

Air Quality Improvement Program (AQIP) and Low Carbon Transportation Investments Fiscal Year 2015-16

Clean Vehicle Rebate Project (CVRP) Work Group Handout

February 5, 2015
1:30 PM – 4:00 PM PST

1. Status Update

- CVRP rebate demand since project inception
 - Over 90,000 rebates issued
 - Over \$190 million invested
- Fiscal Year (FY) 2014-15
 - Average monthly rebate demand: 3,700 rebates
 - Average monthly expenditure: ~\$8.0 million (includes administration fee)
 - Rebate applications for battery electric vehicles (BEVs) currently higher than plug-in hybrid electric vehicles (PHEVs)
 - ~60% BEVs and ~40% PHEVs

Figure 1: Monthly rebate demand (January 2012 - December 2014)

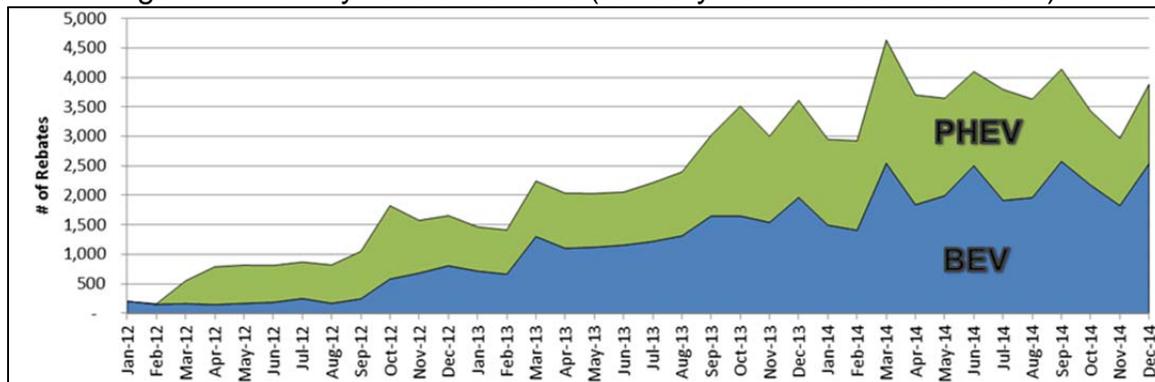
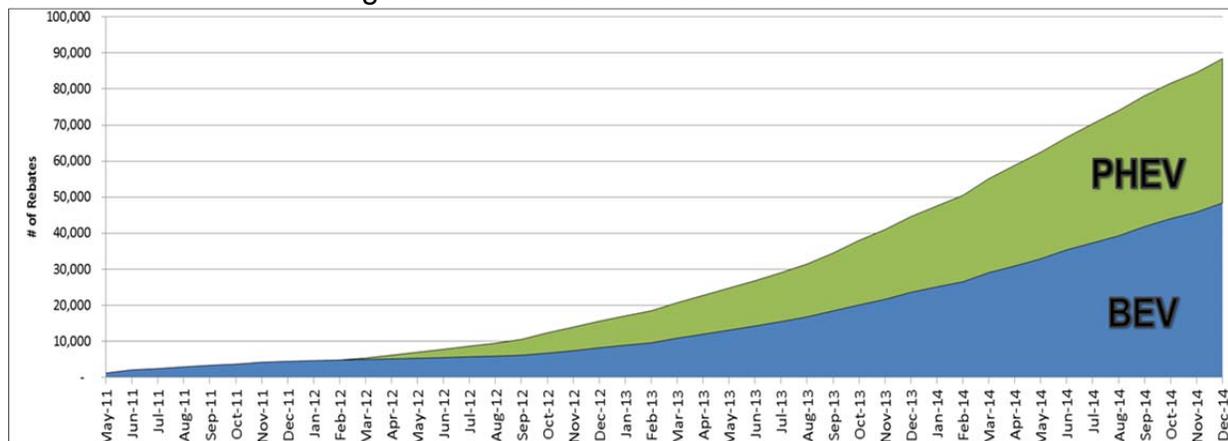


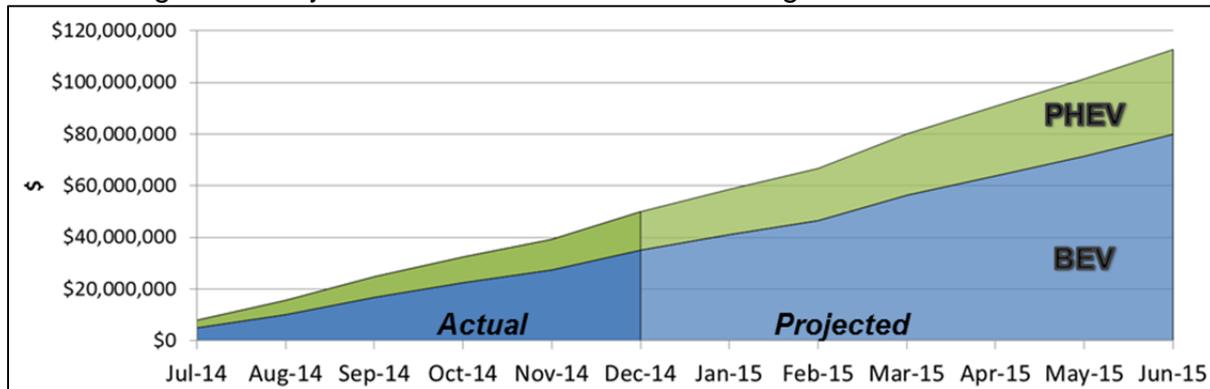
Figure 2: Cumulative Rebate Demand



2. CVRP Projections

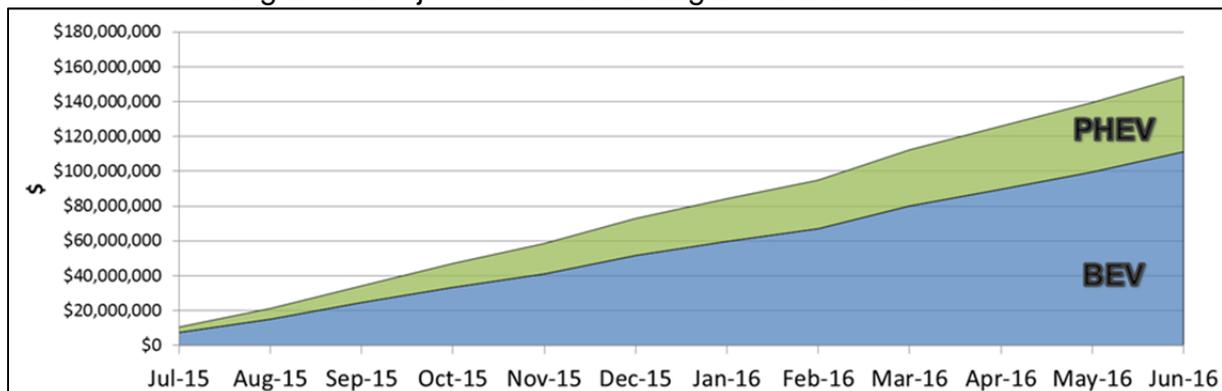
- Projections based on data through December 2014
 - Based on linear growth trend and takes into account monthly variations
 - Early and dynamic market, projected estimates may change as more data becomes available
- Projected demand for FY 2014-15: ~52,000 rebates, ~\$115 million
 - ARB staff estimates that CVRP will stay within its \$120 million budget

Figure 3: Projected Cumulative Rebate Funding Demand: FY 2014-15



- Projected demand for FY 2015-16: 70,000 rebates, ~\$150-160 million
 - At current vehicle rebate levels, without project modifications
 - Represents about 35 percent growth from projected FY 2014-15 demand

Figure 4: Projected Total Funding Demand: FY 2015-16



3. SB 1275 Requirements

Health and Safety Code (HSC) 44258.4(c)(3) requires ARB to take the following actions:

- No later than **June 30, 2015**, adopt revisions to the criteria and other requirements for the CVRP, established pursuant to HSC 44274, to ensure the following:
 - Rebate levels can be phased down in increments based on cumulative sales levels as determined by ARB
 - Consideration of the conversion to prequalification and point-of-sale rebates or other methods to increase participation rates
 - Eligibility is limited based on income

Requirement 1: Rebate Levels can be phased down in increments based on cumulative sales levels as determined by ARB

- Technology evaluation milestones for CVRP were adopted in the FY 2014-15 Funding Plan based on project goals and metrics for measuring project's success¹
 - Milestones set to evaluate the state of the three main technology types as they approach specific levels
 - When advanced technology cars, such as plug-in electric vehicles (PEVs), cumulatively represent around 5 percent of annual new passenger car sales in California, they begin to shift out of the early adopter market (1-2 percent of sales) and fast-follower (2-5 percent of sales) market segment². Once the advanced car market reaches beyond the fast-follower market, vehicle prices may be reduced
 - Current market share of PEVs: ~3.1%³
 - Additional research in this area will be necessary
 - Beginning with FY 2014-15 as the baseline, and considering projected rebate demand and total passenger car sales, staff believes that this threshold will likely be achieved once milestones of about 150,000 rebates for BEVs, 150,000 rebates for FCEVs, and 75,000 rebates for PHEVs are met for each individual technology type
 - Staff proposes that evaluations of progress toward reaching these milestones begin once vehicle volumes reach the halfway point for each initial target
 - Phasing down rebate levels at this time may be appropriate
 - Technology evaluation milestone half way points are not expected to be reached in the FY 2015-16 funding cycle

¹ http://www.arb.ca.gov/msprog/aqip/fundplan/final_fy1415_aqip_ggrf_fundingplan.pdf (see pages 40 and 41 of Funding Plan)

² National Research Council (2013). Overcoming Barriers to Electric-Vehicle Deployment: Interim Report.

³ 2014 Update to the Board: Advanced Clean Cars Program Midterm Review. ARB Staff Board Presentation, October 23, 2014.

- Potential metrics were also identified in the FY 2014-15 Funding Plan, with continued evaluation and revision expected each year
 - Three primary metrics
 - State of zero-emission vehicle market
 - Household ownership patterns
 - Manufacturer achievements
- An analysis to be included in the FY 16-17 Funding Plan to develop a long-term plan to, among other things, phase down rebate levels based on sales is currently underway (as required by HSC 44258.4(c)(1)(A))

Requirement 2: Consideration of the conversion to prequalification and point-of-sale rebates or other methods to increase participation rates

- Participation in CVRP is high among California ZEV purchasers
 - Based on staff estimates, CVRP has supported ~70% of all CVRP eligible PEVs purchased or leased in California
 - Analysis based on comparing CVRP rebate data with DMV new car registration data
- Converting to a point-of-sale model may lead to providing rebates to consumers who would have adopted the advanced technology vehicles without CVRP
- Staff does not believe that the FY 2015-16 funding cycle is the appropriate time to make such a change to the rebate distribution system
 - The popularity of CVRP is largely due to its simplicity
 - Modifying the rebate structure will add complexities to the program on top of other SB 1275 requirements
 - ARB staff will reconsider converting to a prequalification or point-of-sale rebate model in future funding cycles

Requirement 3: Eligibility is limited based on income

- The data provided is generated from the CVRP survey⁴ to inform the discussion on implementing this SB 1275 requirement
 - NOTE: Survey data sample currently represents over 14,000 respondents
 - ~15% of CVRP participants
 - ~10% of all clean vehicle purchasers
- ARB staff has analyzed detailed CVRP demographic and purchase motivation data and the results are shown below

⁴ <http://energycenter.org/clean-vehicle-rebate-project/survey-dashboard>

Survey Data: Understanding the Income Distribution of CVRP Survey Respondents

- In order to understand the potential impact of an income eligibility limit, data on the income distribution of CVRP participants are shown below
- Responses to the following survey question was used to generate the data in Figure 5 and Figure 6:
 - Question 40) What is your current annual gross household income from all sources (i.e. before taxes)?

Figure 5: Overall Household Income Distribution of CVRP Survey Respondents

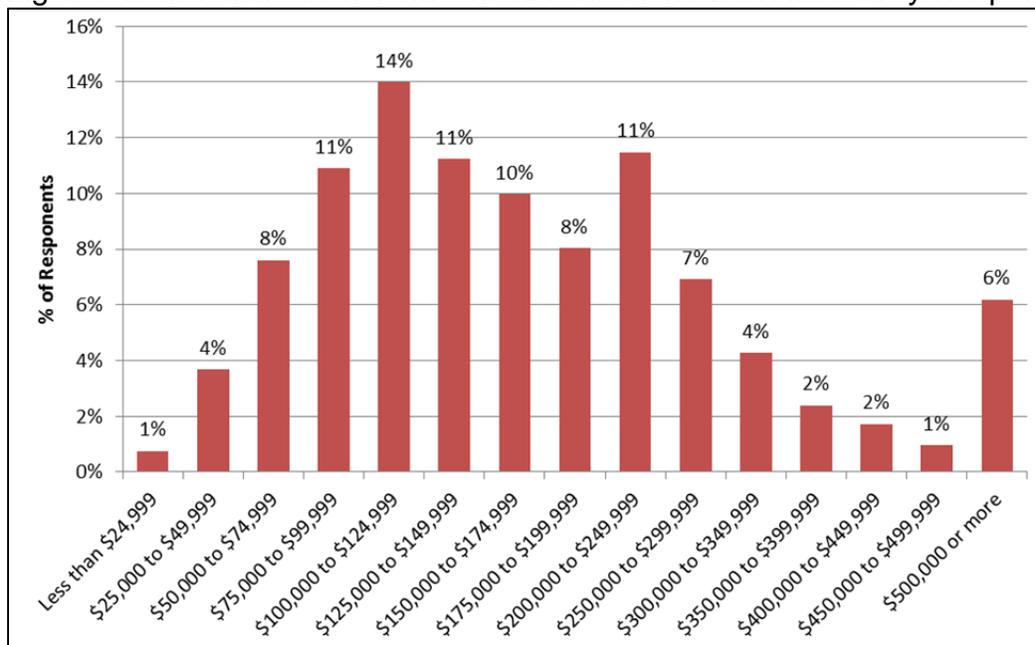
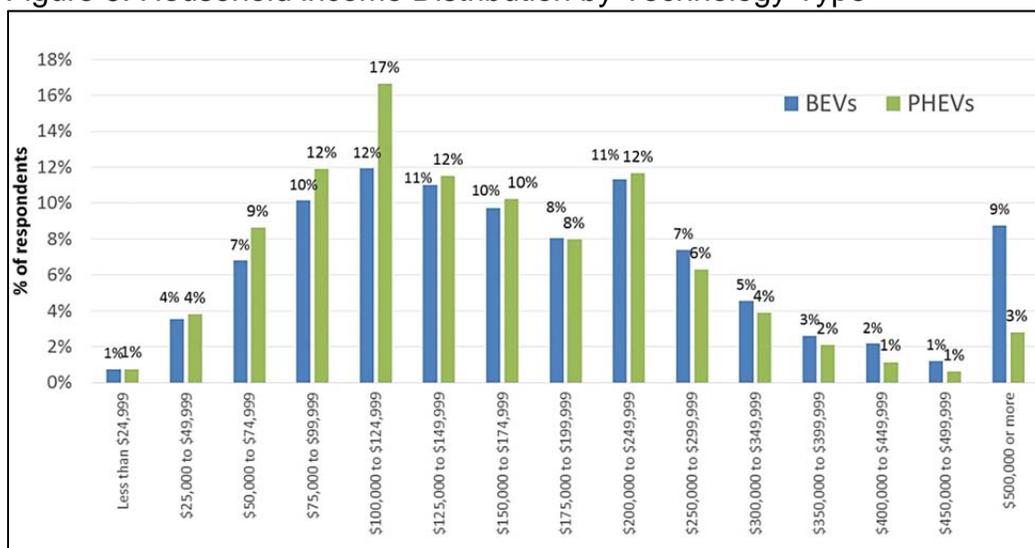


Figure 6: Household income Distribution by Technology Type



Survey Data: Understanding the Purchase Motivation of Participants Regarding CVRP Rebates

- In order to understand the potential impact of an income eligible limit to the market, it is important to understand the effectiveness of CVRP rebates in influencing acquisitions of advanced clean vehicles
- Responses to the underlined survey questions were used to generate the data in Table 1:
 - Question 14) How important were each of the following factors in your decision to acquire a PEV?
 - a) Saving money on fuel costs
 - b) Reducing environmental impacts
 - c) High Occupancy Vehicle (HOV) lane access
 - d) Increased energy independence
 - e) A desire for the newest technology
 - f) Vehicle performance
 - g) Supporting the diffusion of EV technology
 - h) Other
 - Question 16) How important were each of the following factors in making it possible for you to acquire a PEV?
 - a) Federal Tax Credit
 - b) State Rebate (CVRP)
 - c) The option to lease a PEV
 - d) Access to workplace charging
 - e) Other incentive program

Table 1: Percentage of Respondents Who Said the Following Incentives were Very or Extremely Important in their PEV Acquisition

Income Levels	CVRP			Federal Tax Credit			HOV Lane Access		
	PHEVs	BEVs	Total	PHEVs	BEVs	Total	PHEVs	BEVs	Total
Less than \$24,999	70%	87%	80%	69%	70%	70%	68%	30%	47%
\$25,000 to \$49,999	72%	84%	78%	71%	73%	72%	58%	39%	48%
\$50,000 to \$74,999	76%	83%	80%	73%	74%	73%	54%	37%	46%
\$75,000 to \$99,999	78%	82%	80%	78%	77%	78%	55%	39%	47%
\$100,000 to \$124,999	76%	82%	78%	76%	74%	75%	60%	43%	52%
\$125,000 to \$149,999	74%	80%	77%	73%	75%	74%	61%	48%	54%
\$150,000 to \$174,999	76%	77%	77%	76%	73%	74%	64%	47%	55%
\$175,000 to \$199,999	76%	79%	78%	76%	76%	76%	66%	53%	59%
\$200,000 to \$249,999	72%	76%	74%	73%	75%	74%	71%	57%	63%
\$250,000 to \$299,999	67%	69%	68%	70%	70%	70%	70%	57%	62%
\$300,000 to \$349,999	65%	70%	68%	67%	66%	67%	69%	55%	61%
\$350,000 to \$399,999	72%	66%	68%	74%	67%	70%	79%	54%	64%
\$400,000 to \$449,999	62%	64%	63%	60%	64%	63%	61%	60%	60%
\$450,000 to \$499,999	62%	57%	58%	62%	65%	64%	79%	62%	67%
\$500,000 or more	53%	44%	46%	57%	48%	50%	69%	55%	58%
Overall Total	73%	75%	74%	73%	71%	72%	63%	49%	55%

- Responses to the following survey question were used to generate the data in Table 2:
 - Question 17) Would you have purchased or leased your PEV without the CVRP rebate?

Table 2: Percentage of Respondents Who Would NOT have Acquired their PEV without the CVRP Rebate

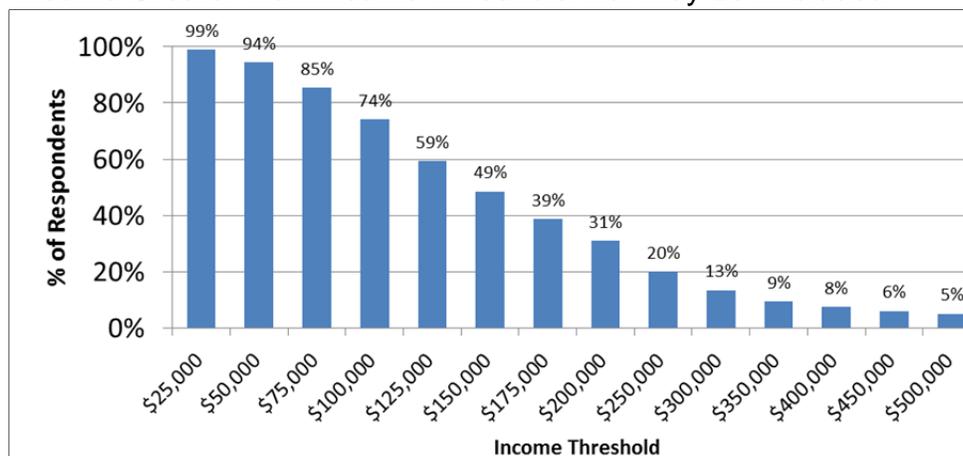
Income Levels	PHEVs	BEVs	Total
Less than \$24,999	46%	62%	54%
\$25,000 to \$49,999	45%	59%	52%
\$50,000 to \$74,999	38%	57%	47%
\$75,000 to \$99,999	45%	57%	51%
\$100,000 to \$124,999	45%	55%	50%
\$125,000 to \$149,999	46%	52%	49%
\$150,000 to \$174,999	41%	49%	45%
\$175,000 to \$199,999	45%	50%	48%
\$200,000 to \$249,999	36%	46%	41%
\$250,000 to \$299,999	36%	40%	39%
\$300,000 to \$349,999	34%	38%	36%
\$350,000 to \$399,999	26%	34%	31%
\$400,000 to \$449,999	24%	34%	31%
\$450,000 to \$499,999	34%	25%	28%
\$500,000 or more	25%	20%	21%
Overall Total	40%	47%	44%

- Note the discrepancy in responses between Table 1 and Table 2

Potential Impact to CVRP Demand Based on Various Income Eligibility Limits

- Based on the income distribution data from the survey, staff analyzed the potential impact to rebate demand based on various income eligibility limits
 - Data is based on a split of 55% BEVs and 45% PHEVs

Figure 7: Cumulative Percentage of CVRP Survey Respondents with Household Income Greater than Income Threshold that may be Excluded



Potential Impact to Market

- Staff analyzed the potential reduction to overall new advanced technology car sales based on:
 - Income distribution of CVRP survey respondents
 - Purchase motivation of CVRP survey respondents
 - Question 17) Would you have purchased or leased your PEV without the CVRP rebate?
 - Analysis does not account for the importance of CVRP rebates in influencing purchase decisions
 - Potential impact may be higher
 - Accounts for the ~30% of consumer who did not apply for a CVRP rebate
- We acknowledge the limitations of the survey data, additional research and analysis will need to be performed to determine actual market impact of income eligibility limits

Table 3: Potential Impact to Market Growth Based on Survey Data

Income Eligibility Limit	PHEV	BEV	All
\$25,000	29.1%	33.4%	31.5%
\$50,000	27.9%	31.9%	30.1%
\$75,000	25.5%	29.1%	27.5%
\$100,000	21.7%	25.0%	23.5%
\$125,000	16.2%	20.2%	18.5%
\$150,000	12.4%	16.1%	14.5%
\$175,000	9.4%	12.7%	11.3%
\$200,000	6.8%	9.8%	8.5%
\$250,000	3.8%	6.0%	5.1%
\$300,000	2.2%	3.9%	3.2%
\$350,000	1.2%	2.6%	2.0%
\$400,000	0.8%	2.0%	1.5%
\$450,000	0.7%	1.5%	1.1%
\$500,000	0.5%	1.3%	0.9%

Income Eligibility Implementation

Timeline

- SB 1275 requirements (e.g. income eligibility) for FY 2015-16 CVRP shall be adopted by ARB no later than June 30, 2015 however; implementation of these program changes will begin at a later date

Implementing Eligibility Criteria

- How will CVRP verify income?
 - Request IRS tax documents (e.g. IRS Form 1040, 4506-T⁵, etc.)
 - Self-certification
 - Require other documentation
- Which entities will be subject to income eligibility requirements?
 - Individuals and businesses
 - Public fleets
 - Rental and car share fleets
- How will income eligibility requirements be enforced?
 - Develop auditable income verification procedures

⁵ <http://www.irs.gov/pub/irs-pdf/f4506t.pdf>

- Procedures for recollecting funds
- No enforcement

Implementation Considerations

- New administrative elements:
 - Income verification
 - Additional training for dealers and CVRP staff
 - Additional outreach specifically for new program requirements
 - Upgrade data security (contingent upon income verification method)
- Minimize potential delays in rebate processing
- Structure changes in order to minimize impact to CVRP's simplicity
- Ability to identify potential fraud cases
- Identify and mitigate potential loopholes
- Others?

4. Aligning Project Demand with Proposed Budget

- Proposed budget for FY 15-16 is \$116M (\$5M from AQIP and \$111 million from GGRF)
- Projections discussed on Page 2 indicate a need of ~\$150-160 million without project modifications
- Income eligibility requirements will have impact on projections
- What additional concepts should be considered to align project demand with proposed budget?
 - Additional project modifications?
 - Contingency Plans?