



CALIFORNIA ENERGY COMMISSION

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

### **FY 2010-2011 Investment Plan Public Workshop**

California Energy Commission

California Public Utilities Commission  
San Francisco  
May 27, 2010



CALIFORNIA ENERGY COMMISSION

## **Meeting Agenda**

- 9:00 Introduction and Overview of AB 118 Program  
(Leslie Barody)
- Legislation and Regulation
  - Program Goals
  - Investment Plan Process and Schedule

9:30 FY 2008-10 Program Funding Status (Charles  
Smith)

9:45 FY 2010-11 Investment Plan Overview (Peter  
Ward)

10:45 Questions

11:45 Lunch

1:00 Public Comment



## Alternative and Renewable Fuel and Vehicle Technology Program

- Established by Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007), and administered by the Energy Commission
- Subsequently amended by AB 109 (Núñez, 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.”

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## Key Policy Objectives

Objectives	Goals and Milestones
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 and Renewable Fuel Use	Increase alternative and renewable fuel use to 11% of on-road and off-road fuel demand by 2012, 13% by 2017 and 26% by 2022
In-State Biofuels Production	Produce in California 20% of biofuels used in state by 2010, 40% by 2020, and 75% by 2050

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## Program Funding and Objectives

- Program has a sunset date of January 1, 2016
- \$75 million for FY 2008-09; \$101 million for FY 2009-10.  
- \$108 million anticipated for FY 2010-11
- 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

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## About the Investment Plan

- The Energy Commission is required to develop and adopt the Investment Plan.
- The Investment Plan determines the priorities and opportunities for the Program.
- The Investment Plan must be updated annually.
- The Energy Commission must create and consult with an Advisory Committee as it develops its Investment Plan.

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## Anticipated Schedule for Investment Plan Adoption

- April 30 – Second Advisory Committee Meeting
- May 20 – Public Workshop (Long Beach)
- May 25 – Public Workshop (Stockton)
- May 27 – Public Workshop (San Francisco)
- Late June – Posting of Committee Investment Plan
- Mid July – Public Hearing on Committee Investment Plan
- Late July – Business Meeting Adoption of Investment Plan <sup>7</sup>



## Program Update – Funding Summary

- Workforce Development - \$15,000,000
- ARRA Cost-Sharing - \$36,520,000
  - Received federal contributions of \$93,632,000
- Closed PONs - \$44,779,500
  - Biomethane production (\$21,479,500)
  - Medium- and heavy-duty vehicles (\$9,500,000)
  - Fuel infrastructure (\$13,800,000)
- Interagency Agreement with State Treasurer's Office
  - Master agreement for \$39,912,000
  - Closed PON: New biofuel plants (\$14,912,000)
  - Closed PON: Manufacturing (\$19,000,000)
  - Upcoming: Existing ethanol producer's incentive (up to \$6 M) <sup>8</sup>



## Anticipated Future Funding

- Medium- and Heavy-Duty Vehicle Center of Excellence (\$6,600,000)
- Hydrogen Fueling Infrastructure (\$22,000,000)
- Propane School Bus Incentives (\$2,000,000)
- Sustainability Analysis (\$2,000,000)
- Division of Measurement Standards (\$4,000,000)
- NREL and UCI Street Model (\$1,450,000)

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## Investment Plan Summary

- Outlines funding allocations for FY 2010-11
- Funding allocation methodology
  - 2050 and 2020 analysis and backcasting
  - Gap analysis by fuel type
  - Non-GHG categories



## Funding Allocation for Electric Drive

- Develop and demonstrate advanced on-road and non-road medium-and heavy duty technology - *\$14 million*
- Infrastructure and related activities - *\$3 million*
- Manufacturing facilities and equipment - *\$7.5 million*



## Funding Allocation for Hydrogen

- Fueling infrastructure - *\$14 million*
  - The CEC will closely monitor the results from its Spring 2010 solicitation, and provide funding for FY 2010-11 accordingly.



## Funding Allocation for Gasoline Substitutes

- Expansion of E-85 dispensers and retail outlets - *\$8.5 million*
- Gasoline substitutes production - *\$10 million*



## Funding Allocation for Diesel Substitutes

- Diesel substitutes production - *\$5 million*
- Bulk terminal storage and blending facilities - *\$5 million*



## Funding Allocation for Natural Gas

- Medium- and heavy-duty vehicles - *\$12 million*
- Upgrades to fueling stations - *\$2 million*
- Biomethane production plants and quality testing - *\$10 million*



## Funding Allocation for Propane

- Light- and medium-duty vehicles - *\$3 Million*





## Funding Allocation for Innovative Technologies

- Optimize alternative and renewable fuels, control systems and vehicle/fuel integrations systems
- Advanced internal combustion engines resulting in at least 40% efficiency improvements
- Lightweight materials
- Energy storage
- Battery recycling and reuse
- Electronic and electrified components
- Idle management technology
- Aerodynamic retrofits that decrease fuel consumption
- *Total - \$3 Million*



## Funding Allocation for Market and Program Development

- Program marketing and public education and outreach - *\$2.5 million*
- Sustainability studies - *\$2.5 million*
- Technical assistance and environmental / market / technology analyses - *\$6 million*