

# SacEV General Meeting

May 14, 2014

- Introduction , Trivia Quiz w/Awards , Events
- Market update – California, Sacramento Region
- Upcoming Events
- California Air Resources Board Update (Mark Williams)
- Tahoe region and I50 corridor (Rick Lind, EN2 Resources)
- West Coast Charging Networks ( Richard Sachen, CEO/  
Founder, Sunspeed Enterprises)
- Westwind Drive In Theater (Eulices Cuevas, General Manager)
- Drawing
- Mixer and speaker engagement

# Trivia Contest

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  - In Richmond, how much of that is recycled water

CALIFORNIA  
ENERGY COMMISSION

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  - \* Chico – Redding
  - \* Sacramento–Modesto
  - \* Santa Barbara–San Luis Obispo
  - \* Seattle–Tacoma
  - \* Portland

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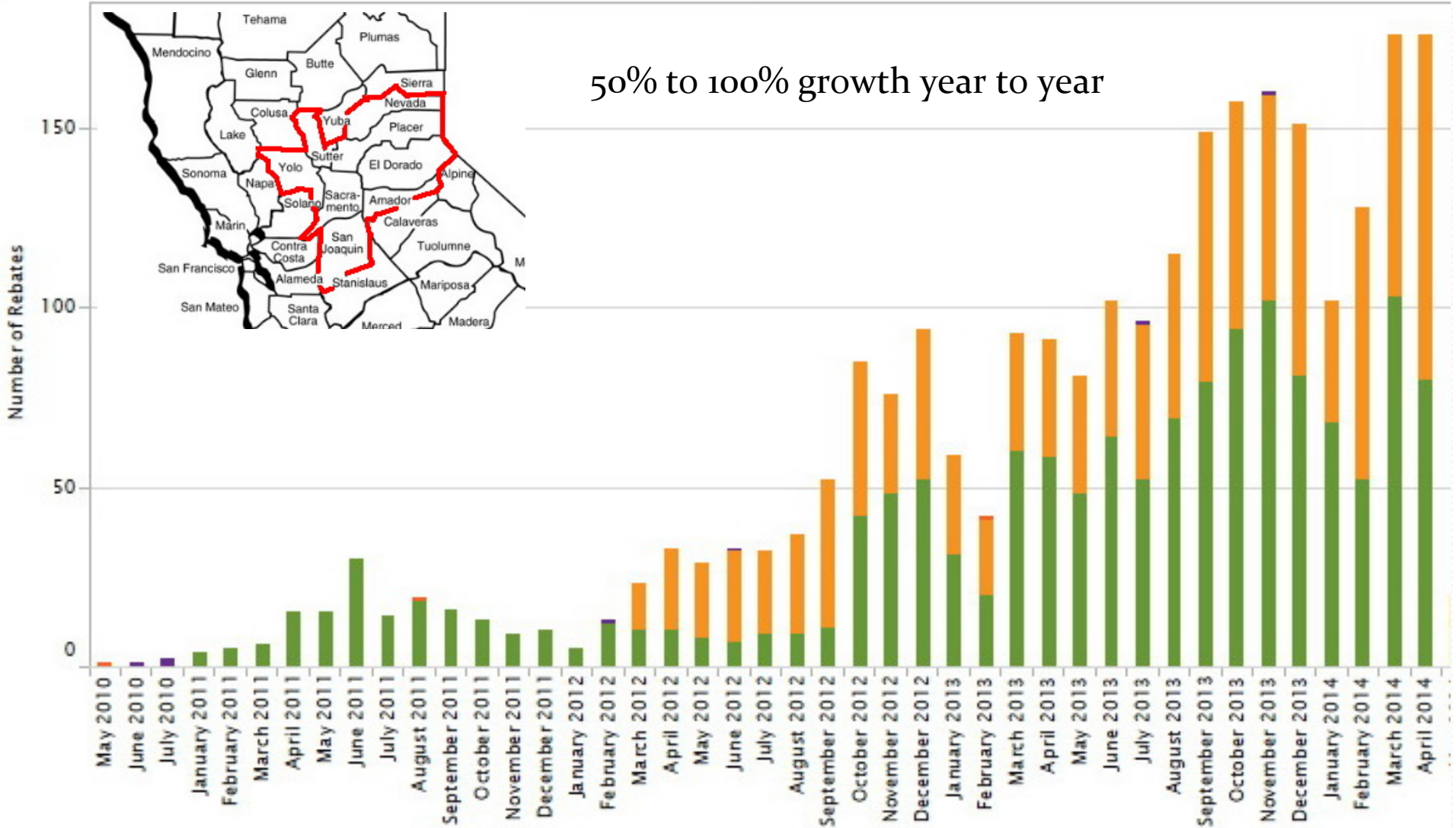
*National City Ranking of Green Car queries at Cars.Com*



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- What Movie is playing at the CAM tomorrow?

# Regional EV Sales







The logo features a stylized blue and white wave graphic at the top, with the text "California Automobile Museum" in a dark blue, sans-serif font below it.

# California Automobile Museum

## IT'S ELECTRIFYING! ALTERNATIVE FUEL VEHICLES IN CALIFORNIA

Just south of Old Town, along the Sacramento River.

# California Automobile Museum

“Who Killed the Electric Car”

Followed by Andy Frank and Eugen Dunlap

Thursday, 6PM  
Tours Prior to Movie

Just south of Old Town, along the Sacramento River.

# Electric Car Guest Drive

A meetup-style car club gathering  
hosted by EV Quorum Car Club

Featuring the **Tesla Model S**  
*yes, you get to drive!*



Memorial Day, Noon to 6PM, South Side Park





Northern California Solar Regatta  
Rancho Seco Recreational Area  
EV Exhibit and Booth  
May 16 and 17



California Environmental Protection Agency



**Air Resources Board**

**Mark Williams**

Air Pollution Specialist

Zero Emission Vehicle Implementation Section





Rick Lind  
President



# *Developments in Electric Vehicle Charging Infrastructure*

*A look at charging infrastructure in the next  
few years.*

Sunspeed Enterprises®  
The Electric Vehicle Infrastructure Company



- Level 1 and Level 2 connector –
  - SAE standard is now the J-1772 connector.
  - Tesla uses a proprietary connector, but provides a J-1772 adapter
- Level 3 connectors
  - CHAdeMO – Developed in Japan and available on the Leaf and other Japanese Evs
  - SAE J-1772 Combo Connector – new SAE standard for US automakers. Chevy Spark uses.
  - Tesla proprietary connector. Tesla to have CHAdeMO adapter available this year.

SAE J1772



CHAdeMO



SAE J-1772 Combo



TESLA





# Charging Levels

While there is no universal agreement on how to refer to different chargers, here's a quick guide

Level	Voltage	Amps	Power	Description
1	120vac	20A	1.9KW	Any standard outlet. Best to use a dedicated circuit to prevent tripping the breaker. 5 mi/hr
2	240vac	16-80A	19.2KW	Standard home charger, most common commercial charger. 10-60 mi/hr, most common 24 mi./hr.
3*	480vac*	16-80A	>20Kw	The standard for this is not finalized, no current manufacturer uses this.
3.1	200-450v DC	40-80A	up to 36KW	80-100 mi/hr
3.2	200-450v DC	90-200A	up to 90KW	up to 300 mi/hr
3.3*	200-450v DC	210-400A	up to 240KW	Tesla Supercharger fits in this range. Up to 800 mi/hr.

\* Not Finalized

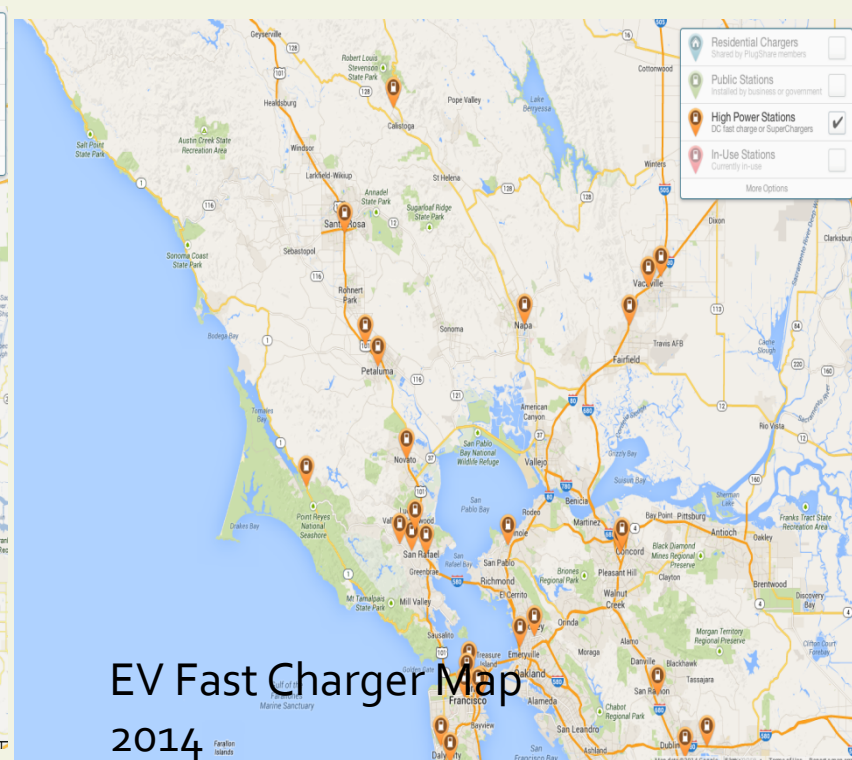
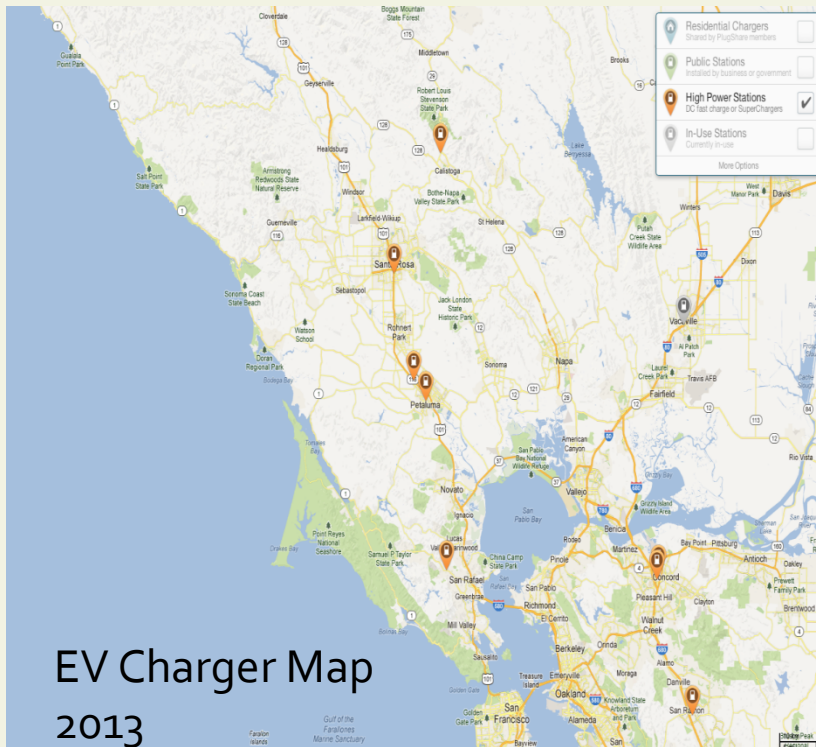




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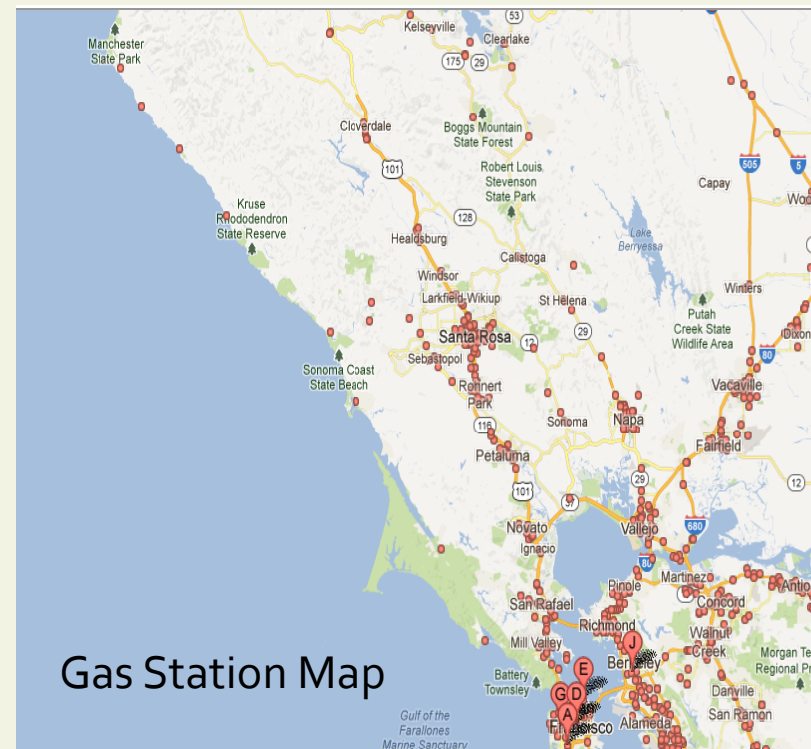
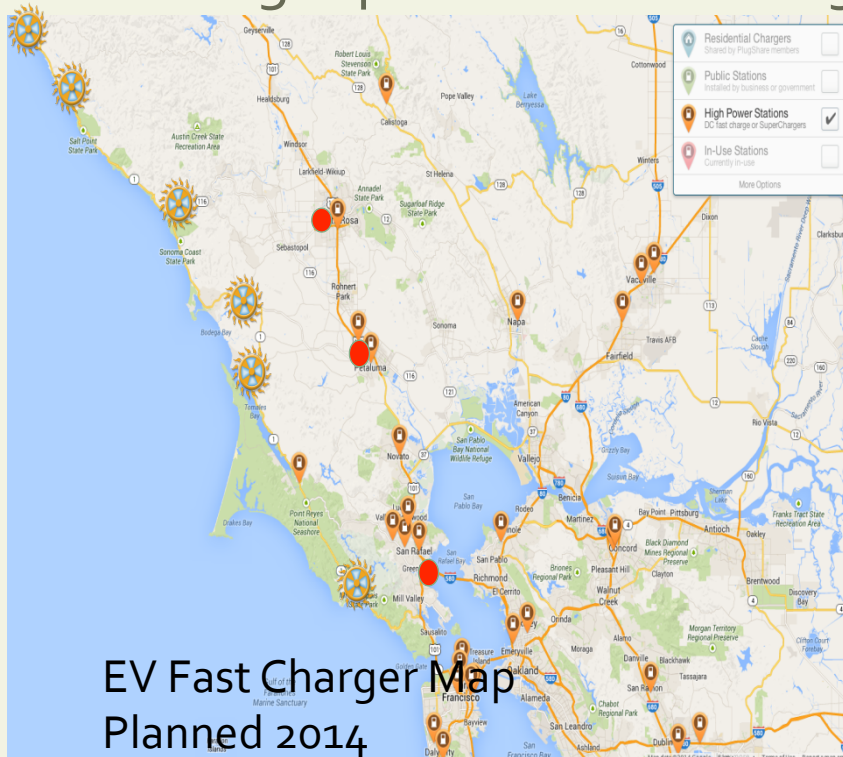
The EV Driver's Issue –  
How do I drive without getting stuck? The EV fast chargers just don't exist!



Only a handful of Fast Charging stations are available or planned, compare to hundreds of gas stations installed. Only Sunspeed has plans for Fast Charging stations along the Pacific Coast Highway.



# Fast Chargers – Fast Charger plans and current gas station installations



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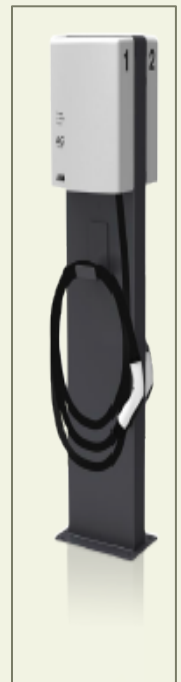
## Challenges for installing EVSE

- Site Challenges:

- Power
- Parking
- ADA compatibility
- Usage estimates - # of chargers
- Safety
- Protection from the elements

- Usage Challenges:

- Payment methods – standard credit card, RFID, cell phone app, phone call.
- Access
- Fast (< 30 minute) vs. medium (several hour) speed charging vs. slow charging models
- Vehicle compatibility
- Green energy usage.



Lack of infrastructure is one of the primary reasons consumers are reluctant to buy EVs. Recent increases in EV infrastructure and projects like eVgo's and Sunspeed's networks reduce the fear of being stranded.





Eulices Cuevas, General Manager



# Next SacEV Meeting

July 9, 2014

- Matt Eierman – Future Plans for Sacramento City Garages
- Steven Poncelet, Truckee Donner PUD - North Tahoe, I80 and EVs
- Frank Breust, BMW VP: i3 – car and deep background
- Much more ...



# Web Site: SacEV.org

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National Plug In Day Ride & Drive



Clean Start Showcase



International Auto Show



Advanced Clean Tech Forum



Electric Car Guest Drive West Coast Tour

Past Events

Locate other events in our EV calendar

## Regional EV Calendar

Today ◀ ▶ October 2013 ▼

Week Month Agenda ▼

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29 10am National Plug In I	30	Oct 1	2	3	4 11:30am Sac EV Associ	5
6	7	8	9 2:30pm Take Charge S	10 Electric Car Test Driv	11	12 Cool Davis 2013 Ever 8:30am EVs at COOL D
13	14	15	16 Clean Start Showcase	17	18	19 Sacramento International Auto Show