



CALIFORNIA ENERGY COMMISSION

# **The Alternative and Renewable Fuel and Vehicle Technology Program**

**Peter Ward**

California Public Utilities Commission  
Auditorium

October 12, 2009



# California Nation-State Statistics

- Population: 36.8 million
- GDP: \$1.8 trillion - 8<sup>th</sup> largest economy
- GHG Emissions: 440 MMT (2004)
  - 7.2% of U.S. Emissions (Pew Center)
  - 10<sup>th</sup> 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
  - 3<sup>rd</sup> largest consumer of vehicle fuels after China and US



# California Alternative Fuels Plan

- Full-fuel-cycle analysis of all fuels, specific recommendations.
- Goals: 9% in 2012, 11% in 2017, 26% in 2022.
- Displacement of 4 billion gge in 2020 (20%).
- Electric drive vehicles can make important contributions to this goal, with corresponding reductions in GHG and air pollution.

California Energy Commission



California Air Resources Board





## Key Policy Objectives

<b>Objectives</b>	<b>Goals and Milestones</b>
GHG Reduction	Reduce GHG emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050
Petroleum Reduction	Reduce petroleum fuel use to 15% below 2003 levels by 2020
Alternative Fuel Use	Increase alternative fuel use to 20% of on-road fuel demand by 2020 and 30% by 2030
In-State Biofuels Use	Increase biofuel use to 1 billion gge by 2010, 1.6 billion gge by 2020, and 2 billion gge by 2050
In-State Biofuels Production	Produce in California 20% of biofuels used in state by 2010, 40% by 2020, and 75% by 2050.



# The Alternative and Renewable Fuel and Vehicle Technology Program

- Assembly Bill 118 (Nunez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program administered by the Energy Commission.
- Subsequently amended by AB 109 (Nunez, Chapter 313, Statutes of 2008).
- “The emphasis of this program is to develop and deploy innovative technologies that transform California’s fuels and vehicle types to help attain the state’s climate change policies.”



## Funding and Objectives

- Up to \$100 million per year for 7 ½ Years (\$75 million for FY '08-'09; \$101 million for FY '09-'10)
- 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



## **State and Federal Policies to Reduce GHGs Will Increase Demand for Alternative Fuels**

- **California's Climate Change Reduction Goals – AB 32**
  - 1990 GHG Levels by 2020 (~30% reduction)
  - 80 percent reduction of GHGs by 2050
- **California's Low Carbon Fuel Standard**
  - 10 % reduction in carbon intensity of transportation fuels by 2020
- **Federal Renewable Fuels Standards I and II**
  - 2007 Energy Independence and Security Act



## Investment Plan Funding Allocations – First Two Years

Fuel / Technology	2-Year Funding Allocation (million)
Electric Drive	\$46
Hydrogen	\$40
Ethanol	\$12
Renewable Diesel/Biodiesel	\$6
Natural Gas	\$43
Propane	\$2
Market Development and Program Support	\$27
<b>Total</b>	<b>\$176</b>



# Previous Electric Drive Funding Allocation Summary

- Plug-in hybrid electric passenger vehicle retrofits (\$3.5 million)
- Medium- and heavy-duty hybrid vehicle RD&D (\$10 million)
- Non-road deployment projects for ports and truck stop electrification (\$11.5 million)
- Charging stations (\$12 million)
- Manufacturing facilities and equipment (\$9 million)



## Next Steps

- Ongoing evaluation of proposals for federal economic stimulus funding.
- Preparing a California-based solicitation in accordance with the current Investment Plan.
- Update of the 2010-2011 Investment Plan.



# Contact Information

Peter Ward

Program Manager

Fuels and Transportation Division

California Energy Commission

916-654-4639

[pward@energy.state.ca.us](mailto:pward@energy.state.ca.us)