Clean Fuels Program Advisory Group
Meeting

Electric Vehicle Charging Infrastructure

September 30, 2011

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Technology Advancement Office

Cleaning the Air That We Breathe…
Electric Charging Infrastructure

- 1996 – 2005
- Approximately 1,800 chargers at about 500 locations in Southern California region
  - Many chargers obsolete
  - Some suitable for upgrade
- Vehicles rolling out soon
- Different infrastructure needs
EV Infrastructure
Plug-in Electric Vehicles in 2011
Charging Equipment
Electric Vehicle Supply Equipment (EVSE)

- Level 1 AC (110 - 120 V, 15 Amp)
- Level 2 AC (208 – 240 V, up to 80 Amp) UL listed to date - Clipper Creek, Coulomb In process – AeroVironment, ECOtality, Schneider Electric, Eaton, Leviton, SPX
- Fast DC for Light-duty 400+ V, 80+ Amps Japanese standard US consensus to be determined
- AeroVironment first UL fast charger
SoCalEV Infrastructure Project

- State and federal funds have been invested in EV and EV infrastructure in Southern California
- AQMD serves as lead agency and administers project
- Received funding of $840,000
- Project approved by CEC Business Council May 4, 2011
- Contract in process with CEC
Program Details

- Project sites must be exempt from CEQA
- Members to provide ~50% matching funds (in-kind and/or cash)
- Minimum number of chargers to each Collaborative member
- Remaining chargers distributed based on
  - Number of charging locations
  - Greatest cost share
  - Shortest lead time
Incentives

- Maximum incentives per charger
  - $2,500 Level 2 (first charger, $2000 second charger)
- AQMD to receive 5% administrative fee towards staff labor costs
- Data collection on chargers will identify high usage locations
Next Steps

- Agreement with CEC on administrative duties
- Contracts with Collaborative members
- LA County to release RFP on EV chargers to create list of eligible installers
- Members to choose from eligible list
Upcoming Tasks

• AQMD to work with partners on the following:
  • Identify, prioritize charger sites
  • RFP on charging technologies and installers
  • Installations over 12 months
  • Data collection
  • CEC reporting
  • Tracking progress
South Coast EVSE Implementation

- DOE and/or CEC funding of ECOtality, Coulomb Technologies, and Clipper Creek
- For DOE funding, EVSE must be in contract or installed in South Coast by Dec 31, 2011
- EVSE manufacturers need to identify high priority locations
# South Coast EV Infrastructure

<table>
<thead>
<tr>
<th>Project</th>
<th>Agencies</th>
<th>Funding Source</th>
<th>Amount</th>
<th>Level 2 Chargers</th>
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<tbody>
<tr>
<td>SoCalEV Project</td>
<td>AQMD, SoCalEV</td>
<td>CEC/SoCalEV</td>
<td>$840,750</td>
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<tr>
<td>ChargeUp LA</td>
<td>City of LA</td>
<td>LADWP</td>
<td>$2M</td>
<td>500</td>
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<td>Install EVSE</td>
<td>Clipper Creek, Coulomb Technologies, ECOtality</td>
<td>AQMD</td>
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<td>Upgrade EVSE</td>
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<td>ChargePoint America</td>
<td>Coulomb Technologies</td>
<td>DOE/CEC</td>
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<td>The EV Project</td>
<td>ECOtality</td>
<td>DOE/CEC</td>
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<td><strong>TOTAL</strong></td>
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<td><strong>$8.4M</strong></td>
<td><strong>2,886</strong></td>
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DOE PEV Infrastructure Grant

Received $1M grant from DOE Clean Cities Program for PEV infrastructure planning, AQMD as lead agency

- Six regional plans (Bay Area, Central Coast, Sacramento, San Diego, San Joaquin, South Coast), statewide guidelines document, education outreach workshops
- Compile regional plans into statewide plan
- DOE agreement going to Oct Board for receiving grant and executing contracts with sub-recipients
## Funding

<table>
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<tr>
<th>Subrecipient</th>
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<tr>
<td>BAAQMD</td>
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<tr>
<td>Southern California Association of Governments</td>
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<td>California Center for Sustainable Energy</td>
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<td>Sacramento Area Council of Governments</td>
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<tr>
<td>San Joaquin Valley Air Pollution Control District</td>
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<td>Central Coast Clean Cities Coalition</td>
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<td>California Plug-In Electric Vehicle Collaborative</td>
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<tr>
<td><strong>Total</strong></td>
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CEC PEV Infrastructure Grant

Received $200,000 from CEC for PEV infrastructure planning, SCAG and AQMD co-lead agencies

- Fund subregional studies that feed into regional PEV infrastructure plan
- Awards announced in September 2011
- Entering into contracting process
Project Objectives

Areas of Focus

- Building Codes
  - Comply with standards and safety regulations
- Permitting
  - Update construction permitting process
- Marketing, Outreach, Training
  - Safe installation, maintenance, operation
- Benefits and Incentives
  - Vehicle rebates, tax credits, infrastructure incentives