CLEAN VEHICLE REBATE PROJECT™

FINAL REPORT | FY 2013–2014

CALIFORNIA CLIMATE INVESTMENTS

California Environmental Protection Agency
Air Resources Board

Center for Sustainable Energy®

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I. Executive Summary

The Clean Vehicle Rebate Project (CVRP) is one of the California Air Resources Board's voluntary incentive programs. It receives funding from several sources.

Since its start, the majority of CVRP funding has come from the Air Quality Improvement Program (AQIP). AQIP is authorized under the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air and Carbon Reduction Act of 2007 (Assembly Bill (AB) 118; Núñez, Chapter 750, Statutes of 2007) and reauthorized by AB 8 (Perea, Chapter 401, Statutes of 2013), which extended the fees that support AQIP through 2023. Through AQIP, the Air Resources Board invests in clean vehicle and equipment projects, including CVRP, that reduce criteria air pollutants and toxic emissions, often with concurrent climate change benefits. Funding for AQIP comes from smog abatement fees, vehicle/vessel registration fees, and equipment identification plate fees.

A second source of funding for CVRP is Cap-and-Trade auction proceeds appropriated to the Air Resources Board from the Greenhouse Gas Reduction Fund for Low Carbon Transportation investments.

Finally, CVRP has also received funding over several budget cycles from the California Energy Commission's Alternative and Renewable Fuel and Vehicle Technology Program and Fund, authorized by AB 118/AB 8, via interagency agreements between the Energy Commission and the Air Resources Board and budget appropriations.

The CVRP is designed to accelerate on-road deployment of zero-tailpipe-emission-capable passenger vehicles – including fuel-cell, all-battery, and plug-in hybrid electric vehicles – and to encourage clean technology innovation. In addition to providing rebates for the purchase or lease of new, eligible vehicles, the CVRP provides clean-vehicle market information to California consumers and stakeholders. The project's scope of work includes creating a website with project information and online application capabilities, statewide technology outreach and education and various other market facilitation activities.

With FY 2013–2014 funding, the CVRP issued 40,046 rebates for eligible vehicles in California, totaling $81,044,756 in rebate funds.

The CVRP distributed $81,044,756 in fiscal year (FY) 2013–2014 rebate funds to owners and lessees of 40,046 eligible vehicles in California. From project inception through the end of FY 2013–2014 funding, the CVRP has issued 69,802 rebates, totaling $146,050,207 in rebate funds. This report summarizes the funding, implementation and outcomes of the CVRP during FY 2013–2014, as well as mentioning some planned improvements for FY 2014-15.

II. Project Background

On December 1, 2009, the California Air Resources Board (ARB) awarded the Center for Sustainable Energy (CSE, then known as the California Center for Sustainable Energy) a grant to administer the Clean Vehicle Rebate Project (CVRP), a statewide clean-vehicle market facilitation project. Through a competitive grant process, the ARB has selected CSE to administer the project for each successive fiscal year.

At the onset of the project, incentives included rebates of up to $1,500 for zero-emission motorcycles (ZEMs) and neighborhood electric vehicles (NEVs); $5,000 for light-duty battery electric vehicles (BEVs) and light-duty fuel-cell electric vehicles (FCEVs); and up to $20,000 for commercial zero-emission vehicles (CZEVs). During FY 2011–2012, the ARB reduced the maximum rebate amounts to $900 for NEVs and ZEMs and $2,500 for BEVs and FCEVs in response to growing demand. CZEVs were removed from the project and are now included in the ARB's Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project. A new vehicle category, light-duty plug-in hybrid electric vehicle (PHEV), became eligible in FY 2011–2012 after commercial release of the vehicles, with a $1,500 maximum rebate amount. Table 1 lists maximum rebate amounts for FY 2013–2014.

Table 1. Maximum Rebate Amounts

Vehicle Category	Maximum Rebate Amount
BEVs	$2,500
FCEVs	$2,500; $5,000 beginning June 1, 2014
PHEVs	$1,500
ZEMs and NEVs	$900

Rebate-eligible applicants include individuals, businesses, public agencies and nonprofit organizations. Project terms and conditions, including eligibility requirements, are provided on the CVRP website and in the rebate application. These requirements and other project guidelines are updated at least annually in the CVRP Implementation Manual. All project documents are available on the CVRP web page (energycenter.org/CVRP).

The FY 2010–2011 CVRP grant included funding from both the ARB and the California Energy Commission (Energy Commission). The ARB allocated $4,692,923 toward vehicle rebates and $307,707 for administrative costs. The Energy Commission funding, in the amount of $1,877,000 for vehicle rebates and $123,000 for administrative costs, was reserved for rebates of light-duty BEVs, FCEVs, and PHEVs capable of freeway operation and certified for four or more passengers. In FY 2011–2012, the ARB allocated $16,212,532 in total CVRP funding with $15,677,518 distributed as vehicle rebates and the remainder applied to project administrative costs. In FY 2012–2013, the ARB and the Energy Commission contributed funding totaling $41,500,000 to the project.

In FY 2013–2014, the CVRP was awarded $84,550,000 in funding from several sources through Grant Number G13-AQIP-01 and two subsequent amendments. Table 2 summarizes this funding.

Table 2. FY 2013–2014 Funding

Funding Source	Grant Number	Vehicle Rebates	Project Administration	Total Funding
Air Quality Improvement Program	G13-AQIP-01	$9,640,000	$360,000	$10,000,000
Assembly Bill 101	G13-AQIP-01	$23,666,200	$883,800	$24,550,000
Senate Bill 359	G13-AQIP-01 Amendment 1	$19,280,000	$720,000	$20,000,000
Low-Carbon Transportation Investments	G13-AQIP-01 Amendment 2	$29,013,000	$987,000	$30,000,000
		$81,599,200	**$2,950,800**	**$84,550,000**

The funding sources for the original grant and Amendment 1 totaled $54,550,000. Vehicle rebate funds were fully reserved by March 28, 2015; the CVRP transitioned to a waitlist for the final three months of FY 2013–2014. An additional $30,000,000 in funding was made available from the Low-Carbon Transportation Investments through Amendment 2 to cover the waiting list.

With FY 2013–2014 funding, the CVRP issued 40,046 rebates, amounting to $81,044,756. More than 95% of total project funding was used for vehicle rebates, with the remaining amount covering project administration costs. Approximately $500,000 in vehicle rebate funds remained unallocated at the end of the project period; remaining funds were rolled into FY 2014–2015 for vehicle rebates.

III. Project Implementation

Implementing the CVRP involved coordinating activity in three main areas:

1. Rebate processing
2. Outreach and education
3. Project transparency

In response to the increased scale of the CVRP, CSE reorganized staff into two teams — operations and initiatives. During FY 2013–2014, CSE added 7 new staff members, bringing the total size of the team to 18.

The operations team ensures accurate rebate application processing within acceptable timeframes, designs quality assurance processes, enforces project requirements, undergoes quarterly internal auditing, designs standardized rebate processing training and implements cost-effective systems to ensure efficiency. The operations team grew from five to nine staff during the year. For the majority of the year, the operations team maintained an average of four full-time rebate processors. Near the end of the fiscal year, the team added three more rebate processors in response to increased application volume.

The initiatives team focuses on project transparency and equity, develops and implements project data visualization tools and supports CVRP strategic planning. This team also directs all project outreach and education efforts, as well as partnering and coordinating with clean-vehicle market stakeholders to ensure the CVRP is accessible to all eligible Californians. The initiatives team grew from six to nine staff during the year. The three new staff were brought in to provide increased subject matter expertise in marketing, clean vehicle markets and technology, fleets, and transportation equity issues.

The following sections summarize key activities and accomplishments in each of these areas for FY 2013–2014.

A. Rebate Processing

Processing rebates accurately, efficiently and transparently is central to the success of the CVRP. In FY 2013–2014, CSE continually improved rebate processing to better manage increased application volume and provide first-rate customer service for rebate applicants. During the fiscal year, four full-time rebate processors reviewed 42,203 total applications, 40,046 of which were approved. This represents more than double the 19,480 applications received in the previous year. Notably, processing times from initial application submission to approval only increased by 24% (from 17 to 21 days).

During FY 2013–2014, rebate oversubscription necessitated a waitlist. This led to longer wait times for checks for applications submitted on or after March 28, 2014. These applicants received their rebate checks in early October 2014. Upon receiving supplementary project funding, staff processed and mailed over 14,000 rebate checks in one week. In future fiscal years, funding provided by the Low-Carbon Transportation Investments should mitigate funding delays.

Quality Assurance and Control

Using detailed understanding of the rebate application process and database, staff proactively identified and resolved potential issues, including the following:

- Development and execution of weekly data validation procedures to identify and correct discrepancies in project data.
- Addition of an auditor to CVRP operations staff who performed quarterly internal audits of processed applications and financial records to ensure accuracy and compliance with project requirements.
- Implementation of a standardized training program to provide consistent, effective training for new staff while also providing increased oversight from experienced rebate processors and management.
- Implementation of positive pay on rebate payments, which compares amounts and check numbers for issued checks with those presented for payment to identify and prevent potential fraud.
- Addition of an address validation service to the rebate application process to reduce instances of incorrectly entered addresses, providing increased payment security and reporting accuracy.
- Development and implementation of a number of automated data validation and verification checks in the application process to prevent vehicles from being rebated twice, improve data quality, and pre-screen applicants who do not qualify for a rebate.
- Increased automated communication with applicants throughout the rebate process to improve customer service and foster greater project accountability and transparency.

These measures improved project quality and have laid the groundwork for additional improvements planned in FY 2014–2015.

Efficiency Improvements

CSE invested in several areas to improve rebate processing efficiency:

- Improved CVRP application database. In FY 2013–2014, CSE moved the CVRP database for tracking and processing applications to a customized implementation of a robust, cloud-based CRM system used by Fortune 500 companies. Launched in March 2014, the database collects all project and financial information in one location for each rebate application. It provides robust data and contact management tools to expand project transparency and reduces administrative costs by increasing automation, efficiency, financial control and reliability. Database features include automated emails and processes, customized rebate processing tools, standardized correspondence tracking and record keeping, secure cloud storage and secure data backups. CSE staff continued to work throughout the year to improve the database based on changing project needs.
- Integrated the CSE financial system with the CVRP database. Improvements to CVRP's database facilitated integration with CSE's financial tools, allowing staff to reduce check processing time

(from invoice creation to when the check is mailed) from four days to approximately three hours per batch of checks. Integration also allows CSE to automatically store financial information for each rebate (including funding source and batch information) on the rebate application record in the CVRP database.

- Improved equipment. CSE invested in laborsaving equipment, including a heavy-duty automated folder/inserter machine and a multi-feed postage machine to expedite mailing rebate checks.

B. Outreach and Education

The FY 2013–2014 CVRP outreach and education plan focused on targeted consumer outreach and an increased emphasis on dealer education and stakeholder partnerships.

Consumer Outreach and Education Events

In FY 2013–2014, staff participated in more than 55 consumer outreach events, attended by more than 100,000 potential clean vehicle purchasers. Of these events, six were in the San Joaquin Valley, a focus region for numerous state and local air-quality agencies. More than 10,000 consumers attended the San Joaquin Valley events, helping to increase CVRP awareness in disadvantaged communities. CSE staffed CVRP outreach booths at community events, auto shows, OEM-sponsored test-drive events, conferences and trade shows. At each event, staff provided information about clean vehicle adoption, technology and incentives. Table 3 summarizes these activities.

Table 3. Consumer Outreach Efforts

Event Type	Outreach Efforts	Direct Interactions
Consumer Education and Awareness Events	CVRP sponsorship, booth presence and presentations at a variety of events focused on consumer education	2,800
OEM Sponsored/Partner	Booth presence at OEM-sponsored vehicle outreach events	200
Trade and Auto Shows	Booth presence at major auto shows and alternative vehicle trade shows	500
Conferences and Academia	Presentations on clean vehicle adoption, technology and incentives at various academic forums and conferences	100
Total Direct Interactions		**3,600**

Utility Customer Education Program

CSE partners with CalETC – a coalition of utilities, auto manufacturers and other stakeholders – to link plug-in electric vehicle (PEV) owners who apply for a CVRP rebate to their electricity providers. The program facilitates utility notification of vehicle purchases and informs PEV owners of available charging

rates, metering options and related programs that are available to them. Applicants are pointed to relevant utility web pages and given the opportunity to opt into utility information mailing lists during the application process. Further, each CVRP participant receives an insert along with their check directing them to their utility's PEV web page. From November 1, 2013, through July 22, 2014, 31,416 rebate recipients received utility information through this partnership.

Dealer Outreach and Education

Forging strong relationships with eligible vehicle manufacturers and dealers and educating them about the CVRP are extremely important for accurately informing consumers about available incentives. CSE conducted 15 CVRP webinars targeted to eligible vehicle manufacturers and dealers, with an average attendance of more than 20 dealer representatives per webinar. Webinars connect eligible vehicle dealers with CVRP staff; and dealerships across the state regularly contact staff for CVRP and general clean-vehicle market information. Additionally, CSE has participated in dealer-led workshops, providing information on the CVRP and other clean vehicle incentives (see Table 4).

Given that dealers represent such a critical source of information to consumers, CSE has also conducted in-person outreach to enhance dealer understanding of the CVRP. The San Diego Clean Cities Coalition collaborated with CVRP staff to produce a brochure to educate dealerships throughout San Diego Gas and Electric (SDG&E) territory about a variety of PEV related topics, including the CVRP and other incentives. CVRP staff hand-delivered brochures to more than 40 dealerships and answered questions from dealership staff about the CVRP and other incentives. A copy of the dealership educational brochure is in Appendix A.

Table 4. Dealer Outreach Efforts

Event Type	Description	Direct Interactions
Dealer webinars	Conducted 15 CVRP informational webinars to describe funding levels, applicant eligibility, application processes and general project information	335 attendees
Dealer workshops	Led sales consultant training, presenting incentives and consumer education strategies to OEMs across California	200 attendees
Dealer brochures	Led distribution efforts for 11,000 dealership brochures throughout SDG&E territory	40 dealerships

C. Project Transparency

The CVRP produces valuable data and outcomes. To promote project and market transparency, CSE is committed to providing easily accessible information and unbiased analysis to clean-vehicle stakeholders and the public. This facilitates project evaluation, research and strategic efforts to develop clean-vehicle markets and encourage adoption. Important CVRP initiatives aimed at project transparency and market facilitation include the collection, processing, analysis and distribution of

rebate and survey data. These activities are described briefly, along with a number of public-facing data visualization tools developed by CSE to support these efforts. These tools are web-based and regularly updated, providing expedient and free access to project information.

Rebate Data: Funding and Vehicle Adoption Supported

Project funding. Clean-vehicle markets have rapidly expanded, and rebate funding has increased significantly each fiscal year, totaling nearly $146 million by the end of FY 2013–2014. CSE reports rebate expenditures in regular updates to ARB staff. A summary of FY 2013–2014 rebate expenditures is available in the Project Outcomes section and appendices. Further information is available via online tools (described below) that characterize funding availability in nearly real time, as well as rebate expenditures as a function of various factors such as date, geographic region and vehicle and owner type.

Vehicle adoption. By the end of FY 2013–2014, the CVRP had issued or reserved rebates for the purchase or lease of nearly 70,000 clean vehicles, making it an important source of clean-vehicle adoption data. As such, the CVRP is uniquely positioned to provide information to market stakeholders and the public. Utilities, OEMs, dealers, electric-vehicle supply equipment manufacturers, municipal planners, air-quality specialists, nonprofit organizations, state and regional agencies, academic institutions and other stakeholders regularly access rebate data through CSE's online tools and with the assistance of project staff. CVRP data and tools (detailed below) assist with a variety of market support and development activities, including private strategic planning, state and regional electric-vehicle readiness planning, utility transmission planning, targeted clean-vehicle marketing and outreach/education efforts and clean-vehicle policymaking.

A summary of FY 2013–2014 rebate-supported clean-vehicle adoption is available in the Project Outcomes section and appendices. Additionally, an estimation of CVRP participation is presented that compares rebated vehicles to the clean-vehicle market overall. Further information is available via online statistics and mapping tools that characterize and interactively display rebates issued and reserved as a function of various factors such as date, geographic region and vehicle and owner type.

Online Transparency Tools for Rebate Data

Funding availability. CSE maintains a nearly real-time funding status tool that actively queries the CVRP application database to display the amount of funding still available. This tool provides potential adopters and clean-vehicle dealers with an authoritative, up-to-date view of current funding levels, minimizing misinformation and increasing market confidence and stability.

Rebate statistics. With each rebate application, CSE collects data about the vehicle and applicant. A subset of that data, redacted to protect the anonymity of the applicants and other sensitive information, is published to an interactive data visualization tool on the rebate statistics web page (energycenter.org/cvrpstats). Users can examine rebates distributed over time or as aggregated totals (counts and funds issued) and can cut and filter the data by time period, consumer type, vehicle category, and by a variety of geographic regions at different scales of resolution. In FY 2013–2014, several features were added to the tool, most notably the ability to filter the data temporally and by

vehicle make. Images of the tool are displayed in Appendix B. The data in the tool is also available for download, allowing users to perform their own analysis.

Rebate map. In addition to the rebate statistics web page, rebate statistics are presented as an interactive rebate heat map (energycenter.org/cvrpmap). The map provides users with several layers that can be used to view rebate types and expenditures by air district, county, ZIP code and utility service territory.

Data feeding the rebate statistics page and map are updated typically twice per month.

Consumer Survey Data

As part of the CVRP, CSE conducts one of the largest surveys of clean-vehicle consumers. Previously, CSE administered a voluntary survey in six-month increments that asked consumers to provide a snapshot of vehicle use, charging behavior, access to public and residential charging infrastructure, and household demographics. CSE prepared analyses of survey data in three reports, which are available for download on the CVRP reports web page (energycenter.org/cvrpreports).

In FY 2013–2014, the ARB, CSE and researchers from UC Davis and UT Austin developed a new survey. Private, individual CVRP participants are invited to take the survey upon approval of their application. During the project period, 82% of applications were received within four weeks of vehicle purchase or lease, making the survey an effective opportunity to explore the vehicle purchase or lease process. Information collected through the survey includes motivations for acquiring a clean vehicle, information gathering, the importance and value of various incentives, dealership knowledge and services, and the consumer's intent to use special electricity rates for charging PEVs. The survey was launched in October 2013 and began collecting data from applicants that purchased a clean vehicle as of September 1, 2012. Through the end of FY 2013–2014, CSE received almost 11,000 complete responses to this survey—a response rate of approximately 19%.

Online Transparency Tools for Survey Data

Electric Vehicle (EV) Consumer Survey Dashboard. CSE collects, transforms and integrates the data collected in the consumer survey into an interactive data visualization tool: the "EV Consumer Survey Dashboard" (energycenter.org/evsurvey). The tool includes five tabs, each exploring a different aspect of the clean-vehicle acquisition process. The tabs include data about demographics, knowledge and adoption of PEV electricity rates, the dealership experience, decision factors and information channels during the new-car search. In addition to the data, each tab contains filters that allow users to cut and organize the data by geographical region, vehicle category, vehicle make and/or by whether the consumer purchased or leased the vehicle. Each tab also contains a count of how many responses are selected by the given filter combination, providing the sample size for the data displayed. Data used to populate the tool also is available for download on the page. Images of the dashboard are displayed in Appendix B, Exhibit 3.

Data feeding the EV Consumer Survey Dashboard is updated typically once per month.

Internally, CSE uses survey data to inform strategic planning for the program, particularly for outreach. Information about purchase/lease motivations, trusted information sources, demographics, and consumer experience at the dealership provide valuable inputs into the design of outreach materials, how outreach is conducted—to consumers, dealers, and other stakeholders—and where outreach efforts are concentrated. Among other uses, data collected in the survey allow CSE, ARB, and other stakeholders to track changes in market segmentation, to assess the impact and effectiveness of outreach initiatives, and to identify and address barriers to adoption in specific contexts. Data are also regularly used by stakeholders as well as regional and state government agencies to inform policy related to clean vehicle technology.

IV. Project Outcomes

This section highlights the outcomes of FY 2013–2014 CVRP funding[1].

A. Rebate Distribution Summary

With FY 2013–2014 funding, the CVRP provided 40,046 rebates amounting to $81,044,756 to California individuals, businesses, public agencies and nonprofit organizations. Individuals received more than 95% of total rebate funds. The proportion of rebate funds distributed to California businesses dropped marginally from 2.4% in FY 2012–2013 to 2.0% in FY 2013–2014. Rebates for government agencies and nonprofit organizations were minimal, accounting for less than 0.5% of rebates distributed and rebate funds allocated. In FY 2013–2014, 60% of all rebated vehicles were leased, up from 55% in FY 2012–2013.

A detailed summary of rebate distribution is located in Appendix C (Exhibits 1-7), which includes $4,000 in rebates funded by the Energy Commission in FY 2013–2014.

Rebate Distribution by Regions

In FY 2013–2014, rebates were distributed to recipients in 34 of the state's 35 air districts, representing the widest air-district distribution to date. For the second consecutive year, nearly 90% of rebates were distributed to applicants in three air districts containing the largest regional auto markets in the state: South Coast Air Quality Management District, Bay Area Air Quality Management District and San Diego County Air Pollution District. Figure 1 displays vehicle rebates by air district. Table 5 compares FY 2013–2014 rebated vehicles to total California light-duty vehicle sales.

In addition to having the largest populations, each of these air districts are targeted by first-tier automaker marketing efforts and benefit from the value of clean-vehicle access to high-occupancy vehicle (HOV) lanes. These regions also were launch areas for government-subsidized residential charging equipment incentive projects such as the EV Project.

[1] These outcomes resulted from FY 2013–2014 funding, which was expended July 5, 2013 through July 22 2014 (not fully inclusive). For simplicity, this project period is sometimes referred to as "FY 2013–2014."

Figure 1. Vehicle Rebates by Air District

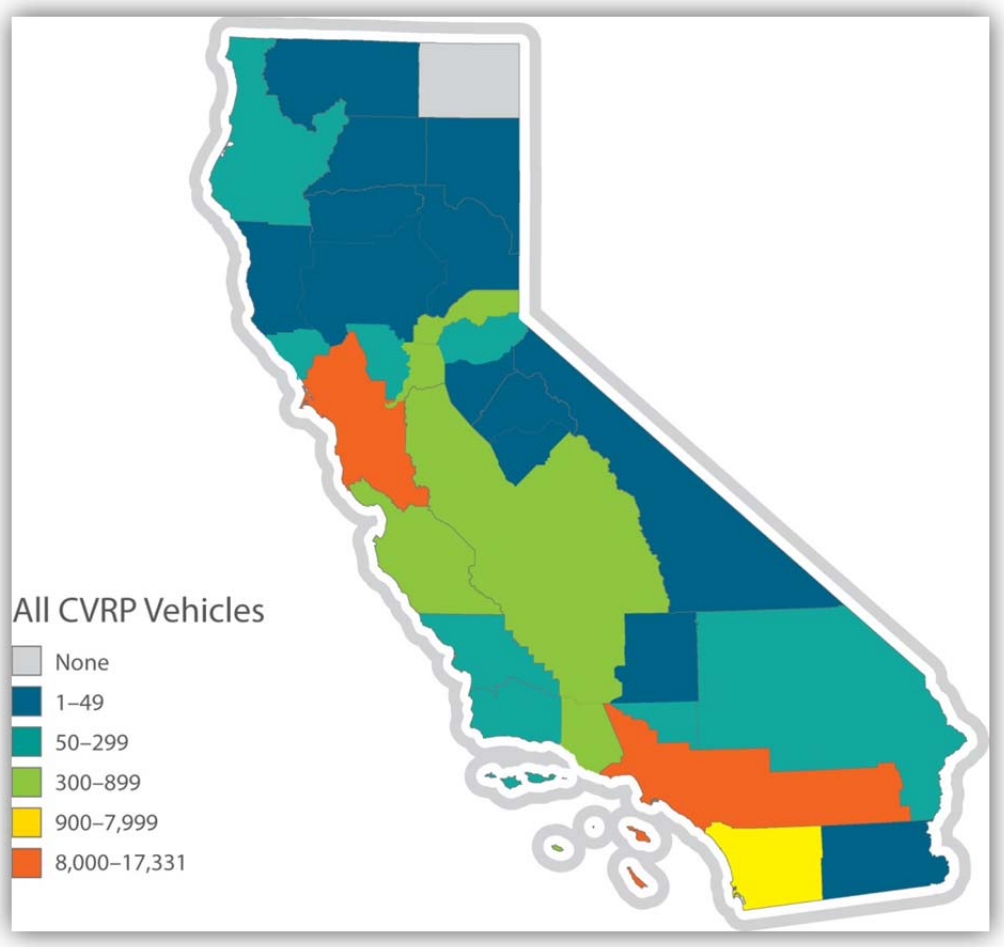


Table 5. Rebated Vehicles as a Percent of Total Light-Duty Vehicle (LDV) Sales*, Q3 2013 – Q2 2014

Region	Rebated Vehicles as Percent of Total LDV Sales
Los Angeles and Orange Counties	2.8%
Nine-County San Francisco Bay Area	4.8%
San Diego County	2.1%
California Total	2.3%

* As reported in quarterly "California Auto Outlook" reports by the California New Car Dealers Association

For the first time, the San Joaquin Valley Air Pollution Control District (Valley Air District) — a federal nonattainment area for ozone and particulate matter — ranked as the fourth most rebated air district, with 2.3% of FY 2013–2014 rebates. The Valley Air District's share of total CVRP rebates has more than doubled each year. The Valley Air District received 877 FY 2013–2014 rebates, a more than 200% increase over previous fiscal-year funding. The most frequently rebated cities in the Valley Air District

are Fresno, Bakersfield, Clovis, Mountain House and Tracy. Combined, these cities account for more than 64% of the CVRP rebates for the region in FY 2013–2014.

A complete list of rebates by air district is located in Appendix C (Exhibit 7).

B. Rebate Distribution by Vehicle Category

During FY 2013–2014, BEVs were the most frequently rebated vehicle category. Overall, BEVs received 21,055 (53%) of the 40,046 rebates issued and $52,607,348 (65%) of the $81,044,756 in funding allocated in FY 2013–2014. Comparatively, PHEVs accounted for 18,838 (47%) of rebates issued and $28,252,208 (35%) of funds allocated. NEVs and ZEMs combined represented approximately 0.3% of vehicles rebated in FY 2013–2014 and 0.1% of total rebate funds distributed.

The Nissan LEAF was the most rebated BEV and the most rebated vehicle overall, making up 38% of rebated BEVs in FY 2013–2014 and 20% of vehicles overall. The Tesla Model S 85 was the second-most rebated BEV model, accounting for 25% of BEV rebates. Several BEVs became rebate-eligible during FY 2013–2014. Of these models, the FIAT 500e accounted for the most rebates, capturing 20% of BEV rebates. Fuel-cell electric vehicles (FCEVs) received 0.1% of total rebates. The CVRP rebate amount for FCEVs was increased to $5,000 per vehicle during FY 2013–2014 to support early commercialization of several FCEV models, including the Hyundai Tucson Fuel Cell, which was released in June 2014.

The Chevrolet Volt was the most rebated PHEV, accounting for 40% of total PHEV rebates. The Toyota Prius Plug-In Hybrid was the second-most rebated PHEV, accounting for 36%. The Cadillac ELR became project-eligible in December 2013 and accounted for 0.2% of PHEV rebates.

The five eligible GEM models were the only NEVs rebated. The Zero S made up 38% of ZEM rebates, replacing the Zero DS as the most rebated ZEM during the fiscal year.

Rebate distribution maps by air district and vehicle category are located in Appendix C (Exhibits 8–11).

C. Rebate Project Participation Rate

Rebated vehicles constitute a large portion of new clean-vehicle sales in the state, but some consumers do not participate in the CVRP and some vehicles are not eligible for the project. It is useful to know how many rebates are issued as a percentage of total eligible vehicle sales — or the project's "participation rate" — for a variety of purposes. These include evaluating project impact, understanding how representative the project is of the overall clean-vehicle market in California, projecting project demand

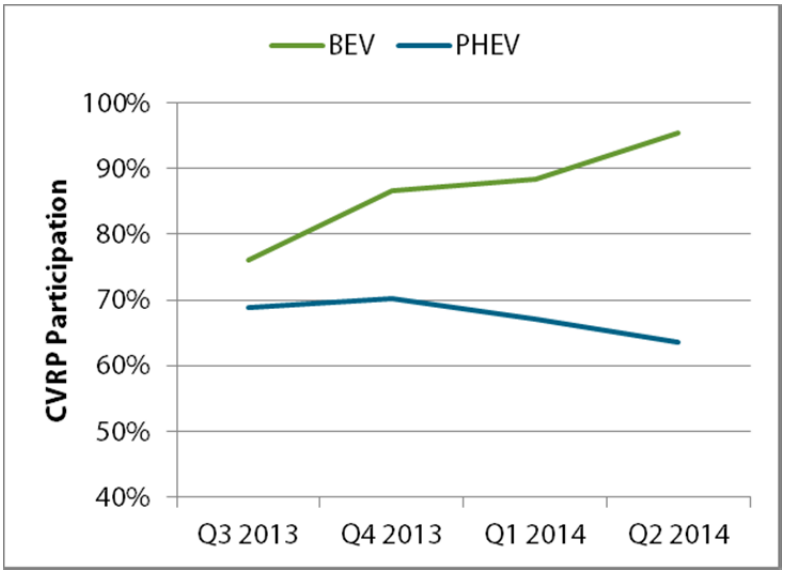
and extrapolating sales. These uses inform activities by a variety of clean-vehicle stakeholders including policymakers, public and private planners and utilities.

To assess CVRP participation rates, project rebate data was compared to new PHEV, BEV, and FCEV registrations[2] identified as eligible for CVRP.[3] Details concerning the possible overestimation or underestimation of participation rates are included at the end of this section.

From the beginning of the project through the end of June 2014, approximately 75% of eligible vehicles were rebated. At approximately 67%, PHEV participation was considerably lower than that for BEVs, which was approximately 83%.

In recent months, aggregate CVRP participation was slightly higher: from July 2013 through June 2014, CVRP participation was about 76%. However, participation rates for BEVs and PHEVs have been diverging, as shown in Figure 2.

Figure 2. CVRP Participation Over Time by Vehicle Category (July 2013 – June 2014)

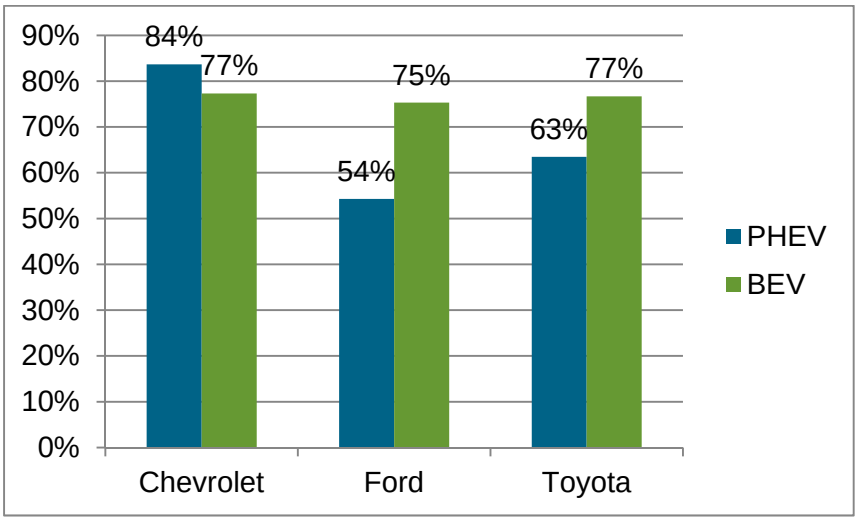


Over the 12-month period, PHEV participation averaged 67% (on par with life-of-project PHEV participation) while BEV participation was 87%, reflecting the recent increase. Further, in two of the

[2] Registration data licensed from R.L. Polk & Co; Copyright R.L. Polk & Co, 2015. All rights reserved.
[3] Vehicles are identified as CVRP eligible by make, model, series, sub series and registration month.

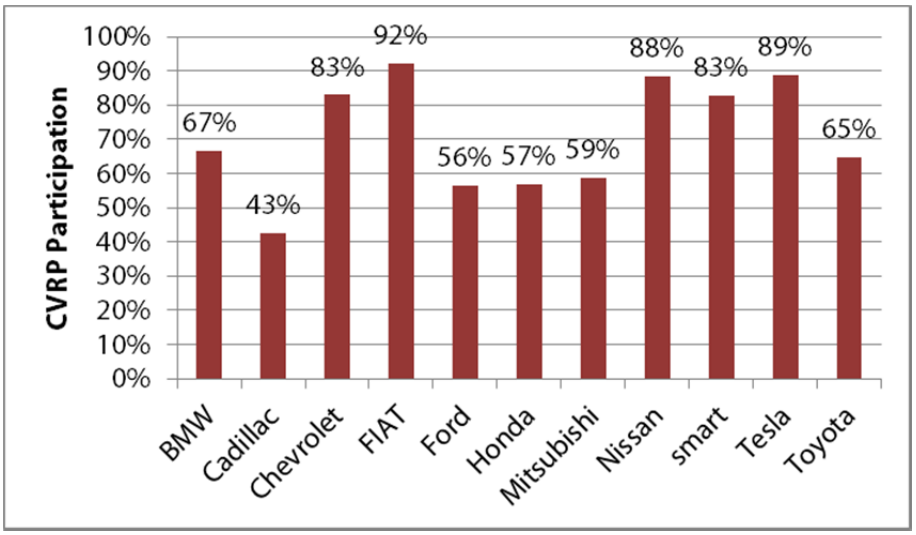
three cases where a vehicle brand offered both PHEVs and BEVs, BEV participation significantly outstripped that of the PHEV model(s), as seen in Figure 3. The one exception, the Chevrolet Volt, had the highest participation rate of any model included in Figure 3.

Figure 3. CVRP Participation by Make for Brands Offering Both PHEVs and BEVs (July 2013 – June 2014)



In addition to differences in participation among vehicle categories (even within the same brand), there was notable variation in participation rate between vehicle brands. FIAT had the highest participation rate during the 12-month period: 92% of new FIAT EVs registered were rebated. Contrastingly, only 43% of new Cadillacs were rebated. Figure 4 shows participation by eligible vehicle brand.

Figure 4. CVRP Participation by Vehicle Make (July 2013 – June 2014)



Significant geographic variation in participation also exists. Figures 5–7 illustrate the number of CVRP participants as a percentage of total new clean-vehicle registrations by county from July 2013 through June 2014. Counties in grey had insufficient data (sample size <10) for accurate calculation. No counties

had 0% participation. High rates of BEV participation are widespread (Figure 7), but the overall picture was mixed.

Figure 5. CVRP Participation by County (July 2013 – June 2014)

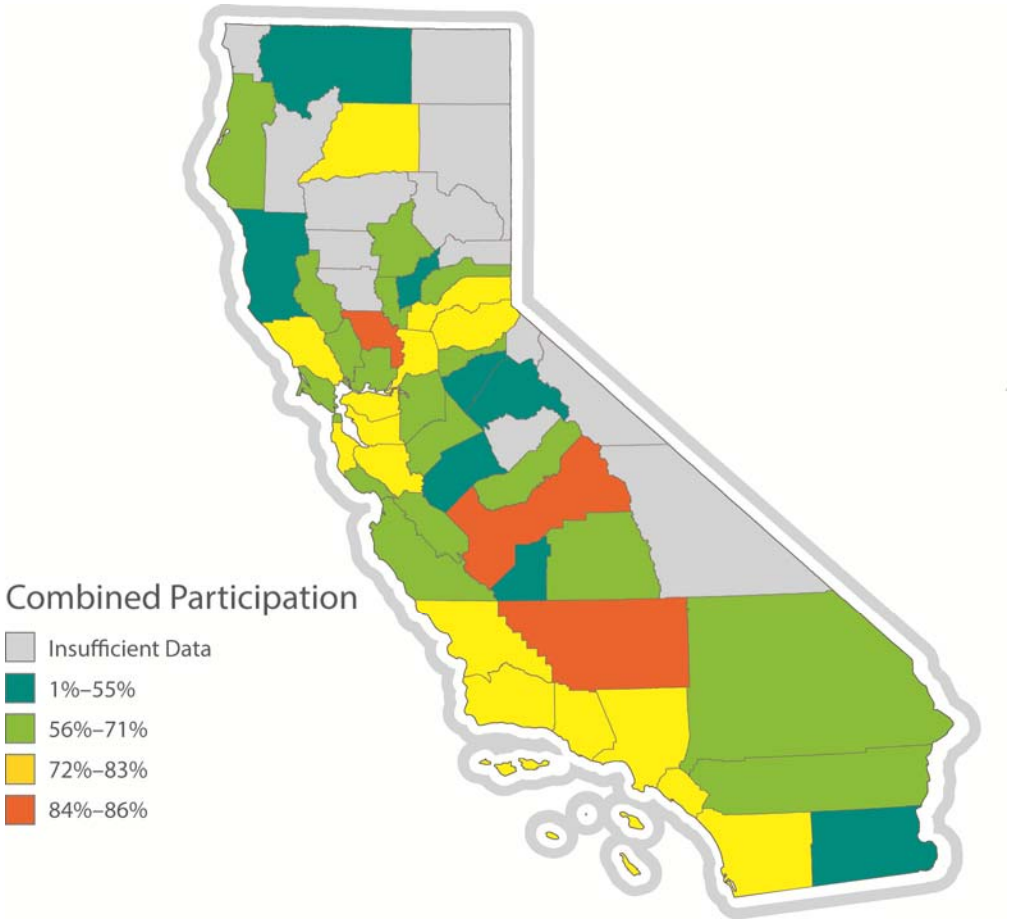


Figure 6. CVRP Participation by County (July 2013 – June 2014): PHEVs

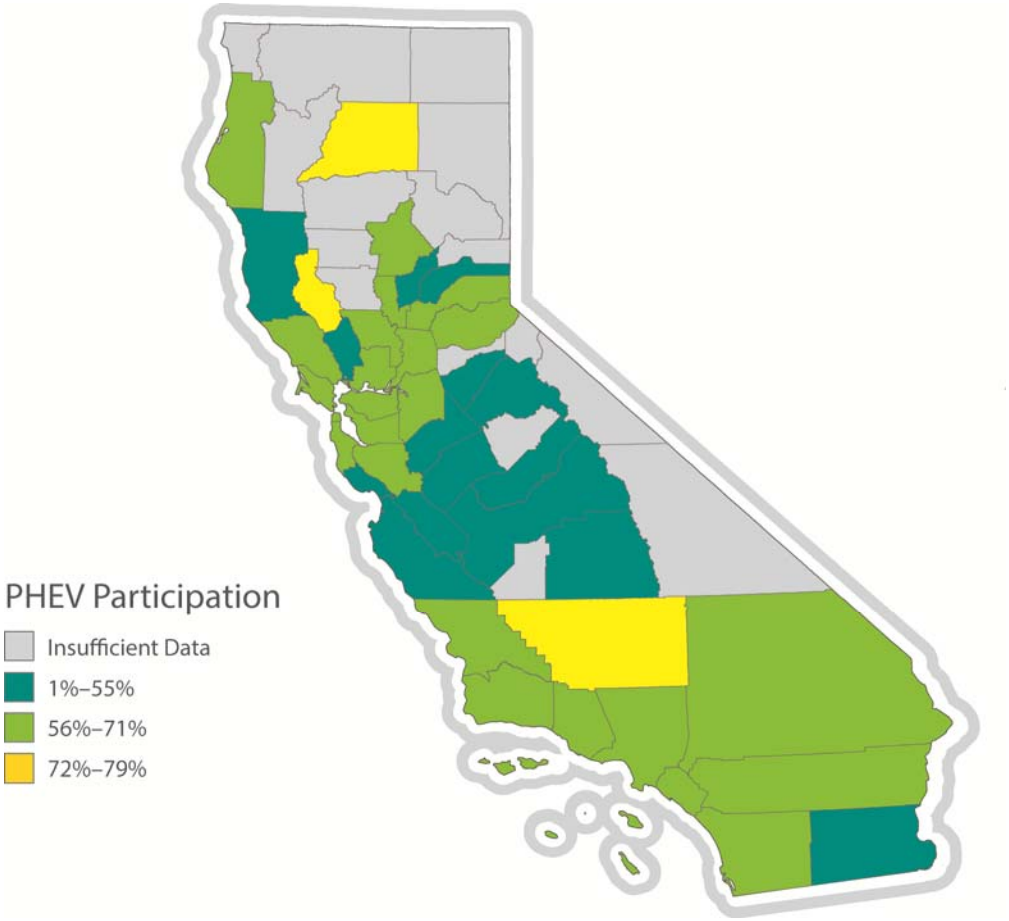
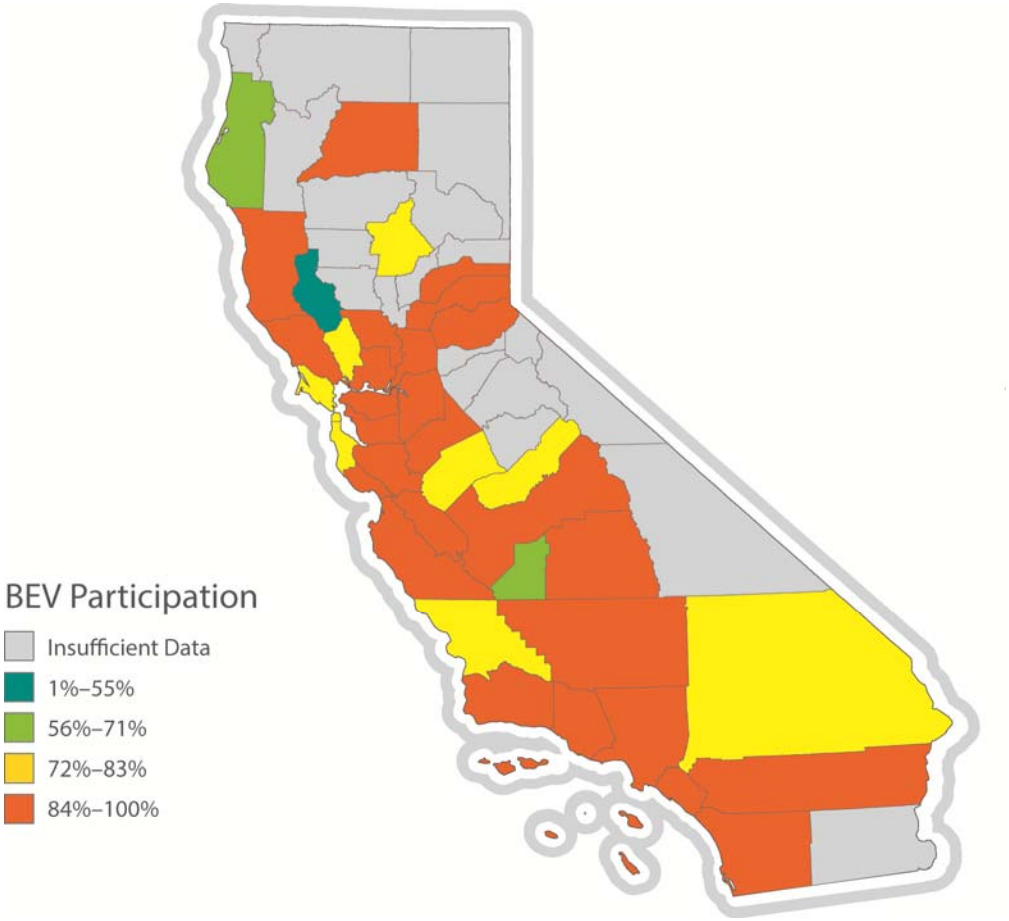


Figure 7. CVRP Participation by County (July 2013 – June 2014): BEVs



In summary, for FY 2013–2014, roughly three-fourths of all plug-in and fuel-cell electric vehicle consumers (individual, business, and governmental) have participated in the California Air Resources Board's Clean Vehicle Rebate Project.

Over four-fifths of BEV consumers participated. In contrast, only two-thirds of PHEV consumers participated. Similarly, variation in adoption exists across vehicle brand and geography.

Lower relative participation rates may be due to a variety of factors, including but not limited to the following:

- Lower levels of awareness and/or understanding of the rebate by PHEV consumers or dealers
- Lower absolute or relative incentive to participate (PHEV purchases/leases are eligible for a rebate of $1,500 versus $2,500 for BEV rebates)
- Lower motivation to participate external to the program (e.g., factors relating to consumer or dealer socio-/demo-/psycho-graphics, politics, etc.)
- Network effects relating to concentrations or volumes of clean vehicles and related activities
- Unknown barriers to participation

Several of these factors present opportunities to strategically target low-participating segments with supplemental and tailored marketing, education, and outreach, or to provide additional or complementary resources that support clean-vehicle adoption. Relative differences in participation rate warrant further exploration.

Participation Calculation Considerations

Several factors could lead to overestimation or underestimation of participation rates in the preceding sections. For example, purchase and registration date and location may vary slightly, causing imprecision. Additional factors identified, which, in aggregate, lead to underestimation of participation rates include (in order of increasing magnitude) pre-eligible Chevrolet Volts, insufficient registration data for two Honda models and unknown lease terms. Each is discussed in turn.

When introduced, the Chevrolet Volt's internal combustion engine was not certified to emissions standards required for CVRP eligibility. At least 1,861 Volts were sold before a "low emissions package" was released in February 2012. Volts registered prior to this month have been removed from the registration data and do not impact these participation calculations. However, the project received applications for a small number of ineligible vehicles in the following months, indicating a small number of ineligible Volts continued to be registered. This likely causes negligible underestimation of participation rates.

Registration data records for the Honda Fit EV and Honda FCX-Clarity were insufficient to include in the participation calculations. Totals from both models were excluded from all calculations; this has an unknown, but likely minor, impact on participation rates.

Finally, vehicles leased for terms of less than 36 months were ineligible to participate in the CVRP during this fiscal year (the requirement has since been reduced to 30 months). The registration data used in the participation calculations does allow for isolation of leased vehicles, but does not provide the term, which inhibits exclusion of ineligible, short-term leases from the participation calculations. The inclusion of vehicles with short-term leases in the calculation causes underestimation of the participation rate (of an uncertain magnitude but likely by a few percent or less).

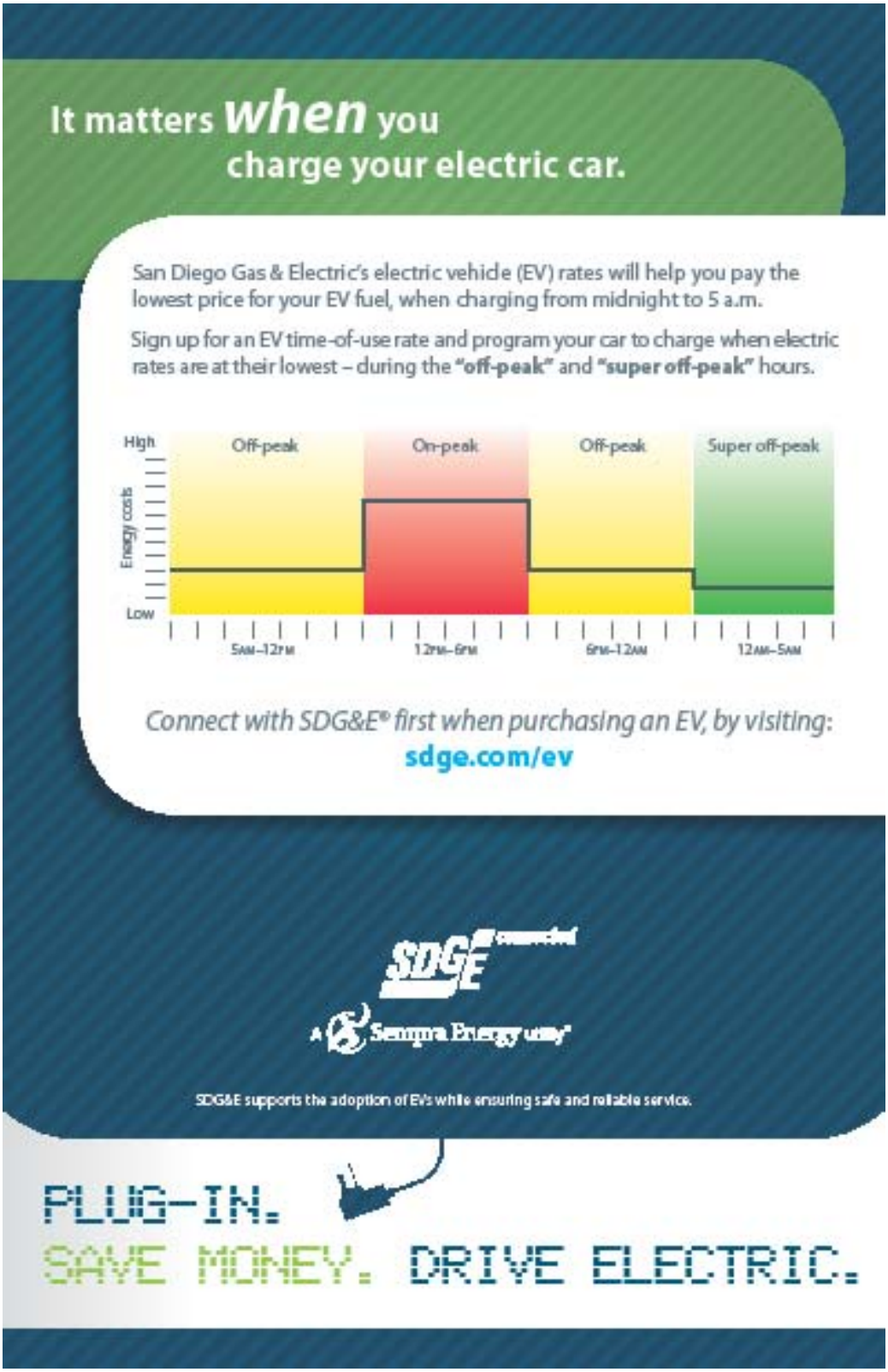
V. Summary

In support of California's ambitious air-quality and clean-transportation goals, the CVRP has issued 69,802 rebates amounting to $146,050,207 for clean vehicles since its inception in 2009. More than half of those rebates (40,046), supported by funding from ARB's AQIP and the State's Low-Carbon Transportation Investments, were issued with FY 2013–2014 funding.

To better administer the project in the face of rapid growth, CSE made numerous improvements to rebate application processes, record keeping and communication practices, improving efficiency and transparency. These improvements have laid the groundwork for substantial improvements to the project planned for FY 2014–2015, including a redesigned, standalone CVRP website; electronic supporting document submission and secure storage; all-electronic application processing and record keeping; integrated financial processing and record keeping; and enhanced and automated quality control and assurance measures. CSE has also targeted consumer outreach to dealers and stakeholders in order to reach a large, diverse and motivated audience while increasing outreach efficacy. The project further supports clean-vehicle market development by collecting, processing, and analyzing CVRP rebate and consumer-survey data and publishing it through several rich, interactive, online data visualization tools. These efforts support a wide variety of stakeholders and increase project transparency.

In FY 2013-2014, CVRP achieved its goal of accelerating the deployment of zero-tailpipe-emission-capable passenger vehicles in California and provided highly useful clean-vehicle market information to stakeholders in California and beyond.

Appendix A: Dealership Educational Brochure


It matters when you charge your electric car.
San Diego Gas & Electric's electric vehicle (EV) rates will help you pay the lowest price for your EV fuel, when charging from midnight to 5 a.m.
Sign up for an EV time-of-use rate and program your car to charge when electric rates are at their lowest – during the "off-peak" and "super off-peak" hours.
High
Low
Energy costs
Off-peak
On-peak
Off-peak
Super off-peak
5AM–12PM
12PM–6PM
6PM–12AM
12AM–5AM
Connect with SDG&E® first when purchasing an EV, by visiting:
sdge.com/ev
SDGE
A Sempra Energy utility
SDG&E supports the adoption of EVs while ensuring safe and reliable service.
PLUG-IN.
SAVE MONEY. DRIVE ELECTRIC.

California EV drivers qualify for
major incentives!
Clean Vehicle Rebate Project
State cash rebates of up to $2,500! Qualifying is easy . . .
• Purchase or lease a new eligible plug-in electric vehicle and register it in California
• Minimum 36 month lease term or ownership required
• Available to California residents, businesses and public entities
Funding based on availability and is first-come, first-served.
Federal Tax Credit
Get money at tax time!
Federal tax credits range from $2,500 to $7,500 based on battery capacity.
DMV Clean Air Vehicle Sticker
EV drivers can use the carpool lane as a single occupant.
Learn more by visiting:
energycenter.org/ev
Center for Sustainable Energy CALIFORNIA
California Environmental Protection Agency
Air Resources Board
PLUG-IN.
SAVE MONEY. DRIVE ELECTRIC.

Planning for *EV charging* across San Diego

The San Diego Association of Governments (SANDAG) is the 18 cities and county government and serves as a forum for regional decision-making and the region's planning and transportation agency. **sandag.org/energy**

SANDAG is helping to facilitate EV charging and to resolve barriers to EV charger installations through the San Diego Regional EV Infrastructure (REVI) Working Group:

Diverse Membership

- Local governments and public agencies
- Public utility and private businesses
- Not-for-profits and educational partners

Learn more: **energycenter.org/pluginready**

A number of resources on EV charging are available, including

- Department of Energy – Alternative Fueling Station Locator: **afdc.energy.gov/locator/stations**
- National Renewable Energy Laboratory, Vehicles & Fuels Research – EV vehicle and charging information: **nrel.gov/vehiclesandfuels**
- California PEV Collaborative – A resource for statewide activities, tools, resources and information: **pevcollaborative.org**

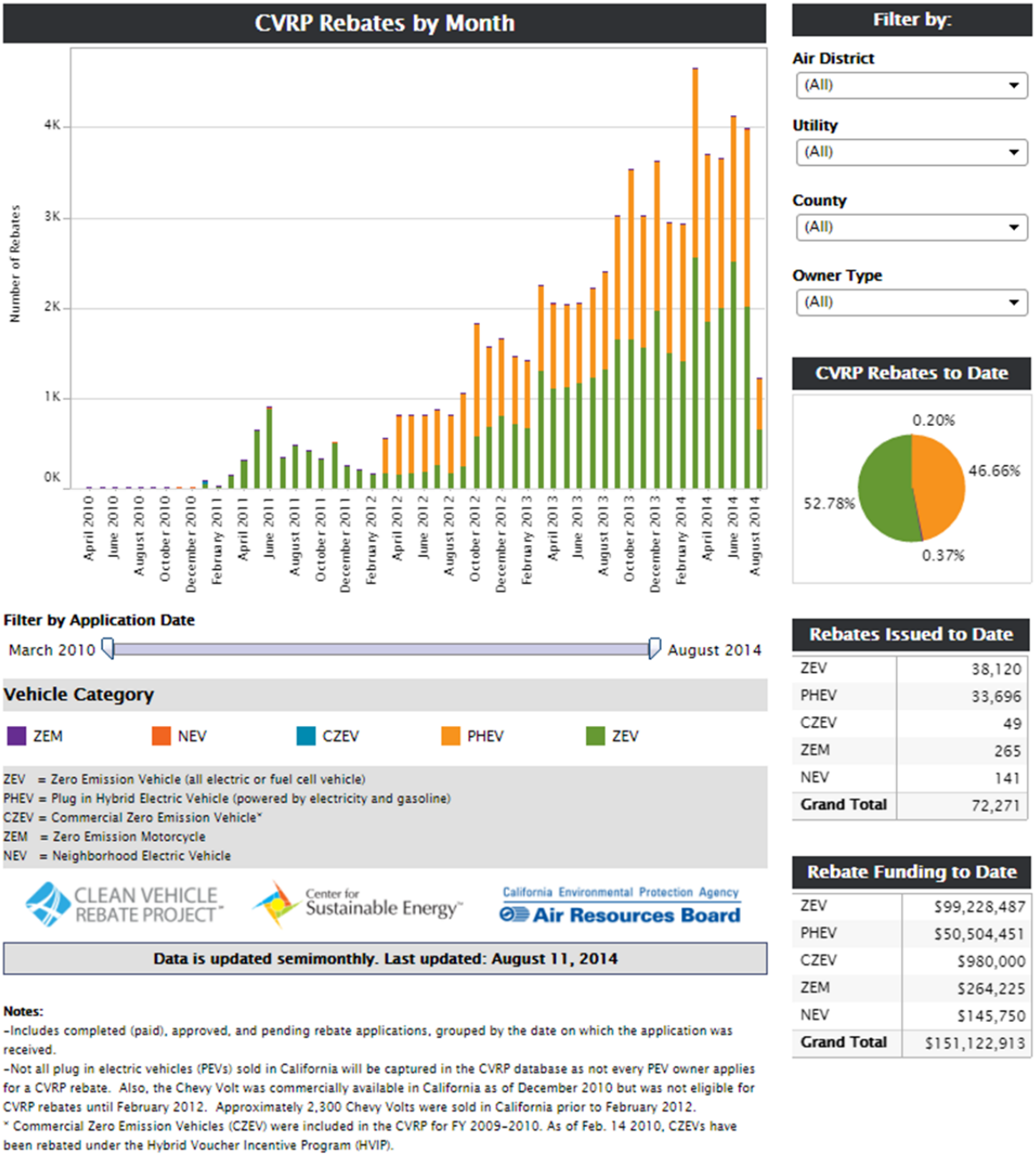
SANDAG

CERTIFIED LOGO HERE FSC

PLUG-IN.
SAVE MONEY. DRIVE ELECTRIC.

Appendix B: Online Transparency Tools

Exhibit 1. Rebate Statistics Dashboard (as of August 2014)



Rebates Issued to Date

ZEV	38,120
PHEV	33,696
CZEV	49
ZEM	265
NEV	141
Grand Total	72,271

Rebate Funding to Date

ZEV	$99,228,487
PHEV	$50,504,451
CZEV	$980,000
ZEM	$264,225
NEV	$145,750
Grand Total	$151,122,913

Exhibit 2. Rebate Statistics Map

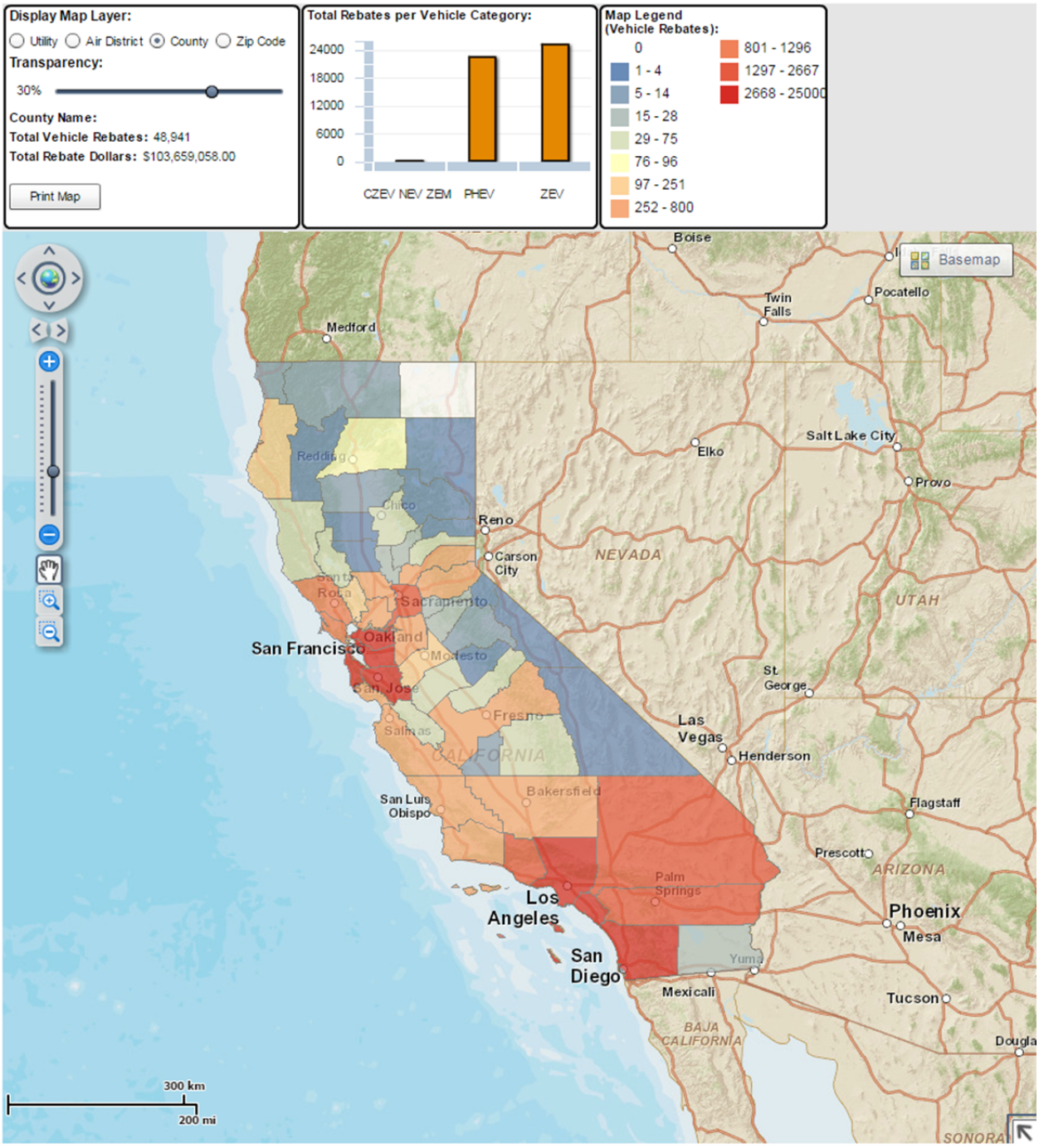
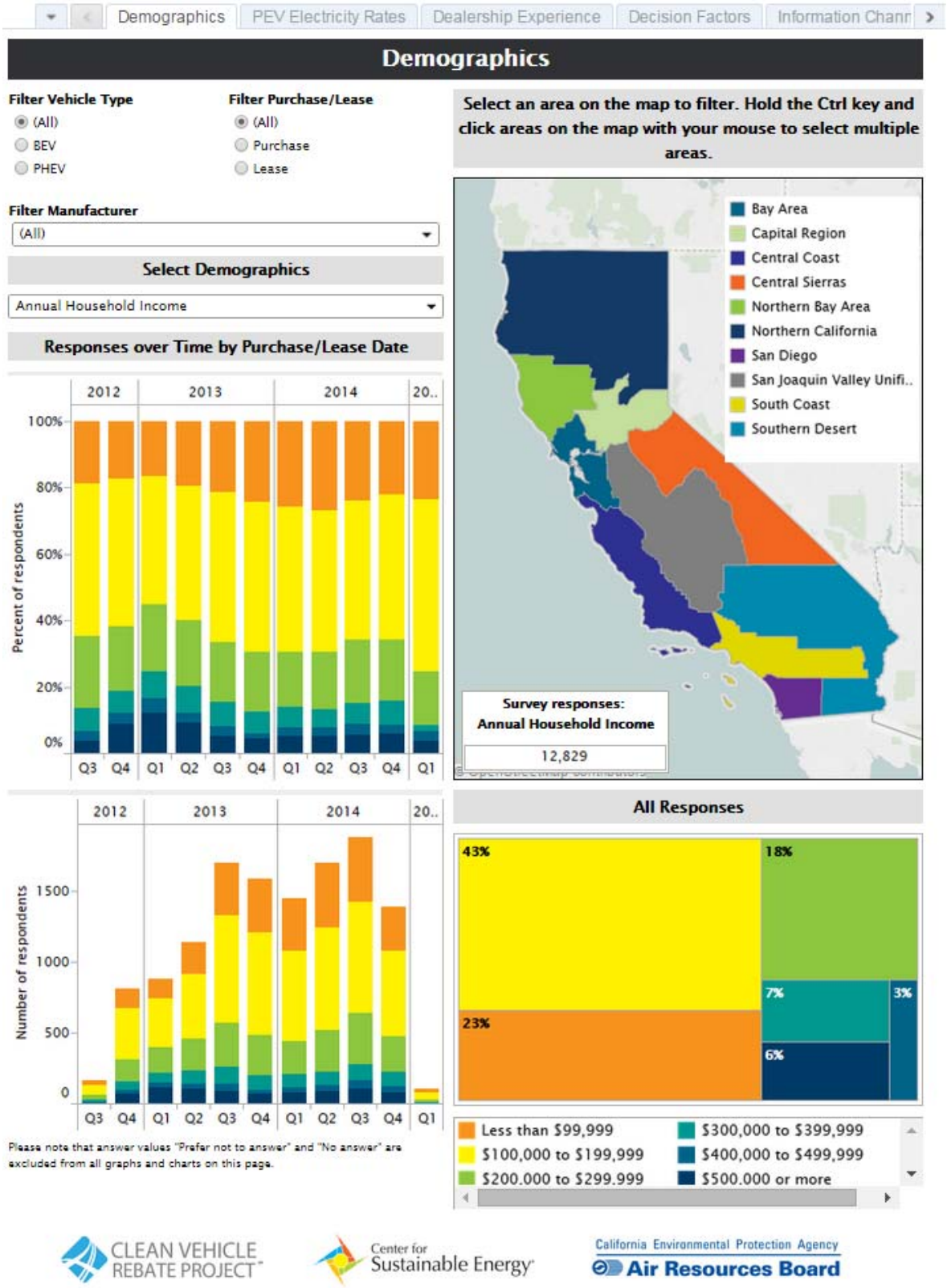


Exhibit 3. EV Consumer Survey Dashboard



Appendix C: Rebates Paid with FY 2013–2014 Funding

Exhibit 1. Rebates by Applicant Type

Consumer Type	Rebates Issued	Total Rebate Dollars	Percent of Total Dollars
Individual	39,068	$79,082,556	97.58%
Business	777	$1,596,100	1.97%
Local Government Entity	88	$184,400	0.23%
State Government Entity	53	$90,100	0.11%
Nonprofit	33	$57,900	0.07%
Federal Government Entity	27	$33,700	0.04%
Grand Total	**40,046**	**$81,044,756**	**100%**

Exhibit 2. Rebates by Vehicle Category

Vehicle Category	Rebates Issued	Total Rebate Dollars	Percent of Total Dollars
BEV ($2500/$5000)	21,055	$52,607,348	64.91%
PHEV ($1500)	18,838	$28,252,208	34.86%
ZEM ($900)	91	$81,900	0.10%
NEV ($900)	37	$33,300	0.04%
FCEV ($2500)	25	$70,000	0.09%
Grand Total	**40,046**	**$81,044,756**	**100%**

Exhibit 3. Rebates by Vehicle Model

Vehicle Model	Rebates Issued	Total Rebate Dollars	Percent of Total Dollars
BEVs	**21,055**	**$52,607,348**	**64.91%**
BMW i3	80	$200,000	0.25%
BMW i3 REx	89	$222,500	0.27%
Chevrolet Spark EV	775	$1,937,500	2.39%
FIAT 500e	4220	$10,548,125	13.02%
Ford Focus Electric	666	$1,663,056	2.05%
Honda Fit EV	171	$427,500	0.53%
Mercedes-Benz B-Class Electric Drive	2	$5,000	0.01%
Mitsubishi i-MiEV	36	$90,000	0.11%
Nissan Leaf	7896	$19,731,667	24.35%
Smart Electric Fortwo	942	$2,355,000	2.91%
Tesla Roadster	1	$2,500	0.00%
Tesla Model S - 40 kWh battery	33	$82,500	0.10%
Tesla Model S - 60 kWh battery	938	$2,343,250	2.89%
Tesla Model S - 85 kWh battery	4333	$10,819,861	13.35%
Th!nk City	2	$5,000	0.01%
Toyota RAV4 EV	870	$2,171,389	2.68%
Wheego LiFe	1	$2,500	0.00%
PHEVs	**18,838**	**$28,252,208**	**34.86%**
Cadillac ELR	33	$49,500	0.06%
Chevrolet Volt	7532	$11,298,000	13.94%
Ford CMAX Energi	1799	$2,697,083	3.33%
Ford Fusion Energi	2443	$3,664,500	4.52%
Honda Accord Plug-In	161	$241,500	0.30%
Toyota Prius Plug-In Hybrid	6870	$10,301,625	12.71%
ZEMs	**91**	**$81,900**	**0.10%**
Brammo Empulse	5	$4,500	0.01%
Brammo Enertia	3	$2,700	0.00%
Vectrix VX-1	1	$900	0.00%
Zero DS	20	$18,000	0.02%
Zero FX	12	$10,800	0.01%
Zero S	35	$31,500	0.04%
Zero SR	11	$9,900	0.01%
Zero XU	4	$3,600	0.00%

Vehicle Model	Rebates Issued	Total Rebate Dollars	Percent of Total Dollars
NEVs	**37**	**$33,300**	**0.04%**
GEM e2	4	$3,600	0.00%
GEM e4	16	$14,400	0.02%
GEM eL	1	$900	0.00%
GEM eL XD	5	$4,500	0.01%
GEM eS	11	$9,900	0.01%
FCEVs	**25**	**$70,000**	**0.09%**
Honda FCX Clarity	5	$12,500	0.02%
Hyundai Tucson Fuel Cell	3	$15,000	0.02%
Mercedes-Benz F-Cell	17	$42,500	0.05%
Grand Total	**40,046**	**$81,044,756**	**100.00%**

Exhibit 4. Rebates by Lease or Purchase

Purchase/Lease	Rebates Issued	Total Rebate Dollars	Percent of Total Dollars
Lease	23,144	$48,870,979	60.30%
Purchase	16,902	$32,173,777	39.67%
Grand Total	**40,046**	**$81,044,756**	**100%**

Exhibit 5. Purchase Price or Lease "Agreed Upon Value"

Purchase Price	Rebates Issued	Total Rebate Dollars	Percent of Total Dollars
Less than $10,000	14	$13,800	0.02%
$10,000 to $19,999.99	960	$2,209,600	2.73%
$20,000 to $29,999.99	7,434	$16,345,300	20.17%
$30,000 to $39,999.99	22,766	$42,757,500	52.76%
$40,000 to $49,999.99	3,059	$5,256,945	6.49%
$50,000 to $59,999.99	458	$1,130,500	1.39%
$60,000 to $69,999.99	34	$84,000	0.10%
$70,000 to $79,999.99	435	$1,054,750	1.30%
$80,000 to $89,999.99	1,223	$3,043,597	3.76%
$90,000 to $99,999.99	1,853	$4,628,500	5.71%
$100,000 or more	1,810	$4,520,264	5.58%
Total	**40,046**	**$81,044,756**	**100.00%**

Exhibit 6. Rebates by Rebate Amount

Rebate Amount	Rebates Issued	Total Rebate Dollars	Percent of Total Dollars
$750	7	$5,250	0.01%
$900	128	$115,200	0.14%
$1,500	18,834	$28,251,000	34.86%
$2,500	21,061	$52,652,500	64.97%
$5,000	3	$15,000	0.02%
Other	13	$5,806	0.01%
Total	**40,043**	**$81,044,756**	**100%**

Exhibit 7. Rebates by Air District

Air District	Rebates Issued	Total Rebate Dollars	Percent of Total Dollars
Amador	5	$9,500	0.01%
Antelope Valley	202	$404,000	0.50%
Bay Area	14,850	$31,136,770	38.42%
Butte	35	$68,900	0.09%
Calaveras	10	$18,000	0.02%
Colusa	2	$5,000	0.01%
El Dorado	168	$340,000	0.42%
Feather River	19	$32,500	0.04%
Glenn	2	$4,000	0.00%
Great Basin Unified	3	$5,500	0.01%
Imperial	6	$10,000	0.01%
Kern	25	$45,500	0.06%
Lake	18	$32,000	0.04%
Lassen	2	$5,000	0.01%
Mariposa	2	$4,000	0.00%
Mendocino	36	$68,000	0.08%
Mojave Desert	72	$140,400	0.17%
Monterey Bay Unified	561	$1,137,500	1.40%
North Coast Unified	59	$104,900	0.13%
Northern Sierra	34	$68,400	0.08%
Northern Sonoma	87	$181,500	0.22%
Placer	318	$655,000	0.81%
Sacramento Metro	850	$1,753,000	2.16%
San Diego	3,012	$6,351,411	7.84%
San Joaquin Valley Unified	877	$1,888,500	2.33%
San Luis Obispo	165	$353,100	0.44%
Santa Barbara	241	$509,900	0.63%
Shasta	42	$79,000	0.10%
Siskiyou	5	$9,500	0.01%
South Coast	17,332	$33,640,192	41.51%
Tehama	7	$12,500	0.02%
Tuolumne	4	$7,000	0.01%
Ventura	754	$1,472,983	1.82%
Yolo-Solano	241	$491,300	0.61%
Total	**40,046**	**81,044,756**	**100%**

Exhibit 8. Map of Rebates by Air District

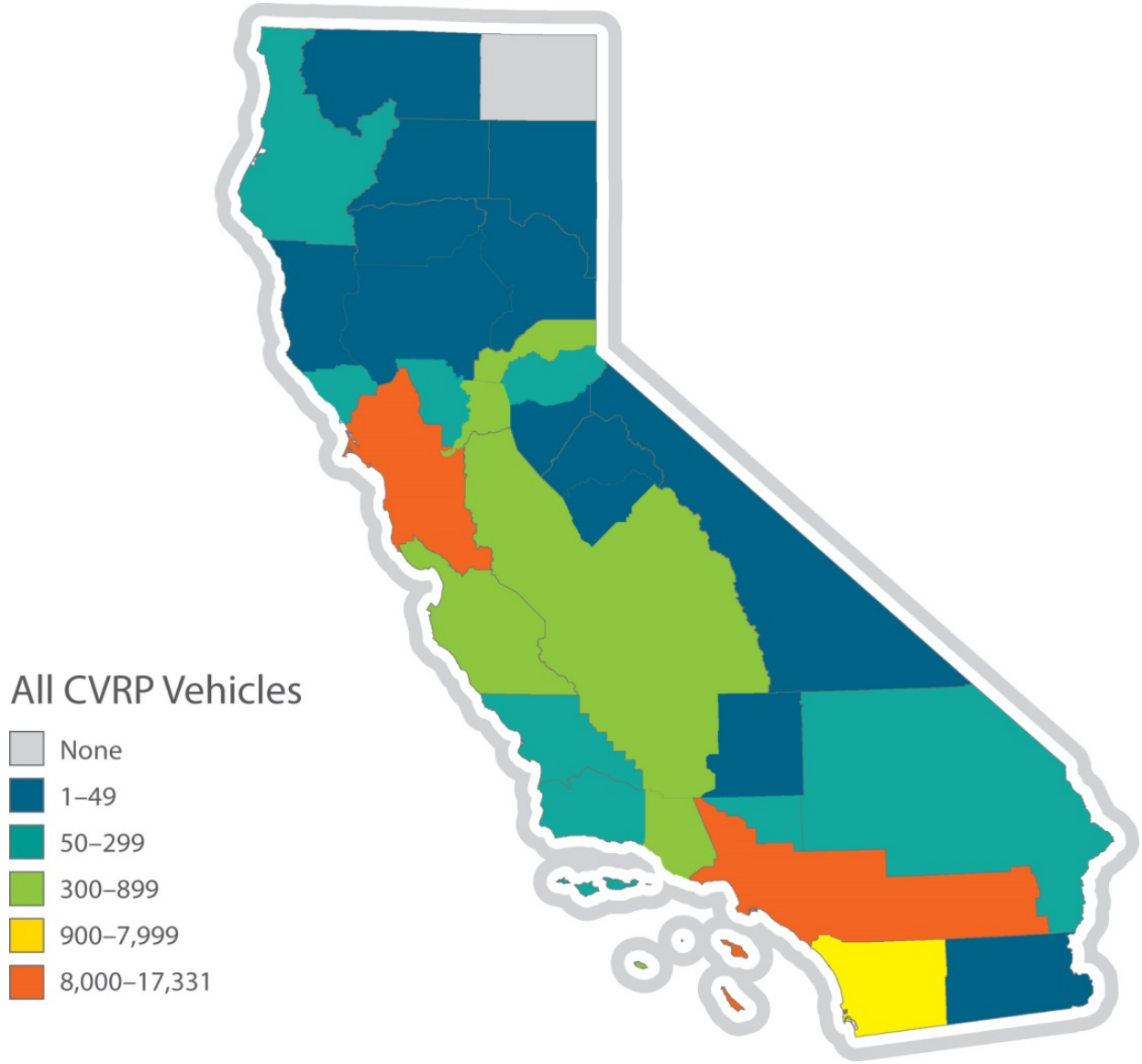


Exhibit 9. Map of PHEV Rebates by Air District

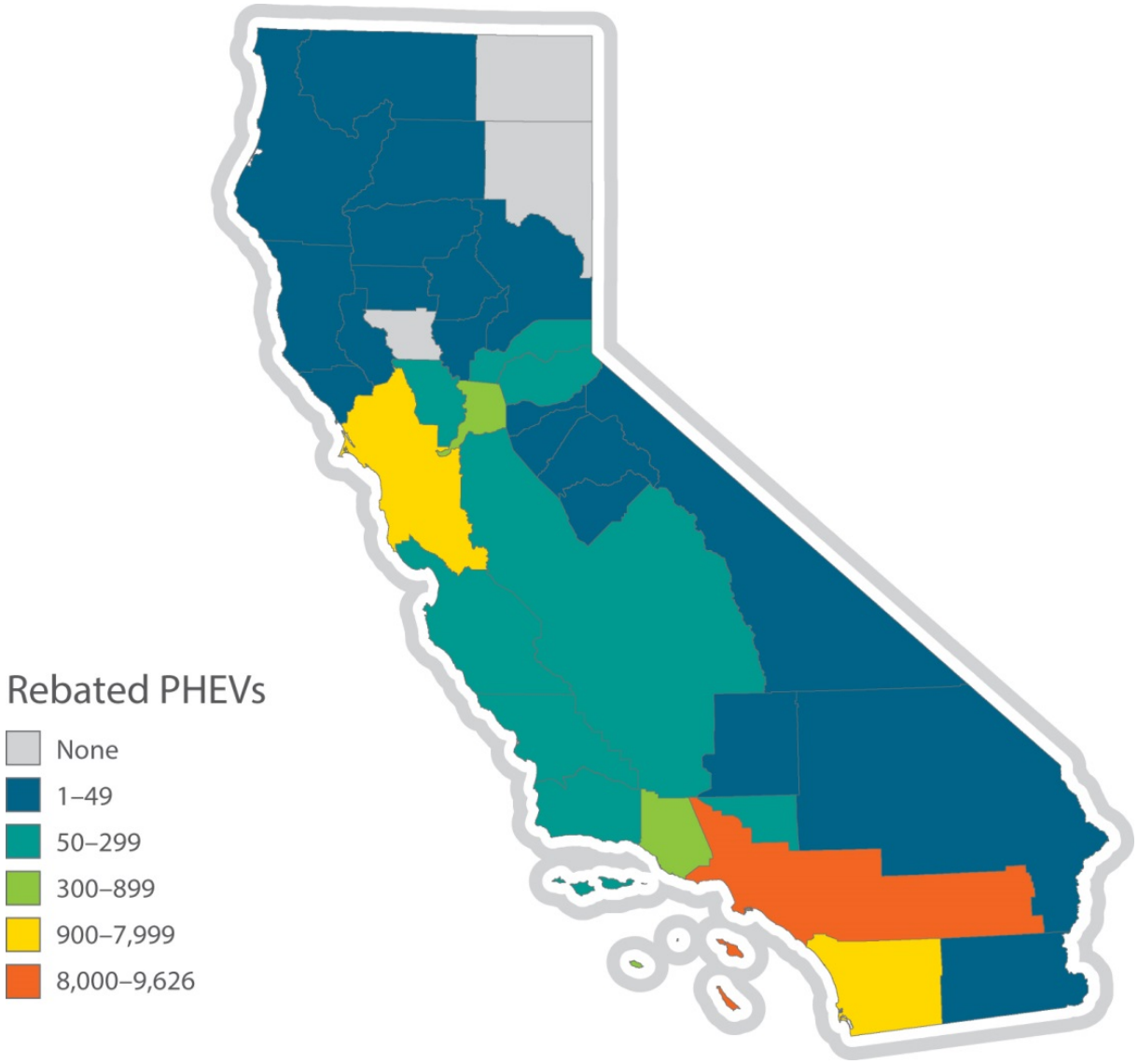


Exhibit 10. Map of BEV Rebates by Air District

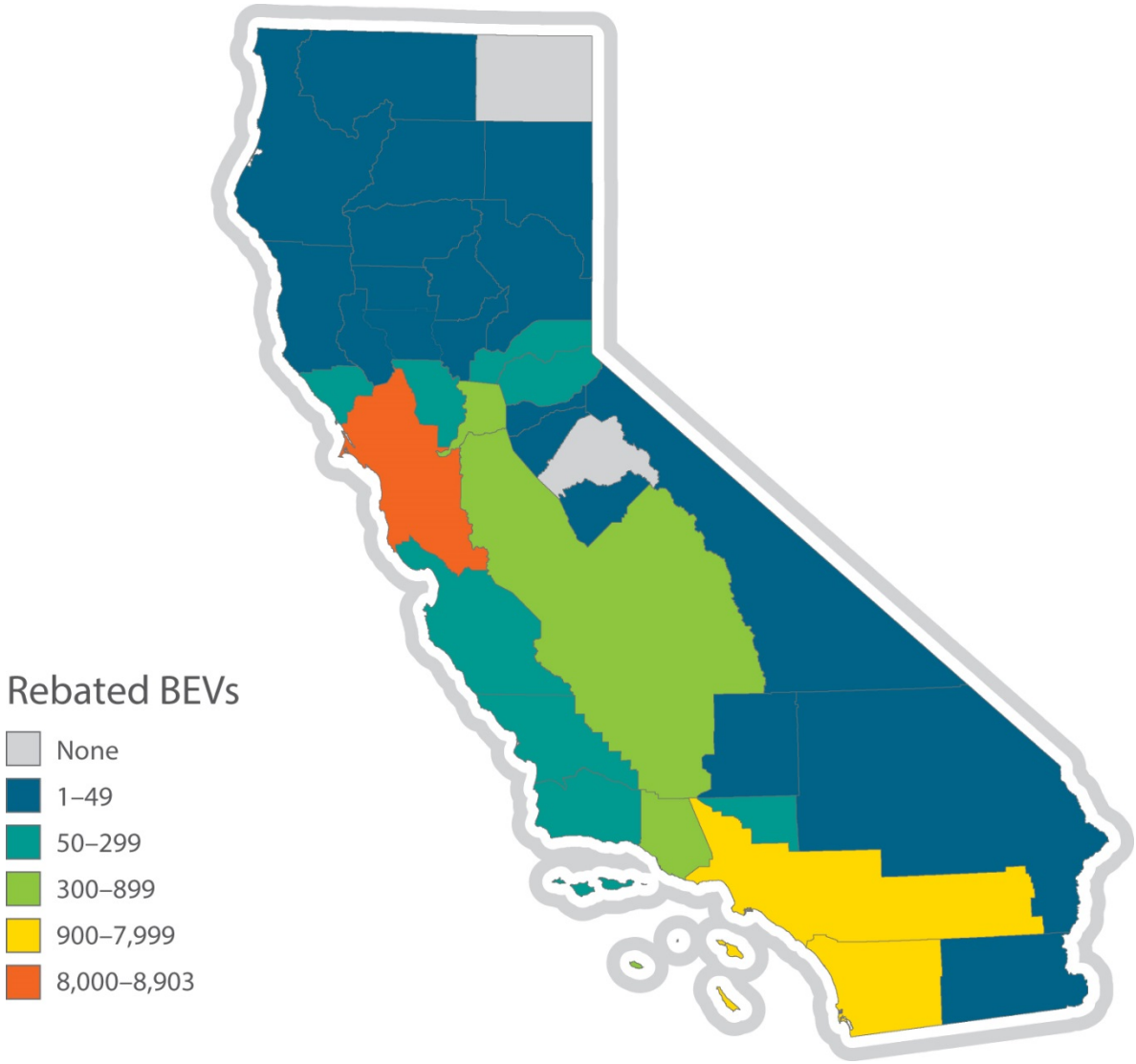
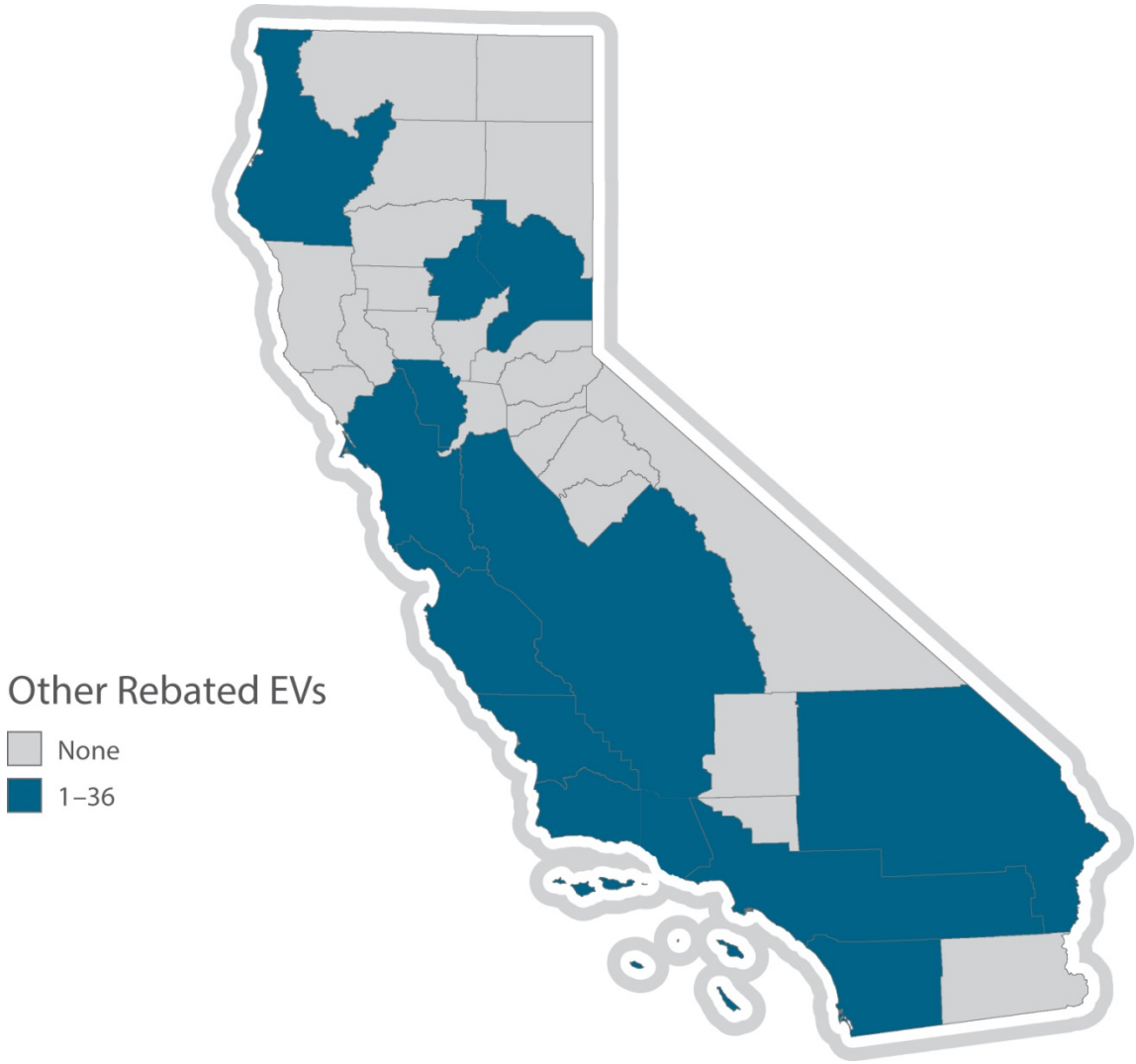


Exhibit 11. Map of Other Rebates by Air District



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