Renewable Fuel and Vehicle Technology Program (AB 118)





AB 118 Basics

Purpose

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))

\$1.05 Billion State Funding Program

For the *Alternative & Renewable Fuel and Vehicle Technology Program*, the Energy Commission will receive \$100 million/year for over 7 years.

California Air Resources Board will receive \$50 million/year for over 7 years for *Enhanced Fleet Modernization and Air Quality Improvement*.



Funding and Objectives

- Up to \$100 million per year for 7½ years
- Develop, produce, manufacture, and deploy alternative and renewable fuels, advanced vehicles, vehicle efficiency improvements for on-road and non-road applications.
- Emphasize workforce training and job creation
- Foster education, promotion and technology centers
- Prepare environmental, market and technology assessments

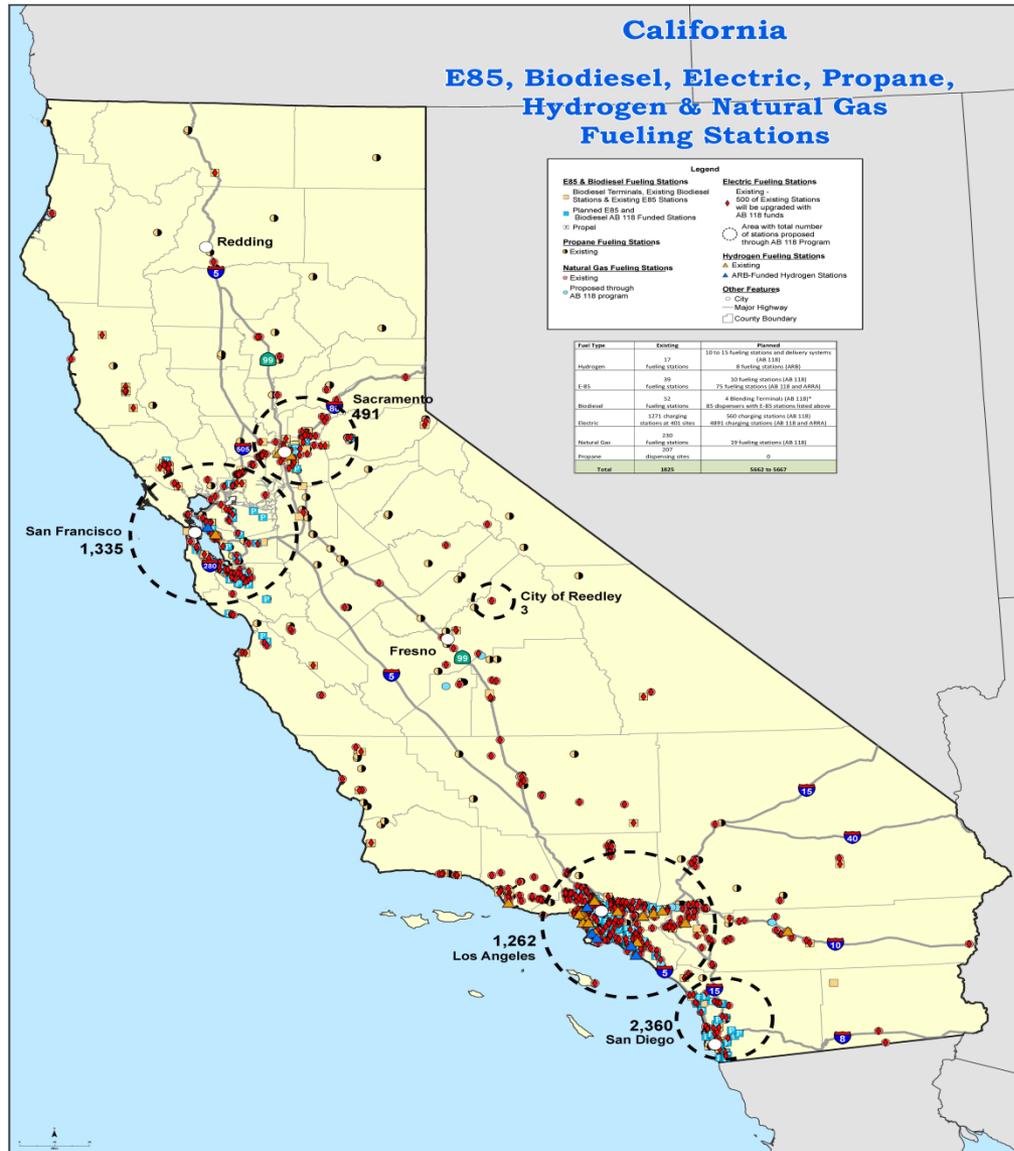


Alternative Fueling Infrastructure Awards

- 23 Grants Totaling \$31.9 million for statewide alternative fuel infrastructure
 - EV Infrastructure
 - Update 500 EV charge-points statewide
 - Approximately 500 new charge-points
 - Natural Gas Fueling Infrastructure
 - 19 new and upgraded stations
 - E-85 Fueling Stations
 - 10 new stations
 - Hydrogen
 - 11 new and upgraded stations
 - Biodiesel
 - 4 blending terminals in San Diego, Perris, McClellan Air Force Base (Sacramento), and San Jose



CALIFORNIA ENERGY COMMISSION





AB 118 Investment Plan Funding Allocations – First Three Years

Fuel / Technology	Funding Allocations (Millions)	
	FY 2008-10	FY 2010-11
Electric Drive	\$46	\$24.5
Hydrogen	\$40	\$13
Gasoline Substitutes (Ethanol / Green Gasoline)	\$12	\$16.5
Renewable Diesel / Biodiesel	\$6	\$9
Natural Gas	\$33	\$15
BioGas / Renewable Natural Gas	\$10	\$7
Propane	\$2	\$3
Innovative Technologies and Federal Cost Sharing		\$8
Workforce Development	\$15	\$1
Program Support (Technical Support, Sustainability Research)	\$12	\$11
Total	\$176	\$108



FY 2008-09 and 2009-10 Grant Solicitations

Funding Category	# of Projects	Funds Awarded (Millions)
ARRA cost sharing	9	\$36.5
Biofuel and RNG production	18	\$43.1
California ethanol production incentive	Ongoing	Up to \$6*
Alternative fuel infrastructure	23	\$31.9
Vehicle and component manufacturing	11	\$24.9
Advanced vehicle technology demonstration	8	\$12
Totals:	69	\$154.4**

* Based on market conditions and progress toward lowering net greenhouse gas values

** Includes \$13.8 million from FY 2010-11 funds



FY 2008-09 and 2009-10 Public Agency Agreements

Funding Category	Funds Awarded (Millions)
Workforce training and development (EDD, ETP, CCCCCO ¹)	\$15.0
Fuel standards development (CDFA)	\$4.0
Plug-in Prius demonstration (DGS)	\$0.6
Light duty vehicle deployment (ARB)*	\$2.0
Woody biomass sustainability research (US Forest Service)*	\$1.5
UC Irvine STREET model (UCI)*	\$.75
National Renewable Energy Laboratory (NREL)*	\$1.2
Hydrogen fueling station (AC Transit)*	\$3.0
Total:	\$28.1

¹California Community Colleges Chancellor's Office

*Agreement under development



Funding Status Report

FY 2008-09 and 2009-2010

- 8 Solicitations
 - 313 proposals reviewed, requesting \$1.2 billion
- Grant Awards and Agreements
 - \$154.4 million among 69 grant awards*
 - \$28.1 million among 10 public agency agreements
 - Total: \$182.5 million
- Percent of FY 2008-09 and 2009-10 Funds Committed: **95.9%**

* Includes \$13.8 million from FY 2010-11 funds



Solicitations and Awards (Non-ARRA)

Solicitation Number	Description of Solicitation	Total Award (Initial Plus Headroom)	Total Number of Projects
PON 09-003	Biomethane production from waste feedstocks	\$26 million	5
PON 09-004	Medium- and heavy-duty vehicle demonstration of alternative fuels and advanced technologies	\$12 million	8
PON 09-006	Plug-in electric vehicle charging stations and upgrades, natural gas fueling stations and upgrades, E85 fueling stations, and biomass-based diesel distribution infrastructure	\$16.2 million	20
PON 09-604	Biofuels production	\$17.1 million	13
PON 09-605	Manufacturing plants for alternative fuel vehicles, vehicle components, and batteries	\$24.9 million	11
PON 09-607	Ethanol production incentive	\$6 million	TBD
PON 09-608	Hydrogen fueling stations	\$15.7 million	3
Total		\$117.9 million	60



FY 2010-11 Funding Status

- \$108 Million Initial Allocation
 - Less 20% reduction due to lower revenues from smog abatement fees and vehicle and vessel registration fees (\$21.6 million)
 - Less \$1.7 million for monitoring, validation and evaluation activities
 - Less \$13.8 million allocated to high-quality projects from previous solicitations
- **TOTAL FUNDS AVAILABLE: \$70.9 million**



Upcoming Solicitations for 2010-11 Funds

Technology	Amount (Millions)	
MD-HD Demonstrations	\$15	
Hydrogen Fueling	\$10.2	
Biofuel and RNG Production and Feasibility	\$13.7	
Alternative Fuel Infrastructure	\$9.8	
Gaseous Fuels – LD, MD-HD Vehicle Deployments	\$14.5	
Innovative Technologies and Federal Cost Sharing	\$6.3	
Market and Program Support	\$9.4	
Total	\$78.9*	

* \$8 million of the total is carryover funding from FY 2009-10



Alternative Fuel Vehicles Supported by AB 118 Funding

Direct Purchase	Manufacturing	Research and Development
LNG Heavy-Duty Trucks	Plug-in Electric Light-Duty Components	Hybrid-Natural Gas Turbine Heavy-Duty
CNG Heavy-Duty Drayage Trucks	Plug-in Hybrid Medium Duty Trucks	E85 Medium- & Heavy- Duty Trucks
	Plug-in/Diesel Hybrid Medium- & Heavy- Duty Vehicles	Medium-Duty Battery Electric Delivery Vans
	CNG Heavy-Duty	
	3-wheeled Electric Vehicles	
	Heavy-Duty Electric Vehicle	



Summary of Awards to Date



FY 2009-10 AB 118

Funding Awards

2009 ARRA and AB 118

- \$36.5 million AB 118 match for nine projects to leverage \$105 million in Federal funding for California
 - 2,860 electric vehicle charging stations
 - Support Nissan Leaf and Chevrolet Volt deployments in California
 - State-wide public EV charging
 - 75 E85 retail fueling stations
 - Demonstrate >700 MD-HD NG and hybrid-electric trucks
 - Workforce development and training



Biofuels Production Awards

- 18 Grants Totaling \$43.1 million for In-State biofuels production for transportation
 - Biomethane from municipal solid waste, wastewater treatment plants, and agricultural and rendering plant waste
 - Liquid biofuels from agricultural and forestry waste
 - Fuels from algae



Electric Vehicle Component Manufacturing Awards

- 11 Grants Totaling \$24.9 million for In-State EV Component Manufacturing
 - Lithium ion battery assembly
 - Electric motorcycles
 - Electric drivetrain components
 - Class 8 electric truck assembly



Medium- and Heavy-Duty Vehicles Awards

- 8 Grants Totaling \$12 million for In-State demonstrations of advanced and alternative fuel medium- and heavy-duty vehicles
 - Electric and natural gas hybrids
 - Hydraulic hybrids
 - Battery-powered lifts for utility trucks



The “Five Spoke Wheel”

GHG Emission Reduction

**Criteria Emission
Reduction**

**Advanced Vehicle
Technology Development**

**Petroleum
Reduction**

**Increased Alternative
Fuels Use**

Economic Development





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Energy Commission Website

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Investment Plan

<http://www.energy.ca.gov/2010-ALT-1/index.html>