



## CALIFORNIA'S SMART GRID

### California Public Utilities Commission Smart Grid Rulemaking R.08-12-009

#### *Workshop 4 – Plug-in Electric Vehicle Integration Issues*

July 15, 2009

10:00 a.m. – 4:00 p.m.

**Auditorium**

**California Public Utilities Commission, 505 Van Ness Ave., San Francisco, CA 94102**

According to some projections, electric cars could transform our transportation system, revitalize our aging power grid, and help California achieve its goals to reduce greenhouse gas emissions. This workshop explores the potential for electric vehicles, how electric vehicles could interact with the Smart Grid, and what steps, if any, state and local government agencies should take to support electric vehicles as a cleaner alternative to conventional combustion-fueled vehicles.

Each section of the agenda will begin with a brief presentation (i.e. five minutes) by each panel member. The presentations will be followed by discussion moderated by Administrative Law Judge Timothy Sullivan.

A video webcast of the workshop is at [www.californiaadmin.com/cgi-bin/cpuc.cgi](http://www.californiaadmin.com/cgi-bin/cpuc.cgi). Presentations will be on the web for viewing at <http://www.cpuc.ca.gov/PUC/energy/smartgrid.htm>.

### Agenda

**Welcome and Opening Comments – 10:00 a.m.—10:15 a.m.**

**Commissioner Rachelle Chong and other officials**

**10:15 a.m.—12:00 p.m.** The Perfect Storm for Electric Vehicle Market Growth in California?

- What is the expected growth of the electric vehicle market in California (including light-duty, medium-duty, heavy duty, and off-road)?
- Why would a consumer want to own an electric vehicle?
- What are the environmental benefits and negative impacts of relying on electric vehicles?
- How does electricity compare to other alternative transportation fuels, such as natural gas?





## CALIFORNIA'S SMART GRID

### Panelists:

- *Saul Zambrano, Pacific Gas & Electric*
- *Chelsea Sexton – Founder of Lightning Rod Foundation and Plug-in America*
- *Simon Mui, Natural Resources Defense Council*
- *William Zobel, Sempra Utilities*

**LUNCH BREAK – 12:00 p.m. – 1:30 p.m.**

### PEV Showcase

#### Vehicle and vendor participants:

Southern California Edison (SCE), (Ford Motors, Ford Escape Plug-in Hybrid Electric Vehicle)  
Pacific Gas & Electric (PG&E), (AC Propulsion, eBox; Mitsubishi Motors, iMiEV)  
San Diego Gas & Electric (SDG&E), (A123/Hymotion Conversion, Toyota Prius)  
Better Place, (Battery swapping video demonstration, Nissan Rogue)  
Coulomb Technologies, Inc.  
Tesla Motors (Tesla Motors, Tesla Roadster)  
Clipper Creek, Inc.

#### 1:30 p.m. – 2:45 p.m. Paving the Way for Plug-in Electric Vehicles

- What models do we have for charging infrastructure?
- What are the technological barriers to growth in the electric vehicle market?
- What technical standards have been established to ensure that charging equipment will be safe and easy to use?
- What steps should the CPUC take to ensure development of efficient and cost-effective charging infrastructure?
- How will utilities need to prepare for the added electricity demand that will accompany widespread electric vehicle use?

### Panelists:

- *Rich Scholer, Ford Motors, Society of Automotive Engineers*
- *Marcus Alexander, Electric Power Research Institute*
- *Professor Andy Frank, UC-Davis, Efficient Drivetrains, Inc.*
- *Jason Wolf, Better Place*
- *Richard Lowenthal, Coulomb Technologies, Inc.*





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2:45-3:00 PM Break

### 3:00 p.m. – 4:00 p.m. Smart Grid and Electric Vehicles

- How would electric vehicles help improve the efficiency and stability of the electricity grid?
- How can electric vehicles help make better use of electricity from renewable sources?
- What problems and opportunities are associated with “vehicle-to-grid” energy storage systems?

#### Panelists:

- *Ed Kjaer, SCE*
- *Jasna Tomic, CALSTART*
- *Duke Luu, CAISO*
- *John Clark, GridPoint*

