

Green California Summit and Exposition

Zero Emission Vehicles

April 21, 2016

Panelists

- Lisa Chiladakis, Plug-In Electric Vehicle Collaborative
- Don Anair, Union of Concerned Scientists
- Ben Xiong, California Fuel Cell Partnership
- Kevin Wood, Center for Sustainable Energy

PEV Collaborative



Public/private organization focused on accelerating the adoption of PEVs to meet California's economic, energy and environmental goals.

Using the expertise of each member, the PEV Collaborative *convenes, collaborates* and *communicates* on emerging PEV market trends and works to address challenges and enable strong PEV market growth.



Plug-in Electric Vehicles

Plug-in hybrid electric (PHEV)

- Electric motor/battery and gasoline engine
- 15-40 miles electric
- ~300 miles gasoline
- Plug-in to recharge & refill at gas station

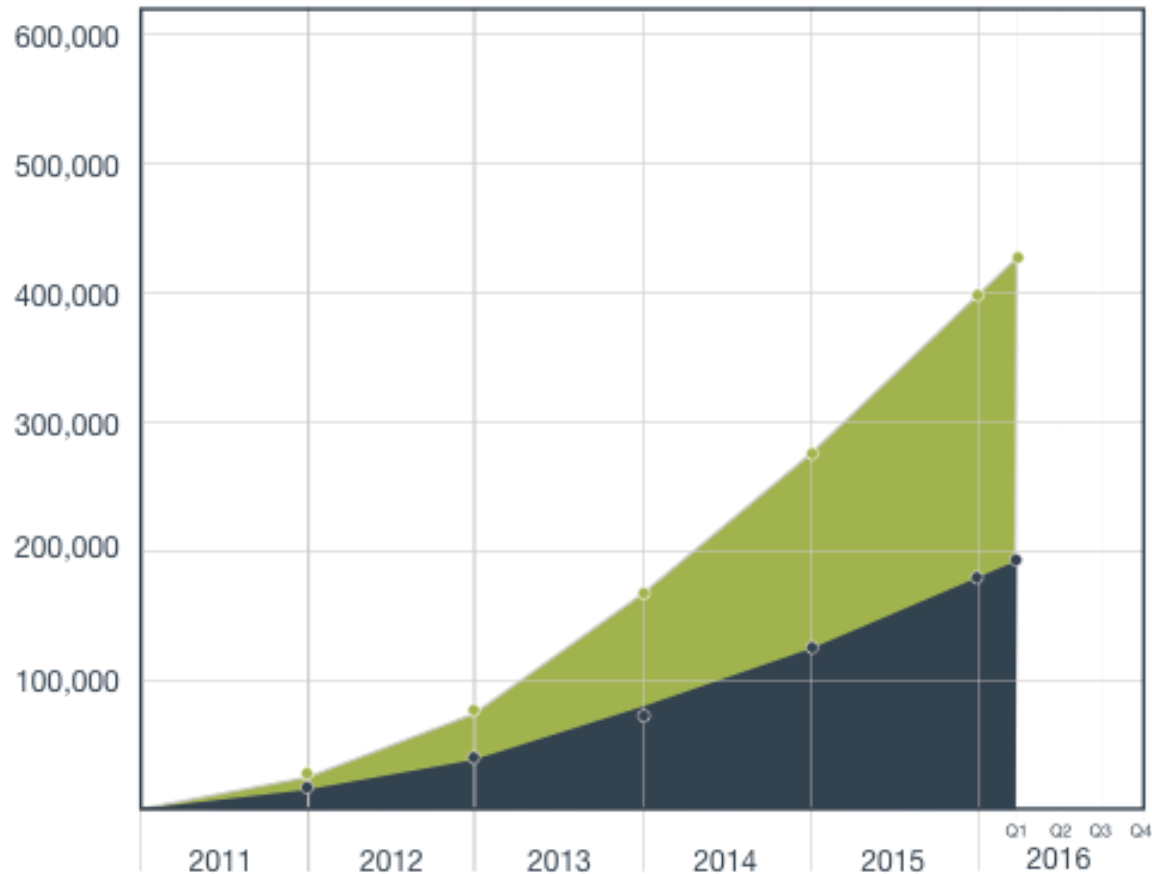
Battery electric (BEV)

- Electric motor/battery
- 70-100 miles
- Plug-in to recharge





CUMULATIVE SALES



- NATIONAL SALES

March 2016: 13,105

2016 Sales: 28,151

Cumulative 2011-present: 428,816

- CALIFORNIA SALES*

March 2016: 7,208

2016 Sales: 15,483

Cumulative 2011-present: 196,447

View Data Calculation

www.pevcollaborative.org/data-caculation >>

* Approximation assumes CA sales are 55% of National Sales

Reference: www.hybridcars.com



New Makes and Models Coming Soon



Recharge

Residence

Work

Public



CALIFORNIA
PLUG-IN ELECTRIC VEHICLE
COLLABORATIVE

Level 1 Charge



⚡ 4-6 miles range
per hour of charge



- 120-volt wall outlet
- May need a separate circuit to prevent tripping the breaker. (GFCI recommended)
- Uses the cord set that comes with the car or can be hardwired equipment
- May be a lower-cost option





Level 2 Charge

 **10-24 miles range**
per hour of charge



- 240-volt station or cord set with at least 25 amps
 - Charging station provides J1772 connector that all PEVs can use



CALIFORNIA
PLUG-IN ELECTRIC VEHICLE
COLLABORATIVE



DC Fast Charge

 **80% of max range**
under 30 minutes of charge

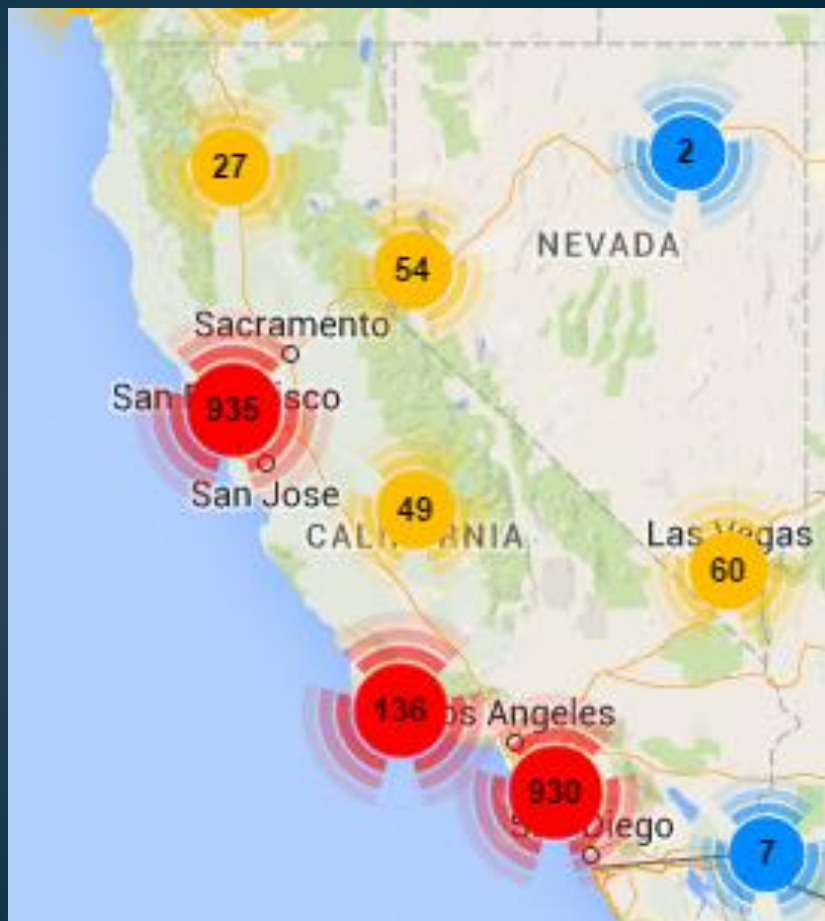


- Also called a quick charger
- 50-125 kW
- Uses SAE Combo or CHAdeMO connector
 - Some provide both connectors
- Not all PEVs can use (e.g. PHEVs)
- Tesla-only Supercharger Network



Public Charging

- Level 2:
 - 11,717 stations
 - 25,825 outlets
- DCFC
 - 1,676 stations
 - 3,568 outlets



Data from Alternative Fuel Data Center, April 18, 2016

Charger Financing & Incentives

- State financing programs
 - Small businesses: loans from CalCAP lenders
 - Residential: PACE financing
- South Coast AQMD
 - \$250 residential buy-down program
- San Joaquin Valley APCD
 - \$5-6k for publicly accessible EVSEs
- Bay Area AQMD
 - Open solicitations on regular basis
- Federal Tax Credit
- California Energy Commission Grants

Resources and webinars

- *Plugging in at Work*
 - www.pevcollaborative.org/workplace-charging
- May 25 Webinar - *Change Happens: What's new—and coming—from the State of California*
 - www.PEVCollaborative.org/webinars

Plugging in at Work:

How to Effectively Install, Share and Manage
Electric Vehicle Charging Stations

November 2015

PEV Resource Center

DriveClean 800-974-6874
A guide to clean and efficient vehicle technology brought to you by California Air Resources Board

Plug-in Electric Vehicle Resource Center

IN PARTNERSHIP WITH CALIFORNIA PLUG-IN ELECTRIC VEHICLE COLLABORATIVE

Home | Incentives | PEVs & The Environment | How PEVs Benefit You | Learn More

Like 15 Share 3 Print

Search & Explore

- Plug-in Vehicles
- Charging
- Incentives
- Costs
- Vehicles
- Charging Equipment
- Electricity
- Calculate Your Costs
- Safety

View Resources For:

- Dealers
- Fleets
- Businesses
- Electricians
- First Responders
- Cities
- Policy Makers
- Media

Define Your Incentives Search

Find rebates, discounts, tax breaks and other incentives available in your area for plug-in electric vehicles (PEVs). Choose your incentive by Technology, PEV Type, Category and/or by California Zip Code. Select the Submit button to view your Incentive Search Results below.

Select Technology

- Plug-in Hybrid Electric (PHEV)
- Battery Electric (BEV)

Select Type

- National
- State
- Local

Select Category

- Special Promotions
- Fueling & Charging Equipment
- Vehicles
- Utility Rate Discounts
- Special Decals & Permitting
- Parking
- Other
- Insurance Discounts

Enter Your Zip Code

Zip Code:

[View Search Results](#)

Search Results

Fueling & Charging Equipment

Local Nissan LEAF "No Charge to Charge" Program

Nissan is providing a new EZ-Charge card for two years of no-cost public charging with the purchase or lease of ... [Read More >>](#)

Local Rebate - \$400 for EV charging infrastructure (Pasadena Water & Power)

This incentive is for customers who install a Level 2 (240V) "wall mounted" or "hardwired" charging station at home, multi-unit ... [Read More >>](#)

Local Rebate - up to \$1,000 for EV charging infrastructure (City of Anaheim PUD)

Find a PEV

Technology

Year

Make

Model

Checklist

PEV Buyers How to prepare for your PEV purchase.

PEV Owners Steps to getting your decals, rebates, and other PEV perks.

Stories on the Street

We've added MORE incentives! Search our database of tax credits, rebates, discounts and other perks for plug-in vehicles.

Can it drive solo in the carpool lane? [Find out here.](#)

- Rebates
- Incentives
- Discounts
- Promotions

Links to all resources will be sent after the webinar

Ride-and-Drive Series

2015

- 6 events
- Reached 2,200 people
- More than 500 test drives
- 350 pre- and post-drive surveys completed
- Drive-to-purchase surveys
- Done 3-6 months after events
- ~15% purchased or leased a PEV
- 94% shared their experience

2016

- 10 events
- www.bestrideever.org



California Environmental Protection Agency
Air Resources Board

-chargepoint+



NISSAN



icct
THE INTERNATIONAL COUNCIL
ON CLEAN TRANSPORTATION



TOYOTA



Mercedes-Benz

BMW Group



SMUD™

CalEVC
California Electric Vehicle Coalition



SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONAL Company

AMERICAN
LUNG
ASSOCIATION
IN CALIFORNIA

TESLA

NRDC
The Earth's Best Defense



SDGE

UC DAVIS
PLUG-IN HYBRID & ELECTRIC VEHICLE
RESEARCH CENTER

Sempra Energy utility

nrg

Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

Plug In
America.

GREENLOTS

Center for
Sustainable Energy
CALIFORNIA

PlugShare

UCLA Luskin School of Public Affairs



EPRI | ELECTRIC POWER
RESEARCH INSTITUTE

Luskin
Center
FOR INNOVATION

SUBARU

Caltrans

ADVANCED
ENERGY
ECONOMY

California ISO
Supporting a Renewable Future

PEV Collaborative

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