

SACEV GENERAL MEETING



March 12, 2015

- 6:00 Introduction, Trivia Quiz w/Awards
- 6:10 SacEV Update George Parrot, SacEV
- 6:20 Charger Update Randal Freeman, SacEV
- 6:30 Locally Produced EV videos Amber Harris, SARTA
- 6:35 CARB Updates Mark Williams, CARB & SacEV
- 6:55 Close
- 7:00 Mixer with speakers and members

PG&E – Morgan Davis PGE Rescheduled for pre-meeting May 5PM Wednesday May 12th

Thanks to our Host Nissan Motors



Thanks to Phil Haupt Electric for refreshments



TRIVIA QUIZ



January 14, 2014

If you have been to SacEV meetings 2 or more times, you are NOT eligible. You can cheer on others!

- Are you a first time meeting attendee?
- What percent of 2014 of new vehicle sales in PG&E territory were electric?
- When will the fast charger on the I-80 corridor at Citrus Heights be turned on?
- How many units can a manufacture sell where buyers get the \$7,500 tax rebate.
 How close is Nissan to that limit?











Welcome George Parrott as VP!

- Organizational changes
- Meetings
- Events





Formalized organization

- Budgets, Roberts Rules, ...
- Formal Positions President, President-elect/V.P., President Emeritus, Secretary; Treasurer; plus 4 "At Large"
- Terms for 2 years, elections in June.
- Board members must be chair or liaison to a committee
- Existing Board members rolling into new Board or Technical Expert Advisory Committee
- 1 board position open for 2015





Meetings

- Board Meetings Monthly
- All meetings are open to membership, except for rare Judicial Meetings
- Membership Meetings same pattern
 - Second Wednesday of Odd-number Months
 - 60 minutes of short presentations with limited Q&A
 - Socialize and meet with presenters second hour
- Membership events on even numbered months
 - Wind farms, ISO Grid Center, Tesla site, Pavement Research Center





Events

- Last Year SacEV supported over 40 events
- SacEV will continue to aggressively support EV adoption through event participations
- Event participation will be scalable from single EV and literature to 20+ EVs with talks and test drives
- All events must have a SacEV Member as champion
- Event Committee will finalize the process
- Events are planned for
 - APRIL 7-8; 16, 2 events on April 17, 18, 19,
 - Lower priority events 21-22
- Need Event Planning support

ROSEVILLE EARTH DAY





WHEN: Saturday, April 18, 2015

TIME: TBD

WHERE: Mahany Park, Roseville, CA

MEALS: Lunch provided





FREE FAMILY EVENT

8th Annual
Celebrate the
Earth Festival

Saturday, April 18, 2015 | 10 a.m. - 3 p.m. | Mahany Regional Park | Roseville



Solar Car Race American River College EV Exhibit and Booth May 1, 2015





Rancho Seco Recreational Area EV Exhibit and Booth May 8-9, 2015





SPROUTING LEAFS



Most Reported LEAF Test Drives Between SacEV Meetings



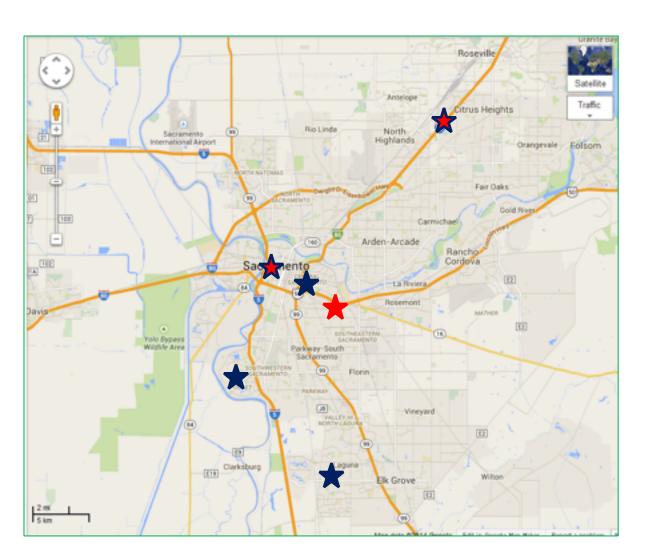


Report drives to SacEV.org



CHARGING UPDATE RANDAL FRIEDMAN





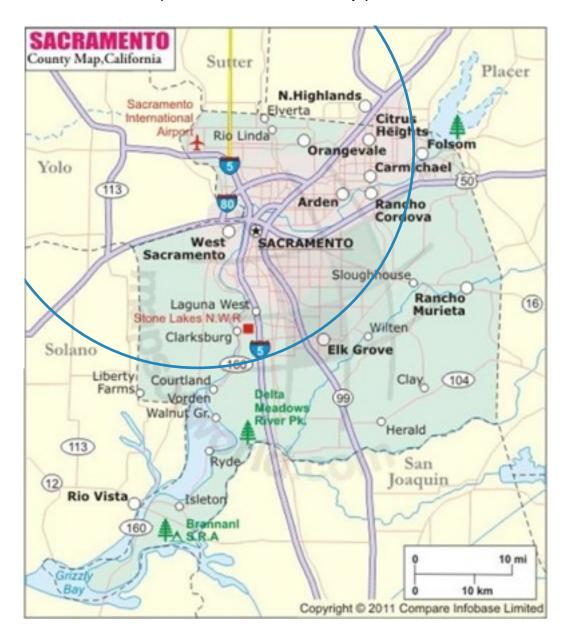


- ★ Operational
 ★ Under construction
- Orider construction
- *Planned

SACRAMENTO INTERNATIONAL AIRPORT: EV SERVICE RANGE (22 Miles Roundtrip)



Based on US EPA combined range of 73 miles, assuming 80% battery degradation and leaving 20% reserve. Given amount of highway driving, ambient temperatures, passenger loading and heat/AC needs this range may be optimistic.



SACRAMENTO INTERNATIONAL AIRPORT: ELECTRIC VEHICLE (EV) SERVICE RANGE (22 ROAD MILES)



Showing range additions from 10 minute charge

Inside to out:

- No charge,
- L2 charge,
- Fast charge



Additional Recommendations

- Convert 6 of 7 SPI chargers to 24 L1
- Add L1s to Long Term Parking



CHARGING INFRASTRUCTURE





Priorities for Fast Charging:

- Complete the West Coast Electric Highway
 - Use Hwy 99 (Hwy 70) before I-5
 - Add Hwy 101 SJ SLO, I-80, I-15/25
- 99% uptime
- 10 year warrantee on equipment
- Site services
- 40 miles between stations



EV VIDEOS – AMBER HARRIS

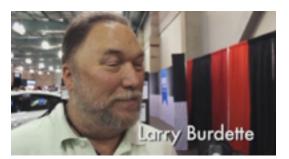






Neighbor to Neighbor







Video: http://youtu.be/lxa90nudqkA



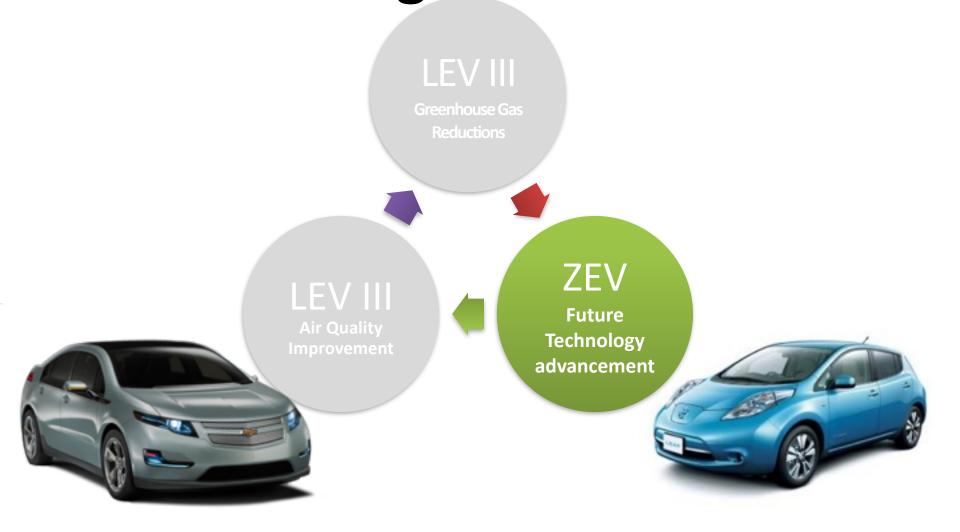




Mark Williams



Zero Emission Vehicle (ZEV) Regulation



How The ZEV Regulation Works

Requires large volume automobile manufacturers to produce zero emission passenger vehicles





Battery Electric Vehicles (BEV)



Hydrogen Fuel Cell (FCEV)

May substitute some with near-zero emission vehicles





Plug-in Hybrid Electric Vehicles (PHEV)





Conventional Hybrids





Clean Gasoline (PZEW)



Dedicated CNG Vehicles



Success to Date

| Type of ZEV | Through MY 2013 |
|----------------------------------|-------------------------------|
| Clean Gasoline Vehicles (PZEVs) | 3,100,000 LEV III Criteria |
| Conventional Hybrid (e.g. Prius) | 560,000 LEV III GHG |
| Plug-In Hybrid | 33,000 |
| Battery Electric | 33,000 |
| Hydrogen Fuel Cell | 500 |
| Dedicated CNG | 150,000 |

2018-2025 Likely Compliance – Vehicle Numbers

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|-------------------|------------------|-------------------|---------------------------|-------------------|----------------------|--------------------|--------------------|------------------------|
| ZEV, | 16,816 (1.0%) | 33,465 (2.0%) | 48 ,2 98 (2.9%) | 61,689 (3.8%) | 74,189 (4.5%) | 87,266 (5.2%) | 99,405 (5.9%) | 108,972 (6.4%) |
| TZEV, | 61,259 | 75,263 | 89,095 | 101,896 | 116,391 | 131,158 | 146,906 | 161,683 |
| Total, | 78,075 (4.7%) | 108,728 (6.4%) | 137,393 (8.1%) | 163,585 (9.7%) | 190,580 (11.2%) | 218,424 (12.7%) | 246,311 (14.1%) | 270,655 (15.4%) |
| Total, cumulative | 78,075 | 186,803 | 324,196 | 487,781 | 678,361 | 896,785 | 1,143,096 | 1,413,751 |

Current Rulemaking

Large Volume Manufacturers

- > 60,000 sales
 - Chrysler
 - Ford
 - GM
 - Honda
 - Nissan
 - Toyota

Large Volume Manufacturers 2018+

- > 20,000 sales
 - BMW
 - Hyundai
 - Kia
 - Mazda*
 - Mercedes
 - Subaru*
 - Volkswagen

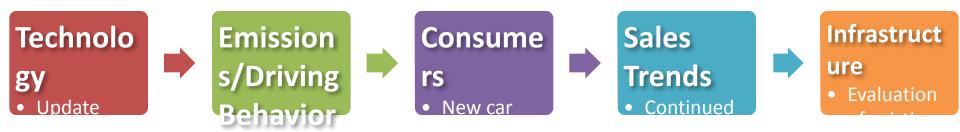
Intermediate Volume Manu.

- Jaguar / Land Rover*
- Mitsubishi*
- Volvo*



^{*} Current rulemaking may adjust Intermediate Volume Manufacturer compliance requirements for companies in red

Work in-progress on ZEV Review



It Takes More Than a Regulation

- The ZEV Regulation in and of itself does not guarantee success
- To assist the Regulation, the ARB has established an holistic support program that includes:
 - Providing consumer incentives
 - Establishing a robust support infrastructure
 - Supporting ZEV requirements in other states

Clean Vehicle Rebate Project (CVRP)



- Funded by AQIP and LCTI
- \$111 M for FY 2014-15
- \$116 M for FY 2015-16
- Since 2010
 - ~90,000 rebates
 - − ~\$190 M
- http://energycenter.org/cleanvehicle-rebate-project



Increased Incentives for Public Fleets Pilot Project

- \$3 million for FY 2014-15
- 100% toward disadvantaged communities
- For the purchase of advanced technology vehicles
- http://energycenter.org/public-fleet-project



Car Sharing and Mobility Options Pilot Project

- Car Sharing and Mobility Options Pilot Project
- \$2.5 million for FY 2014-15
- Establish zero, or near-zero, emission car sharing fleets in disadvantaged communities
- Mobility options may include:
 - First/last mile connections to shuttles, car sharing, or public transportation
 - Assistance for paratransit, senior communities, or other underserved groups to benefit from advanced technology car sharing

Vehicle Retirement and Replacement Plus-Up Pilot Project



- AKA EFMP Plus-Up
- \$2 million for FY 2014-15
- Additional \$ to lower-income EFMP consumers in disadvantaged communities for purchase of cleaner, advanced technology replacement vehicles
- \$5,000 to \$9,500 toward advanced technology vehicles

Financing Assistance Pilot Project

- \$5 million for FY 2014-15
- Develop improved financing options for lower-income consumers in disadvantaged communities to purchase cleaner, advanced technology vehicles

Other Consumer Incentives

- Single Occupant Carpool Lane Access
 - BEVs, FCEVs, & CNG get white decal
 - PHEVs get green decal
- Decal Status
 - White decal is unlimited
 - Green decal is currently capped at 70K
 - 60,537 issued as of February 26
 - About 12 months at current rate (1,200/month)



Building a Fueling Infrastructure

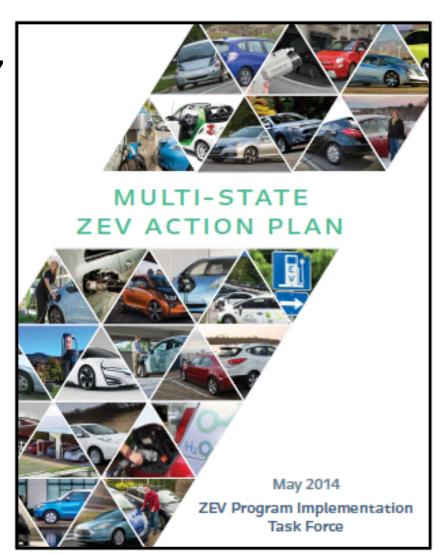
- Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)
 - Funded by AB 118
- Both electric and hydrogen infrastructure
 - \$44 million to date for chargers
 - \$4 million for regional planning
 - \$47 million to more than double the number of H2 fueling stations to 54 on path to goal of 100



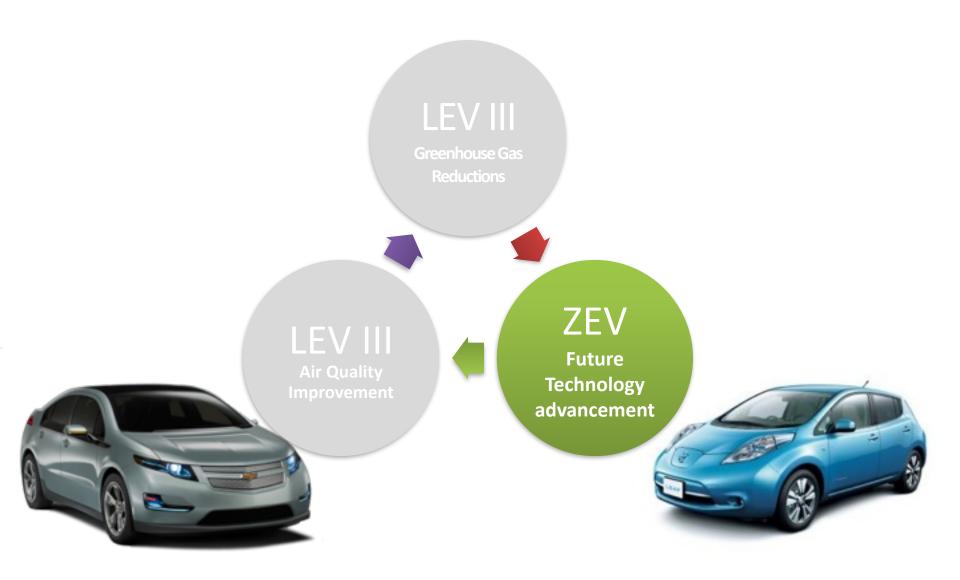


Multi-State ZEV Action Plan

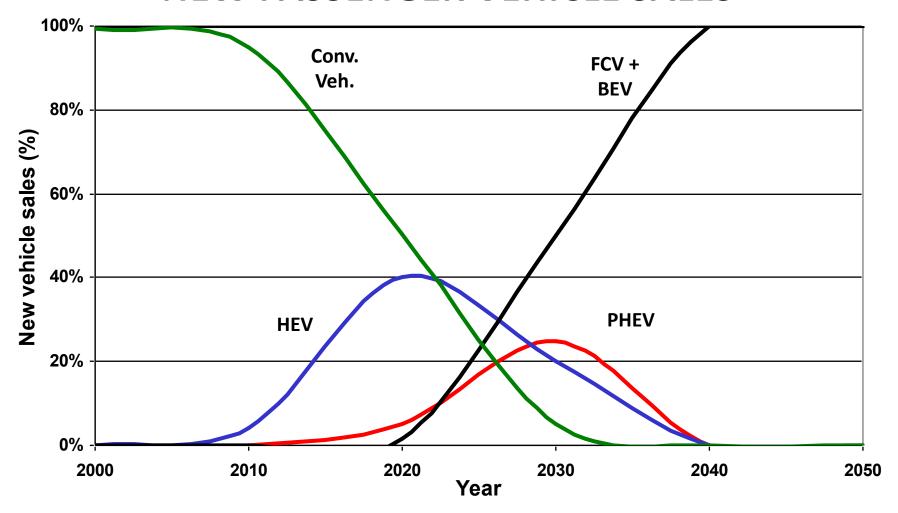
- CA, CT, MA, MD, NY, OR, RI, and VT
- Informed by intensive stakeholder process
- Released May 2014
- 11 priority actions to:
 - support MOU goals
 - guide interstate coordination
 - advise state-specific action



ZEV Regulation



MEETING 2050 GOALS: NEW PASSENGER VEHICLE SALES



ZEV sales reach 100% by 2040, but on-road fleet is still mixed: ZEVs are 87% of on-road fleet in 2050

Section 177 States – ZEV Adoption

- Nine additional states implementing ZEV Regulation:
 CT, MA, MD, ME, NJ, NY, OR, RI, VT
- S177 Compliance 1.4x CA compliance
- California working with sibling states in developing and supporting activities







Thanks For Joining Us!

Next Meeting – Wed, May 13th

- Pre-meeting 5pm
- PG&E, Rates, EVSE Pilot, 25,000 charger proposal
- CEC Plans

Thanks to our Host Nissan Motors



Thanks to Phil Haupt Electric for refreshments



VOLUNTEERS



SacEV Needs Your Help:

- Dealer Management
- Program Creation
- Meet up
- Event Planning
- Event Activities
- Youth Events
- Workplace Charging
- MUD Charging