



# Alternative and Renewable Fuel and Vehicle Technology Program

## Advisory Committee Meeting

April 19, 2012

California Energy Commission

Hearing Room A



# Meeting Agenda

9:00 Introductions and Opening Remarks

9:20 Program Status Update

9:40 2012-2013 Investment Plan – Revised Staff Draft

10:00 Advisory Committee Discussion

11:30 Public Comment



# Program Status Update

**Jim McKinney**  
**Office Manager**



## Overview

- ARFVT Program goal: develop and deploy fuels and technologies that will help the state attain its climate change policies
  - Other goals: reduce petroleum dependence, increase in-state biofuel production and use, promote economic development
- Annual Investment Plan identifies opportunities and establishes priorities for each year's funding
- Advisory Committee serves to provide input and feedback on the development of the Investment Plan



## Program Status Update

- Year 4 of 7.5 year program
- Three previous Investment Plans have allocated a combined \$362 million
- To date, \$207.3 million has funded roughly 213 grants and agreements



## Program Status Update, cont.

- Since the last Advisory Committee meeting on February 10, seven major solicitations have closed, released proposed awards, and/or developed agreements
- Current focus on encumbering FY 2010-2011 funds before end of this fiscal year
  - Round 1 (FY 2010-2011) and Round 2 (FY 2011-2012 and further)



## Solicitations Update

- **PEV Regional Readiness – \$2 million**
  - All nine original proposals have been approved
  - Up to \$200,000 each, totaling roughly \$1.8 million
  - Variety of goals
    - Develop regional plans for PEVs and charging equipment
    - Establish “best practices” for building and public work guidelines
    - Streamline local permitting, installation and inspection



## Solicitations Update, cont.

- **Advanced Medium- and Heavy-Duty Vehicle Technology Demonstrations – \$16.9 million**
  - \$16.9 million for 11 projects under 4 applicants
  - Funding derived from two previous fiscal years
  - More than \$24 million requested for 18 unfunded projects
  - Most funded projects focus on integrating hybrid, plug-in hybrid, or all-electric vehicle technologies
  - Agreements currently under development



## Solicitations Update, cont.

- **Vehicle Buydown Incentives**
  - Since last Advisory Committee meeting:
  - 486 natural gas vehicles (\$9.7 million)
  - 60 propane non-bus vehicles (\$468,000)
  - 50 propane buses (\$1 million)
  - Roughly 40% are GVWR Class 7 or 8 (Heavy Duty), roughly 35% are Class 4-6 (Medium Duty)
  - Range of manufacturers
    - GM, Ford, Peterbilt, Isuzu, etc.



## Solicitations Update, cont.

- **Biofuel Production – \$37.7 million**
  - Closed on February 23
  - 54 proposals (\$127.8 million)
  - Round 1 NOPA released on March 23 (\$19.5 million)
    - 4 diesel substitute projects (\$8.1 million)
    - 1 biomethane project (\$6 million)
    - 2 ethanol projects (\$5.4 million)
  - Grant agreements for Round 1 now under development
  - Round 2 NOPA will follow in the summer/fall



## Solicitations Update, cont.

- **Alternative Fuels Infrastructure – \$30.3 million**
  - Closed on March 21
  - Summary of proposed sites
    - 24 natural gas (\$7.4 million out of \$9.6 million available)
    - 3 biodiesel (\$1.1 million out of \$3.1 million available)
    - 0 propane (out of \$1 million available)
    - E85 information – still confidential (\$10.1 million available)
  - Round 1 NOPA expected in mid-April
  - All charging infrastructure funds from FY 2010-2011 have already been encumbered; all remaining funds will be Round 2
  - Round 2 NOPA will follow in the summer/fall



## Solicitations Update, cont.

- **Manufacturing Facilities and Equipment – \$10 million**
  - Closed on March 20
  - 15 proposals received
  - \$53 million requested, with \$130 million in match funds
  - Variety of vehicle classes
  - Proposals for new manufacturing lines, retooling of existing lines, and capacity expansion
  - No FY 2010-2011 funds that could expire
  - NOPA expected in summer



## Solicitations Update, cont.

- **Hydrogen Fueling Infrastructure – \$18.7 million**
  - Closed on March 22
  - 5 proposals received for 17 station locations
  - \$23.1 million requested
  - Round 1 NOPA expected in late April
  - \$10.2 million in Round 1 funds, \$8.5 million in Round 2 funds



## Solicitations Update, cont.

- **Workforce Development and Training**
  - Employment Training Panel and Employment Development Division agreements amended for FY 2011-2012 funds
  - 4 workforce training contracts (totaling \$1.25 million) approved for 1,584 trainees
  - Demand expected to increase as awareness grows



## Solicitations Update, cont.

- **Emerging Opportunities**
  - \$9.3 million available
  - Federal cost-sharing opportunities identified
  - Joint Center for Artificial Photosynthesis
  - Air Force vehicle electrification
- **Program Support**
  - Measurement, verification and evaluation
  - UC Davis NEXT Steps
  - UC Irvine STREET
  - National Renewable Energy Laboratory



# Questions on Program Status?



# **2012-2013 Investment Plan Revised Staff Draft**

**Charles Smith  
Project Manager**



## Schedule

- First Advisory Committee Meeting: February 10
- Revised Staff Draft: April 5
- Second Advisory Committee Meeting: April 19
- Post Any Final Revisions: April 25
- Adoption by Energy Commission: May 9



## Revised Staff Draft

- Incorporates input since previous Staff Draft
  - 30 submitted docket comments
  - Ongoing meetings with stakeholders
  - 18 Advisory Committee members, 30 other comments
- Updates information on recent solicitations, regulations, and other market developments
- Settles funding allocations
  - \$100 million total



# Fuel Production and Supply Updates

- Clarifies eligibility of jet and aviation fuels
  - 3 billion gallons of jet fuel dispensed in California annually
- Describes evaluation criteria for biofuel production projects
  - Based on criteria in recent solicitation
- Retains \$20 million combined allocation



## Infrastructure Updates

- Electric charging infrastructure
  - Potential grid impact
  - Fast charger standards
  - Governor's Executive Order on ZEVs and ZEV infrastructure
  - NRG Energy Inc. agreement
  - Retains \$7.5 million allocation
- Hydrogen fueling infrastructure
  - Station needs analysis
  - Emphasis on O&M, in addition to upfront capital cost
  - Retains \$11 million allocation



## Infrastructure Updates, cont.

- E85 fueling infrastructure
  - Revised allocation from “Up to \$2.5 million” to \$1 million
- Natural gas fueling infrastructure
  - Revised allocation from “Up to \$2.5 million” to \$1.5 million
- Propane fueling infrastructure
  - Funding discontinued, pending the identification of more specific needs
- Open to revisiting and reassessing such needs in 2013-2014 Investment Plan



## Vehicles Updates

- Natural gas vehicles
  - No revisions; retains \$12 million allocation
- Propane vehicles
  - Comparatively low demand
  - Revised allocation from “Up to \$4 million” to \$2 million
- Light-duty PEVs
  - Updated information on ARB’s Clean Vehicle Rebate Program
  - Ongoing collaboration with ARB on demand and funding needs of CVRP



## Vehicles Updates, cont.

- Medium- and Heavy-Duty Advanced Technology
  - Deployment
    - Ongoing collaboration with ARB on demand and funding needs of HVIP
      - Leftover HVIP funding
      - Higher ZEV incremental incentive
  - Demonstration
    - Updated information on recent PON
    - Added emphasis on drayage and goods movement
    - Increased funding allocation to \$4 million



# Emerging Opportunities Updates

- Identification of potential projects
  - Energy Innovation Hubs
    - Joint Center for Artificial Photosynthesis
    - Batteries and Energy Storage
  - U.S. Air Force base vehicle electrification
  - Vehicle-to-grid demonstration
  - On-going interest in a “small grants” program
- Funding increased from \$1.5 million to \$3.5 million



# Manufacturing and Workforce Development and Training Updates

- Manufacturing
  - No significant revisions
  - Retains funding allocation of \$20 million
- Workforce Development and Training
  - Summary of work with community college agreements
  - Updated recent activities with EDD and ETP
  - Retains funding allocation of \$2.5 million



# Market and Program Development Updates

- Market and Program Development
  - Continue to assess the need for sustainability studies; no funding proposed for next fiscal year
  - Retain \$3 million allocation for regional planning
  - Retain \$3 million allocation for establishing and/or supporting alternative fuel and vehicle technology centers
  - Separate funding for technical assistance and measurement, verification and evaluation efforts



## Future Steps

- May 9 Business Meeting
- Funding implementation
  - Complete currently scheduled solicitations and grant agreements
  - Backfill existing solicitations using FY 2012-2013 funding, where appropriate
  - Issue new solicitations, where appropriate
- Next Investment Plan Update (FY 2013-2014)
  - Same deadlines, but with a longer lead time



# CALIFORNIA ENERGY COMMISSION

## Project/Activity

**Proposed Funding  
FY 2012-2013  
(Millions)**

<b>Alternative Fuel Production</b>	Biofuel Production and Supply	\$20
<b>Alternative Fuel Infrastructure</b>	Electric Charging Infrastructure	\$7.5
	Hydrogen Fueling Infrastructure	\$11
	E85 Fueling Infrastructure	\$1
	Natural Gas Fueling Infrastructure	\$1.5
<b>Alternative Fuel and Advanced Technology Vehicles</b>	Natural Gas Vehicle Incentives	\$12
	Propane Vehicle Incentives	\$2
	Light-Duty PEV Incentives	Up to \$5
	Medium- and Heavy-Duty BEV Incentives	Up to \$4
	Medium- and Heavy-Duty Advanced Vehicle Technology Demonstration	\$4
<b>Emerging Opportunities</b>	Innovative Technologies and Federal Cost-Sharing	\$3.5
<b>Manufacturing</b>	Manufacturing Facilities, Equipment and Working Capital	\$20
<b>Workforce Development and Training</b>	Workforce Development and Training Agreements	\$2.5
<b>Market and Program Development</b>	Regional Alternative Fuel Readiness and Planning	\$3
	Centers for Alternative Fuels and Advanced Vehicles	\$3
<b>Total Available</b>		<b>\$100</b>