Alternative and Renewable Fuel and Vehicle Technology Program

FY 2010-2011 Investment Plan
Public Workshop

California Energy Commission

Long Beach City Hall
May 20, 2010

Meeting Agenda

9:00  Introduction and Overview of AB 118 Program (Leslie Baroody)
• 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.”

Key Policy Objectives

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<th>Objectives</th>
<th>Goals and Milestones</th>
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<tr>
<td>GHG Reduction</td>
<td>Reduce GHG emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050</td>
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<tr>
<td>Petroleum Reduction</td>
<td>Reduce petroleum fuel use to 15% below 2003 levels by 2020</td>
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<td>Alternative and Renewable Fuel Use</td>
<td>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</td>
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<td>In-State Biofuels Production</td>
<td>Produce in California 20% of biofuels used in state by 2010, 40% by 2020, and 75% by 2050</td>
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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

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.
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

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
  - Open PON: New biofuel plants ($14,912,000)
  - Open PON: Manufacturing ($19,000,000)
  - Upcoming: Existing ethanol producer’s incentive (up to $6 M)
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)

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