CVRP Implementation Status Update

CVRP Long-Term Planning Workshop

8 December 2015, Sacramento CA
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Additional thanks to John Anderson, Clair Johnson, and others at CSE
Outline

• Background

• CVRP: Implementation Overview
  – Rebate Processing
  – Outreach
  – Transparency

• Long-term Planning Assets: Public Data & Tools
  – Rebate Data & Dashboard
  – Survey Data & Dashboard

• Summary of Program Participation
  – Rebated Consumers: Who? Why?
Background
Center for Sustainable Energy (CSE)

- Building Performance
- Clean Transportation
- Distributed Generation
- Energy Efficiency
- Energy Storage
- Renewable Energy
CSE’s Plug-In & Fuel-Cell Electric Vehicle (EV) Activities

- **Incentives Design & Administration**
- **Consumer & Dealer Outreach**
- **Stakeholder Engagement**
- **Fleet Assistance & Clean Cities**
- **PEV, Alt.-Fuel, & ZEV Planning & Implementation**
- **2nd Life Battery Research & Vehicle-Grid Integration**
CSE has processed >130k rebates totaling >$275M

California (CVRP), 2010–present
- 2007 Legislation (AB118, then AB8) allowing vehicle registration fees
- Greenhouse Gas Reduction Fund

Massachusetts (MOR-EV), 2014–present
- Regional Greenhouse Gas Initiative

Connecticut (CHEAPR), 2015–present
- Utility Settlement
- Both a vehicle rebate and dealer incentive
  - Consumer can also assign vehicle rebate to dealer
CVRP Implementation Overview
Rebate Processing
Application: Simplicity is Key

Step 1: Go to cleanvehiclerebate.org

Step 2: Select your vehicle and fill out application

Step 3: Submit supporting documentation

Step 4: Receive check in mail
Drive clean and save

California residents get up to $5,000 for the purchase or lease of a new, eligible zero-emission or plug-in hybrid light-duty vehicle.

Vehicles and eligibility

Apply within 18 months of purchase/lease of an eligible vehicle and before rebate funds are exhausted. See complete eligibility guidelines.
Maneje limpio y ahorre

Los residentes de California pueden recibir hasta $5000 para la compra o el alquiler de un vehículo nuevo elegible, que puede ser un vehículo de cero emisiones o un vehículo híbrido enchufable liviano.

¿Es su primera vez en el CVRP?

Solicite un reembolso

¿Ya hizo una solicitud?

Ver el estado de su solicitud

Vehículos y elegibilidad

Presente su solicitud dentro de los 18 meses posteriores a la compra o el alquiler de un vehículo elegible y antes de que se agoten los fondos para reembolsos. Consulte los lineamientos de elegibilidad completos.

Vantage EVX1000  
$900

Chevrolet Spark EV  
$2,500

GEM e2  
$900

Hyundai Sonata Plug-in Hybrid  
$1,500

Tesla Roadster  
$2,500

cleanvehiclerebate.org/es
Application: Simplicity is Key

- Streamlined application process (10 mandatory fields)
- Upload documents online or send via email
- Possible to complete at dealership
Application: Simplicity is Key

- Streamlined application process (10 mandatory fields)
- Upload documents online or send via email
- Possible to complete at dealership

One third of applications are submitted within **one day of purchase**
Over half of applications are submitted **within 7 days of purchase**
Nearly 80% of applications are submitted within 30 days of purchase
Processing: Automation is Key

• Eligibility pre-screening and application detail verification

• Application status updates and emails

• Reduced administrative burden and allows us to focus on approving applications

Applications approved in ~5 days from submittal
Check Sent Timeline

Waitlist

~14k checks in 7 business days
Check Sent Timeline

Waitlist

~14k checks in 7 business days

Checks sent

Avg time from approval to check sent

Date Check Sent

Checks Sent

Days
Outreach
Outreach: New Car Shoppers

Target Audience: Lowest Barriers to EV Adoption

- Homeowners
- 2-car households
- Affluent (HHI: $100K+)
- College educated+

Activities:

- Community and industry events with branded booth and marketing materials
- Digital marketing through CVRP Social Media pages and promotion
- Project website and new content
Outreach: New Car Shoppers

Target Audience: Lowest Barriers to EV Adoption

• Homeowners
• 2-car households
• Affluent (HHI: $100K+)
• College educated+

Activities:

• Cross-Program Collaboration
  – CVRP collateral distribution at events
  – Cross-promotion via digital marketing
  – Examples:
    • Statewide Test Drive Campaigns
    • Energy Upgrade California
Outreach: New Car Shoppers

Target Audience: Lowest Barriers to EV Adoption

• Homeowners
• 2-car households
• Affluent (HHI: $100K+)
• College educated+

Results FY 14-present:

• Events: +130
• Collateral Distributed: +7.5K
• Conversations: +14K
• CVRP website page views: ~25K/month
Outreach: Underserved Communities

Target Audience:
• Disadvantaged communities (DACs)
• Non-DAC low-to-moderate income consumers

Activities:
• Integrate CVRP messaging into community based organizations and other agencies through workshops and events
  – Charge Ahead Coalition
  – Energy Upgrade California
  – GRID Alternatives
  – Building Healthier Communities
  – Air Districts
Outreach: Underserved Communities

Target Audience:
• Disadvantaged communities (DACs)
• Non-DAC low-to-moderate income consumers

Activities:
• Increase usability and accessibility of the CVRP website and marketing collateral
  – New content targeted to underserved communities
  – Underserved communities FAQs
  – Multi-lingual resources
Outreach: Underserved Communities

Target Audience:
• Disadvantaged communities (DACs)
• Non-DAC low-to-moderate income consumers

Results FY 14-present:
• Events: +30 (40 additional planned for FY 15-16)
• Collateral Distributed: +1.5k
• Conversations: +1K
Stacked Incentives: LMI Increased Incentive

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>CVRP</th>
<th>CVRP-LMI (≤300% FPL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen Fuel-Cell Electric Vehicles</td>
<td>$5,000</td>
<td>$6,500</td>
</tr>
<tr>
<td>Battery Electric Vehicles (＆i3 REx)</td>
<td>$2,500</td>
<td>$4,000</td>
</tr>
<tr>
<td>Plug-in Hybrid Electric Vehicles</td>
<td>$1,500</td>
<td>$3,000</td>
</tr>
<tr>
<td>Neighborhood Electric Vehicles</td>
<td>$900</td>
<td></td>
</tr>
<tr>
<td>Zero-Emission Motorcycles</td>
<td>$900</td>
<td></td>
</tr>
</tbody>
</table>
Stacked Incentives: South Coast and San Joaquin

FPL = federal poverty level (a function of household size). 300% of FPL for a 3-person HH is ~$73k/y.
Outreach: Dealerships & Sales Staff

- Quarterly sales staff webinars
- OEM- and dealer-association-sponsored group training
- Direct dealership outreach
- 1-on-1 inquiry support
- Dealership-targeted outreach brochure and EV marketing materials
Transparency
Transparency

- Real time or near-real time data updates
- Facilitates informed decision making for consumers and stakeholders
- Provides data for measuring incentive and outreach effectiveness
- Reduces administrative burden
Public Tools and Available Data
Planning Inputs/Assets
Rebate Dashboard: Filters

Filter by:
- Consumer type
- Vehicle category
- Make
- Region:
  - Air district
  - Utility territory
  - County
  - Legislative district
  - Disadvantaged Community status
  - Funding Source
- Application date
Rebate Dashboard: Results

Results by:

• Rebated vehicles and funds:
  – Life-of-project (grey headings) vs. filtered selection (black)

• Rebated vehicles:
  – By month
  – By vehicle category
    • Filtered totals and %

• Downloads:
  – Images
  – Raw data (incl. Census tract)
Rebate Map

- Rebated vehicles and funds over the life of the project by:
  - County
  - Utility
  - Air District
  - Zip Code (census tract coming soon)
  - State Assembly District
  - State Senate District
- PDF image download
Consumer Survey Dashboard

- All rebate recipients invited to take a survey
- >25,000 CVRP responses
- Topics include:
  - Demographics
  - Information channels
  - Purchase motivations and enablers
  - Dealership experience
  - Utility rate awareness
- Filter by: vehicle category, buy/lease, make, region
- Survey results reasonably represent all rebate recipients
Program Participation
Rebated Vehicles & Rebated Consumers
Program Participation

• Rebated Vehicles (application data)
  – How many? What type?
  – Where?
  – Rebated at what rate?

• Rebated Consumers (survey data)
  – Who?
    • Demographic and housing characteristics
    • Income comparisons
  – Why?
    • Motivations to purchase
    • Impact of rebate
How many?  What type?

Rebated Vehicles
Cumulative CVRP Rebates by Vehicle Category

Through Nov 2015, approved and in progress applications
Share by Vehicle Category:
All PEVs, Rebates, DAC Rebates

Rebates through Nov 2015. Overall market includes vehicles registered prior to 6/1/2015 and uses content supplied by R.L. Polk & Co.; Copyright © R.L. Polk & Co., 2015. All rights reserved
Cumulative Rebates by Major Brand

Through Nov 2015, approved and in progress

- Chevrolet
- Nissan
- Tesla
- Toyota
- Ford
- Other Brands
- FIAT
Rebate Share by Major Brand: CA & DACs

- **Chevrolet**: 21%
- **Nissan**: 20%
- **Tesla**: 15%
- **Toyota**: 14%
- **Ford**: 12%
- **Other Brands**: 9%
- **FIAT**: 9%

*Through Nov 2015, approved and in progress. “Major” > 10,000 rebates*
Rebate Dollars to Disadvantaged Communities

Vehicles purchased/leased through Nov 2015, approved and in progress
Context Is Important  (2014)

DACs as a Percentage of Entire State (2014)

<table>
<thead>
<tr>
<th>Category</th>
<th>Rest of State</th>
<th>DAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (CES)</td>
<td>~25%</td>
<td></td>
</tr>
<tr>
<td>LDV Sales</td>
<td>17.0%</td>
<td></td>
</tr>
<tr>
<td>Comparable LDV Sales</td>
<td>16.6%</td>
<td></td>
</tr>
<tr>
<td>ZEV Sales</td>
<td>7.0%</td>
<td></td>
</tr>
<tr>
<td>Rebates</td>
<td>6.3%</td>
<td></td>
</tr>
</tbody>
</table>

Rebates as a % of Comparable New Car Sales
(2014 calendar year)

Includes vehicles purchased/registered in 2014. Uses content supplied by R.L. Polk & Co.; Copyright © R.L. Polk & Co., 2015. All rights reserved
Where?
Rebated Vehicles
Rebates by County (thru May 2015), Growth (2013 to 2014)
Rebates by County & Normalized to Comparable Sales (thru May 2015)

Per 1,000 vehicles

- 50.3
- 10.5
- 13.1
- 937
- 16,995
- 28,935
Rebates by Census Tract: Los Angeles Region

As of 10/25/2015
Rebated at what rate?
Rebated Vehicles / Eligible Vehicles
CVRP Participation (March 2010–March 2015)*

- Statewide, life-of-program average participation rate >74%
- >67% for PHEV consumers
- >81% for BEV consumers

*Topic brief available for download from the Program Reports page at https://cleanvehiclerebate.org
CVRP Participation by Major Vehicle Category

Participation Rate

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%


BEV
PHEV

69%
70%
96%
67%
55%

Topic brief available for download at https://cleanvehiclerebate.org
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CVRP Participation by Major Vehicle Brand

- Chevrolet: 77%
- Ford: 59%
- Nissan: 86%
- Tesla: 80%
- Toyota: 64%

Topic brief available for download at https://cleanvhecilerebate.org
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CVRP Participation by Vehicle Category
(for major brands offering multiple categories)

- **Chevrolet**
  - PHEV: 77%
  - BEV: 78%

- **Ford**
  - PHEV: 56%
  - BEV: 77%

- **Toyota**
  - PHEV: 63%
  - BEV: 76%

Topic brief available for download at https://cleanvehiclerebate.org
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Who is participating?
Rebated Consumers
Rebated Consumer Characteristics

**Gender**
- Female: 25%
- Male: 75%

**Age**
- 80+: 1%
- 70-79: 5%
- 60-69: 16%
- 50-59: 27%
- 40-49: 28%
- 30-39: 19%
- 21-29: 4%
- 16-20: 0%

**Education**
- Postgraduate degree: 49%
- Bachelor's degree: 34%
- Associate degree: 5%
- Some college, no degree: 10%
- High school graduate or equivalent: 2%
- 12th grade or less: 1%

**Housing**
- Own: 85%
- Rent: 15%

Total Responses: 25,217

Overall Time Frame: 9/1/2012–11/15/2015
# Majority Characteristics of CVRP Consumers

<table>
<thead>
<tr>
<th></th>
<th>CVRP rebate recipients (CVRP 2012–2015)</th>
<th>New-vehicle “intenders” (CHTS 2012)</th>
<th>CA residents (Census 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>40–59 years old</strong></td>
<td>55%</td>
<td>52%</td>
<td>27%</td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>83%</td>
<td>66%</td>
<td>31%</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>49%</td>
<td>34%</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>75%</td>
<td>49%</td>
<td>50%</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>64%</td>
<td>76%</td>
<td>62%</td>
</tr>
<tr>
<td>Detached homes</td>
<td>83%</td>
<td>75%</td>
<td>66%</td>
</tr>
<tr>
<td><strong>$50–200k/y household income</strong></td>
<td>61%</td>
<td>58%</td>
<td>51%</td>
</tr>
</tbody>
</table>

*Weighted CHTS data*
By Product Type

PHEV consumers tend to more often be:

• Older
• Female
• Renters
• Multi-unit dwellers
• 1-vehicle households
• Lower income

Total PHEV Gender Responses: 9,266, BEV Gender Responses: 14,942
Overall Time Frame: 9/1/2012–11/15/2015
Over Time: Gender

Total Responses: 23,371
Overall Time Frame: 9/1/2012–9/30/2015

Percent of responses

<table>
<thead>
<tr>
<th>Year</th>
<th>Q3</th>
<th>Q4</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>21%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>18%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td>30%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td>28%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Female | Male
Rebate Recipients Over Time: Housing Type

- **Overall Time Frame:** 9/1/2012 – 9/30/2015

- **Total Responses:** 23,859

- **Percent of responses by quarter and year:**
  - **2012:**
    - Q1: 15%
    - Q2: 13%
    - Q3: 19%
  - **2013:**
    - Q1: 15%
    - Q2: 13%
    - Q3: 19%
  - **2014:**
    - Q1: 20%
    - Q2: 19%
    - Q3: 19%
  - **2015:**
    - Q1: 20%
    - Q2: 19%
    - Q3: 19%

**Legend:**
- **Green:** Apartment or condominium
- **Teal:** Attached house (townhome, duplex, triplex, etc.)
- **Blue:** Detached house (single family home)
- **Gray:** Other

Total Responses: 23,859
Overall Time Frame: 9/1/2012–9/30/2015
Spotlight: Income Comparisons
Rebate Recipient Household Income Distribution

Total Responses: 20,251
Overall Time Frame: 9/1/2012–11/15/2015
Updated: November 2015
Rebate Recipient Household Income by Product Type

Total Responses: 20,251
Overall Time Frame: 9/1/2012–11/15/2015
CVRP Income Dist. Through Time

- Total Responses: 20,251
- Overall Time Frame: 9/1/2012–11/15/2015
New-vehicle “intenders” and CVRP Income Distributions: Unweighted vs. Weighted

- CVRP (Unweighted)
- CVRP (Weighted)
- CHTS (Unweighted)
- CHTS (Weighted)

- $250,000 or more
- $200,000 to $249,999
- $150,000 to $199,999
- $100,000 to $149,999
- $75,000 to $99,999
- $50,000 to $74,999
- $25,000 to $49,999
- Less than $24,999

Weighted CVRP (2012-2014) & CHTS (2012) data
California Median Household (HH) Incomes

<table>
<thead>
<tr>
<th>California population (Census 2014)</th>
<th>New-vehicle &quot;intenders&quot; (CHTS 2012)</th>
<th>CVRP rebate recipients (CVRP 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>~$61,500</td>
<td>$75,000-$99,999</td>
<td>$150,000-$174,999</td>
</tr>
</tbody>
</table>

Weighted or unweighted CVRP (2014) & weighted or unweighted CHTS (2012) data
## CA Median HH Incomes: All vs. DAC

<table>
<thead>
<tr>
<th></th>
<th>New-vehicle “intenders” (CHTS 2012)</th>
<th>CVRP rebate recipients (CVRP 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All:</strong></td>
<td>$75,000-$99,999</td>
<td>$150,000-$174,999</td>
</tr>
<tr>
<td><strong>DAC:</strong></td>
<td>$25,000-$49,999</td>
<td>$75,000-$99,999</td>
</tr>
<tr>
<td><strong>DAC/All</strong></td>
<td>25-67%</td>
<td>43-67%</td>
</tr>
</tbody>
</table>

Weighted or unweighted CVRP (2014) & weighted CHTS (2012) data
New-vehicle “intenders” and CVRP Income Distributions: All vs. DACs

Weighted CVRP (2014) & weighted CHTS (2012) data
Rebate Recipients and New-vehicle “intenders” with Low-to-Moderate Income

<table>
<thead>
<tr>
<th></th>
<th>LMI (CVRP, 2014)</th>
<th>LMI (CHTS, 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA Overall</td>
<td>4% - 10%</td>
<td>28% - 42%</td>
</tr>
<tr>
<td>In DACs</td>
<td>10% - 25%</td>
<td>57% - 71%</td>
</tr>
</tbody>
</table>

Weighted CVRP (2014) & weighted CHTS (2012) data
Why are they purchasing/leasing?

Rebated Consumers
Primary Purchase Motivations: BEV vs. PHEV

BEV Respondents
- Saving money on fuel costs: 30%
- Reducing environmental impacts: 25%
- HOV lane access: 10%
- Increased energy independence: 5%
- Vehicle performance: 5%
- A desire for newest technology: 5%
- Other: 15%

Total Responses: 15,274
Overall Time Frame: 9/1/2012–11/15/2015

PHEV Respondents
- Saving money on fuel costs: 40%
- Reducing environmental impacts: 25%
- HOV lane access: 20%
- Increased energy independence: 15%
- Vehicle performance: 10%
- A desire for newest technology: 5%
- Other: 5%

Total Responses: 9,533
Overall Time Frame: 9/1/2012–11/15/2015
Primary Purchase Motivations: Non-Tesla vs. Tesla BEV

**BEV Leases**
- Saving money on fuel costs: 40%
- Reducing environmental impacts: 25%
- HOV lane access: 15%
- Increased energy independence: 10%
- Vehicle performance: 5%
- A desire for newest technology: 2%
- Other: 5%

Total Responses: 9,627  
Overall Time Frame: 9/1/2012–11/15/2015

**Tesla Purchases**
- Saving money on fuel costs: 45%
- Reducing environmental impacts: 25%
- HOV lane access: 15%
- Increased energy independence: 10%
- Vehicle performance: 5%
- A desire for newest technology: 2%
- Other: 5%

Total Responses: 3,748  
Overall Time Frame: 9/1/2012–11/14/2015
Primary Purchase Motivations: Non-Tesla vs. Tesla BEV

San Bernardino/Riverside BEV Leases

- Saving money on fuel costs: 60%
- Reducing environmental impacts: 10%
- HOV lane access: 5%
- Increased energy independence: 3%
- A desire for newest technology: 2%
- Vehicle performance: 2%
- Other: 15%

Total Responses: 335
Overall Time Frame: 9/17/2012–10/31/2015

Marin Tesla Purchases

- Saving money on fuel costs: 20%
- Reducing environmental impacts: 50%
- HOV lane access: 1%
- Increased energy independence: 13%
- A desire for newest technology: 8%
- Vehicle performance: 12%
- Other: 11%

Total Responses: 103
Overall Time Frame: 11/9/2012–9/12/2015
Would you have purchased or leased your vehicle without the state vehicle (CVRP) rebate?
Parting Thoughts
Cumulative CA Zero Tailpipe Emission Vehicles (ZEVs)

Goal: 1.5M by 2025

Most recent quarter partial (data thru May 2015).
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We work nationally in the clean energy industry and are always open to exploring partnership opportunities.
Comparison Groups & Data sources

- **General population:**
  - U.S. Census Bureau, 2009-2013 5-Year American Community Survey

- **Population intending to buy a new vehicle within 5 years:**
  - Caltrans, 2012 California Household Travel Survey (CHTS)
  - Note: CHTS was drawn from a representative sample, but how well do new-vehicle “intenders” represent state’s new-vehicle buyers?

- **Clean Vehicle Rebate Project (CVRP):**
  - Consumers:
  - Vehicles:
    - CSE, California Air Resources Board CVRP rebate application data, March 2010–November 2015 (or appropriate subset)

- **Overall vehicle markets:**
  - Polk registration data March 2010–May 2015