

CALIFORNIA ENERGY COMMISSION1516 Ninth Street
Sacramento, California 95814Main website: www.energy.ca.gov**10-ALT-01**

DATE _____

RECD. OCT 01 2010



Energy Commission Staff and Statewide Plug-In Electric Vehicle (PEV) Collaborative PEV Infrastructure Joint Workshop

The California Energy Commission staff, in coordination with the Statewide Plug-In Electric Vehicle Collaborative, will conduct a public workshop to discuss issues and strategies regarding plug-in electric vehicle (PEV) charging infrastructure. This workshop will provide a forum to discuss key PEV infrastructure issues important to the imminent rollout of PEVs in California. The workshop will also offer valuable input for the development of the Energy Commission's *California PEV Infrastructure Deployment Guide* as well as the Statewide PEV Collaborative's *Strategic Plan*.

Commissioner and Vice Chair James D. Boyd, Presiding Member of the Transportation Committee, and Commissioner Anthony Eggert, the Associate Member of the Transportation Committee, may be in attendance. Other Commissioners may also attend and participate.

TUESDAY, OCTOBER 19, 2010

Beginning at 9 a.m.

CALIFORNIA ENERGY COMMISSION

1516 Ninth Street

First Floor, Hearing Room A

Sacramento, California

(Wheelchair Accessible)

Remote Attendance and Availability of Documents

Internet Webcast - Presentations and audio from the meeting will be broadcast via our WebEx web meeting service. For details on how to participate via WebEx, please see the "Remote Attendance" section toward the end of this notice.

Purpose

This workshop will provide a forum to discuss issues and strategies regarding the deployment of PEV infrastructure in California. As commercial PEVs enter the market, it

is critical for the PEV infrastructure process to advance smoothly ensuring customer satisfaction and continued PEV sales.

The workshop will consist of panel discussions in four key areas: 1) residential charging, including home, street-side and multi-dwelling unit charging, 2) workplace charging, 3) publicly accessible commercial property charging, and 4) public charging and corridor planning. The workshop's goal is to provide clarification and the latest thinking on these and other issues and strategies to help direct the preparation of 1) the Energy Commission's *California PEV Infrastructure Deployment Guide* and 2) the Statewide PEV Collaborative's *Strategic Plan*. Panelists will include representatives from charging infrastructure providers, utilities, automakers, PEV users, state and local governments and other industry stakeholders.

Background

Automakers have begun commercial production of a new generation of PEVs and will be launching battery-electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) in California over the next several months. As these vehicles enter the market, infrastructure developers and installers have begun offering charging stations (also known as electric vehicle service equipment, or EVSE) for residential, commercial and public locations. There are three levels of charging available to consumers that provide different levels of power:

- **Level 1:** 110V, single phase, 15 amps. This level of service is provided by a typical domestic electricity outlet and is most appropriate for PHEVs with relatively small batteries. With Level 1 charging, PHEVs can fully charge overnight. Those with smaller battery packs can fully charge in just a few hours.
- **Level 2:** 240V, single phase, 32 amps. This level of service is appropriate to fully charge battery electric vehicles (BEVs) overnight and PHEVs with large batteries in a few hours.
- **Level 3:** 480V, three phase, 100's of amps. This level of service is often referred to as "fast charging." It applies to high-current service that can charge BEVs fitted for Level 3 capability to about 80 percent of capacity in 20 minutes or less. Although a number of charging stations can provide Level 3 service, no Level 3 charging standard currently exists in the U.S.

Currently California has about 1,300 Level 2 public charge points at 400 locations that were installed to serve the first wave of PEVs 10 years ago. The California Energy Commission is funding upgrades to this existing equipment so that it meets the new industry-standard plug design. The number of charging locations should expand quickly, as several projects are underway to develop infrastructure to support early PEV markets. The Energy Commission has allocated \$15.3 million with matching federal stimulus funds of \$55.8 million to install more than 4,000 additional charge points statewide. The PEV infrastructure projects are:

- 1) \$8 million for the Nissan and Electric Drive Transportation Engineering Corporation deployment of 1,000 battery electric vehicles in San Diego and installation of up to 1,000 Level 2 residential chargers, up to 1,300 Level 2 commercial chargers, and up to 60 fast chargers in San Diego and the adjacent transportation corridor,
- 2) \$3.41 million for Coulomb Technologies, Clean Fuel Connection and the California Car Initiative to install 1,290 networked PEV charging stations in San Francisco, Sacramento and Los Angeles,
- 3) \$1.9 million for Clipper Creek to update 635 existing chargers statewide to the SAE-J1772 standard,
- 4) \$504,000 for the Association of Bay Area Governments (ABAG) to install 135 charging stations as part of the Bay Area EV Corridor Project. ABAG received an additional \$5 million of match funds and will be able to install an additional 337 PEV charge points.
- 5) \$553,000 for the Sacramento Municipal Utility District, in partnership with General Motors to install 206 chargers for 34 Chevy Volt PHEV's. SMUD will also partner with Chrysler for 35 chargers for fleet applications and will demonstrate 9 Chrysler PHEV vans and 11 Dodge PHEV pickups (\$100,000),
- 6) \$415,000 for EV Connect LLC to upgrade and expand PEV charging network at transit locations with 20 stations, 4 of which are upgrades.
- 7) \$180,000 to the City of Reedley to install three charging stations as part of the Central Valley Transportation Center.

For more information on PEV charging and these projects, please see the *2010-2011 Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program* at the Energy Commission's website:
<http://www.energy.ca.gov/2010publications/CEC-600-2010-001/CEC-600-2010-001-CMF.PDF>

The workshop will address complex and evolving charging infrastructure issues. It will also focus on what the allocation of public funds should be for residential, workplace, public charging on commercial property and public and corridor charging. Challenges with street-side residential (homes without garages) and multi-dwelling unit charging also need to be addressed. Although most PEV drivers are expected to charge at home most of the time, workplace charging is also expected to serve as an alternative as well as a primary charge source for certain segments of the market. In addition, some commercial property owners will install charging to attract customers. The workshop will address how to best encourage off-peak charging and mitigate on-peak charging and also examine the optimal deployment of corridor charging and the business case for public infrastructure.

Currently, there is no public charging infrastructure plan for California. The Energy Commission and the Statewide PEV Collaborative support developing a coordinated public charging plan for the state that is informed by industry stakeholders, consumer needs, research, and observations and data from early markets.

Written Comments

Written comments on the workshop topics must be submitted by **5 p.m. on October 26, 2010**. Please include the docket number 10-Alt-1 and indicate **PEV Infrastructure Joint Workshop** in the subject line or first paragraph of your comments. Please hand deliver or mail an original copy to:

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 10-ALT-1
1516 Ninth Street
Sacramento, CA 95814-5512

The Energy Commission encourages comments by e-mail. Please include your name or organization's in the name of the file. Those submitting comments by electronic mail should provide them in either Microsoft Word format or as a Portable Document Format (PDF) to [docket@energy.state.ca.us]. **One paper copy** must also be sent to the Energy Commission's Docket Unit.

Participants may also provide an original and 10 copies at the beginning of the meeting. All written materials relating to this workshop will be filed with the Dockets Unit and become part of the public record in this proceeding.

Public Participation

The Energy Commission's Public Adviser's Office provides the public assistance in participating in Energy Commission activities. If you want information on how to participate in this forum, please contact the Public Adviser's Office at (916) 654-4489 or toll free at (800) 822-6228, by FAX at (916) 654-4493, or by e-mail at [PublicAdviser@energy.state.ca.us] If you have a disability and require assistance to participate, please contact Lou Quiroz at (916) 654-5146 at least five days in advance.

Please direct all news media inquiries to the Media and Public Communications Office at (916) 654-4989, or by e-mail at [mediaoffice@energy.state.ca.us].

If you have questions on the technical subject matter of this meeting, please contact Leslie Baroody, Energy Specialist II, by e-mail at [lbaroody@energy.state.ca.us].

Remote Attendance

You can participate in this meeting through WebEx, the Energy Commission's online meeting service. Presentations will appear on your computer screen, and you listen to

the audio via your telephone. Please be aware that the meeting's WebEx audio and on-screen activity may be recorded.

Computer Log-on with Telephone Audio:

1. Please go to [<https://energy.webex.com>] and enter the unique meeting number:
923 276 340
2. When prompted, enter your name other information as directed and the meeting password: **workshop#1**
3. After you log-in, a prompt will ask for your phone number. If you wish to have WebEx call you back, enter your phone number. This will put add your name on the WebEx log so that we know who is connected and have a record of your participating by WebEx.

If you do not wish to do that, click cancel, and go to step 4. Or, if your company uses an older switchboard-type of phone system where your line is an extension, click cancel and go to step 4.

4. If you didn't want WebEx to call you back, then call 1-866-469-3239 (toll-free in the U.S. and Canada). When prompted, enter the meeting number above and your unique Attendee ID number, which is listed in the top left area of your screen after you login via computer. International callers can dial in using the "Show all global call-in numbers" link (also in the top left area).

Telephone Only (No Computer Access):

1. Call 1-866-469-3239 (toll-free in the U.S. and Canada) and when prompted enter the unique meeting number above. International callers can select their number from [<https://energy.webex.com/energy/globalcallin.php>].

If you have difficulty joining the meeting, please call the WebEx Technical Support number at 1-866-229-3239.

Date Posted:

Electronic Mail Lists: Altfuels