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# Contents

l.	Executive Summary	4
II.	Introduction	5
III.	Survey Objectives	5
IV.	Methods	5
S	Sampling and Administration	5
R	Response Rate and Representativeness	6
Α	Analysis	6
٧.	Results	7
٧	Vehide Summary	7
Н	Home and Demographic Information	7
C	Clean Vehicle Travel Behavior	13
Р	Primary Motivations for Adoption	16
C	Concerns for Adoption	19
Р	Program Impacts	22
C	Charging Behavior	24
Р	Program Satisfaction and Feedback	29
VI.	Discussion	31
VII.	. Appendix A: Additional Charts	33
VIII	I. Appendix B: Survey Instrument	36



# I. Executive Summary

The Clean Vehicle Assistance Program (CVA) provides grants and loans to low- to moderate-income individuals who purchase an eligible new or used conventional hybrid electric vehicle (HEV), plug-in hybrid electric vehicle (PHEV) or battery electric vehicle (BEV) — collectively referred to as "clean vehicles." The program is administered by Beneficial State Foundation (BSF) on behalf of the California Air Resources Board. All CVA participants are invited to complete an "adoption survey" soon after purchasing their vehicle. The goal of this survey is to understand CVA participant demographics, motivations and concerns when adopting a clean vehicle as well as charging behavior (for PHEV and BEV drivers) and travel behavior had the program not existed.

The following report summarizes survey responses for participants who purchased a clean vehicle through CVA during the first 11 months of the program. However, it is important to note that CVA was launched as a pilot program with a limited number of participants. Due to the small population size of the current program, and the potential for that population to expand, caution should be exercised when drawing conclusions from these findings.

Key findings from the survey include the following.

- Nine in ten respondents reported that they would not have purchased their clean vehicle without the CVA grant.
- A majority (61%) of respondents who received a loan from Beneficial State Bank (the program's preferred lending partner) reported they would not have purchased their vehicle without the loan.
- Saving money was the most important factor for respondents when considering purchasing a clean vehicle. Congruently, the cost of the clean vehicle purchase was the highest ranked concern for respondents when considering purchasing a clean vehicle.
- Approximately three-quarters (76%) of respondents who purchased a BEV or a PHEV reported charging at home.
- The availability of charging at *home* was rated as more important than the availability of charging at *work* by respondents who live in single-family detached homes and drive PHEVs or BEVs. However, the importance of work and home charging were rated approximately equally by apartment/condominium dwellers with PHEVs or BEVs.
- Respondents reported high levels of satisfaction with CVA's online application process (73% very satisfied) and the online customer service (77% very satisfied).
- The most commonly cited area for improvement in CVA was to increase dealership awareness of the program.



## II. Introduction

The Clean Vehicle Assistance Program provides grants and loans to low- to moderate-income individuals who purchase a new or used conventional hybrid electric vehicle (HEV), plug-in hybrid electric vehicle (PHEV) or battery electric vehicle (BEV). Participants who purchase a BEV are also eligible for a free charging station and installation from GRID Alternatives. The program, administered by Beneficial State Foundation (BSF) on behalf of the California Air Resources Board (CARB), began in June 2018. The grants and loans are available to California residents with a maximum annual household income of 400% of the federal poverty level. Loans are available through Beneficial State Bank (BSB) or participants can secure a loan from a lender of their choosing.

The Center for Sustainable Energy (CSE) independently administers and analyzes surveys for the Clean Vehicle Assistance Program. The survey analyzed in this report is referred to as the "adoption survey" because program participants are invited to complete the survey approximately one month after they adopt their vehicle. Participants will later be invited to complete an "ownership survey" after they have owned their vehicle for approximately one year.

# III. Survey Objectives

The objectives of the CVA adoption survey are to understand

- Participants' household demographics
- Participants' travel behavior before and after acquiring their clean vehicle
- Participants' primary motivations for clean vehicle adoption and the factors that supported their clean vehicle adoption
- The clean vehicle adoption process for participants, including barriers such as model selection, charging availability, range and costs of insurance and fuel
- How participants' travel needs would have been met had the program not existed
- Participants' charging behaviors

# IV. Methods

# Sampling and Administration

The CVA adoption survey is administered monthly, with invitations sent to all program participants by email approximately one month after they acquire their clean vehicle. Table 1 shows the dates between which survey invitations were sent and survey responses were received. Up to two email reminders are sent to participants who have not yet completed the survey. All participants who complete the survey are entered into a random, twice-annual drawing for a \$100 Visa gift card.



Table 1. CVA adoption survey administration dates for data presented in this report

Survey Invitations Sent	1/15/2019 - 5/17/2019	
Responses Received	1/15/2019 - 6/04/2019	

### Response Rate and Representativeness

Nearly two-thirds (65%) of program participants completed the survey (Table 2). Only 28 participants started the survey but did not complete it, translating to a drop-off rate of 10%.

Table 2. CVA adoption survey response rate

<b>Program Participant Population</b>	Survey Responses	Response Rate
391	256	65%

As not all program participants answered the survey, there is a possibility of nonresponse bias, meaning those who responded to the survey could differ from those who did not. Response weights can be created to adjust for bias and lack of representation among groups in the data. To check if the survey data was representative of the population, and if weighting was necessary, the research team conducted chi-square tests to compare the survey respondents with the program population on several dimensions: county of residence, new vs. used vehicle status and vehicle model. The results of these tests showed no significant difference between the program population and the survey data, likely due to the relatively high response rate. Therefore, the survey data was not weighted for this analysis. Care should be taken when generalizing results to the program population as the current population is small and may change significantly as the program expands.

# **Analysis**

The eligibility of used vehicles in CVA allows for the comparison of new and used vehicle consumers. As such, quantitative data are segmented by new vs. used vehicle status only when the differences between these two groups are statistically significant. Results are displayed as percentages unless the question received under 50 responses, in which case results are displayed as counts. The survey also includes an open response question where respondents could provide feedback about the program. Responses to this question were coded and categorized into themes for analysis.

<sup>&</sup>lt;sup>1</sup> The research team ranchi-square tests on categorical variables with more than five responses for each response option and Fisher's exact tests on the remaining categorical variables. The research team conducted t-tests on all continuous and Likert scale variables.



## V. Results

## **Vehicle Summary**

Of the vehicles purchased by survey respondents, PHEVs were the most popular (48%), followed by BEVs (41%); HEVs made up only 11% (Table 3). Table 4 shows that used vehicles were very popular, accounting for 80% of the vehicles that received a grant. Table 5 shows that almost two-thirds (63%) of survey respondents received a loan for their vehicle.

Table 3. Vehicle types purchased by respondents

Vehicle Type	Number of Respondents	Percent of Respondents
PHEV	123	48%
BEV	105	41%
HEV	28	11%

Table 4. New or used vehicles purchased by respondents

Purchase Type	Number of Respondents	Percent of Respondents
New	52	20%
Used	204	80%

Table 5. Loans received by respondents

Loan Received	Number of Respondents	Percent of Respondents
BSB	40	19%
Other lending organization	112	44%
No loan	104	37%

# Home and Demographic Information

Responses to the demographic questions in the adoption survey show a roughly equal gender balance, with almost half of respondents being female (48%). Over one-quarter of respondents (27%) identified as Hispanic or Latino (Figure 2). Of the respondents who identified as Hispanic or Latino, 40% selected "white or Caucasian" as their race, and 40% selected "other." Over half (52%) of all respondents described their racial identity as white or Caucasian (Figure 3). Over half (54%) of respondents were between the age of 30 and 49 (Figure 4).



Figure 1. Preferred description of gender (n=250)

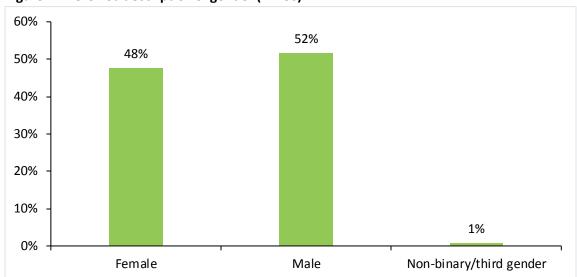




Figure 2. Hispanic or Latino (n=243)

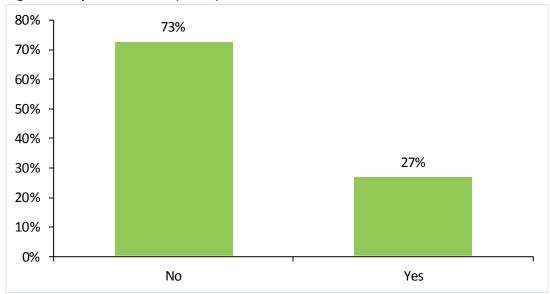


Figure 3. Preferred description of racial identity (n=229)

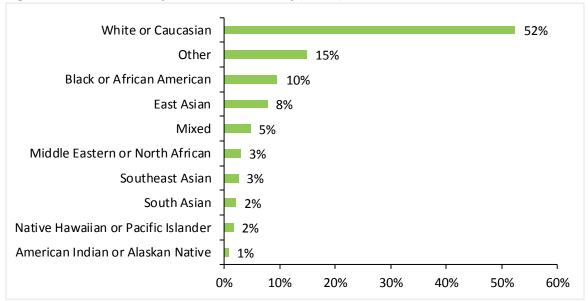




Figure 4. Age (n=254)

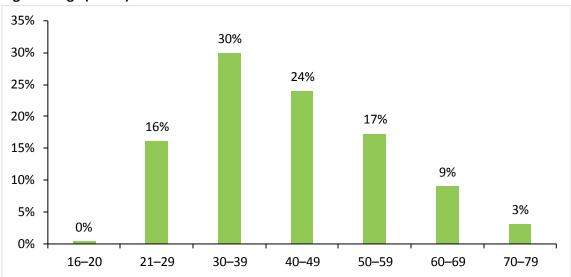
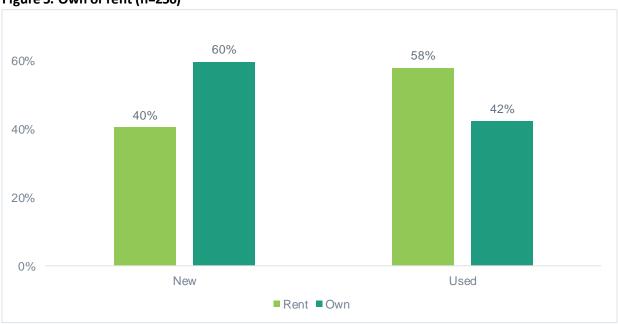


Figure 5 shows that most respondents who purchased a used vehicle were renting their residence while those who purchased a new vehicle were more likely to own their residence.

Figure 5. Own or rent (n=256)



Statistically significant difference between new and used clean vehide purchasers (p<0.016)



Most respondents (69%) reported living in detached homes while 20% reported that they live in an apartment or condominium. The type of residence was not significantly different between new and used car buyers.

Apartment/Condominium 20%

Attached house 9%

Detached house 69%

Figure 6. Residence type (n=254)

Other

3%

10%

20%

0%

In California, 83% of home owners live in detached homes while only 30% of renters live in detached homes. Figure 7 shows that renters who participated in CVA are more likely to live in a detached home than renters in the general statewide population.

30%

40%

50%

60%

70%

80%

<sup>&</sup>lt;sup>2</sup> Source: 2013-2017 American Community Survey, 5-Year Estimates, U.S. Census Bureau



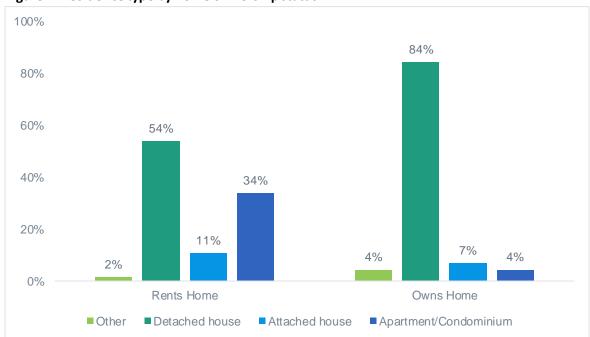
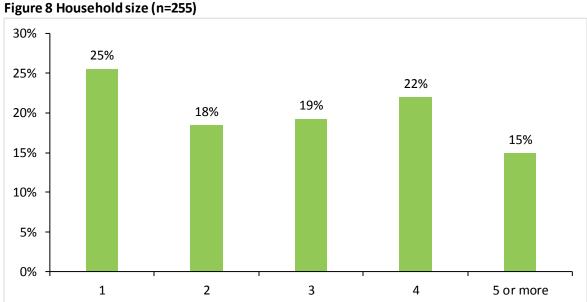


Figure 7. Residence type by home ownership status

The average household size for all survey respondents is three persons, with one-quarter of respondents having a household size of one. In Figure 8 household sizes of five and up are combined, and the differences between respondents who bought new or used vehicles were not significant.





Respondents who purchased a new vehicle reported having higher levels of education than respondents who purchased a used vehicle. Eighty-three percent of respondents who purchased a new vehicle reported having a bachelor's degree or higher compared to 42% for those who purchased a used vehicle (Figure 9).

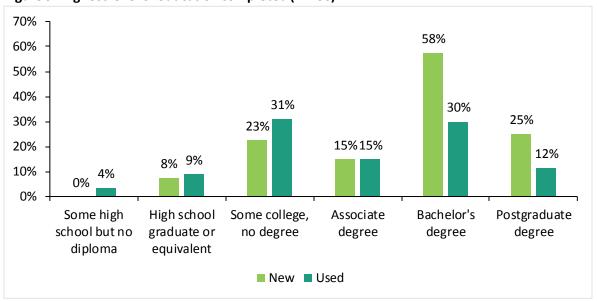


Figure 9. Highest level of education completed (n=250)

Statistically significant difference between new and used clean vehide purchasers (p=0.029)

#### Clean Vehicle Travel Behavior

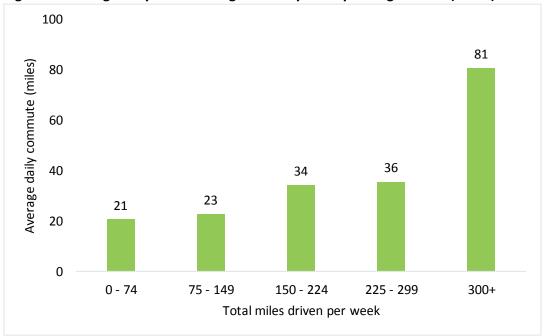
Respondents were asked to estimate the total number of miles that they drive their vehicles in a typical week. About half (52%) reported that they drive their clean vehicle between 75 and 224 miles a week. Sixteen percent reported that they drive their clean vehicle 300 miles or more in a typical week (Figure 10). Of the respondents who reported driving their clean vehicle over 300 miles in a typical week, 61% were driving a PHEV. Figure 11 shows that respondents who reported more weekly driving miles also reported longer commutes on average. For example, respondents who selected "0 to 74" miles per week had an average commute distance of 21 miles.



30% 25% 23% 21% 20% 16% 15% 12% 10% 5% 0% 0 - 74 75 - 149 150 - 224 225 - 299 300+ Total miles driven per week

Figure 10. Estimated total miles driven in a typical week (n=256)





Respondents were asked to describe their previous and current modes of transportation. Figure 12 shows that 88% of respondents were previously driving a different vehicle. While this indicates that most respondents had access to a vehicle, Figure 13 shows that 94% of respondents are currently



driving the clean vehicle they received through CVA, indicating that access to a personal vehicle has increased for 6% of respondents.

Figure 12. "How did you most often get where you needed to go before you bought the clean vehicle?" (n=256)

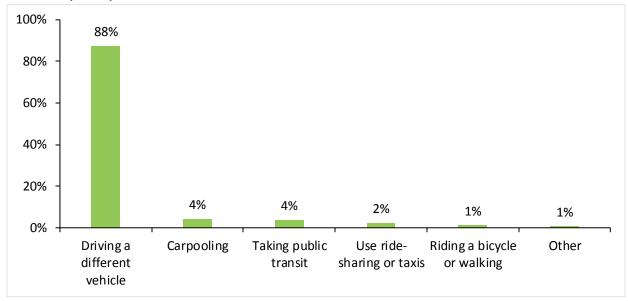
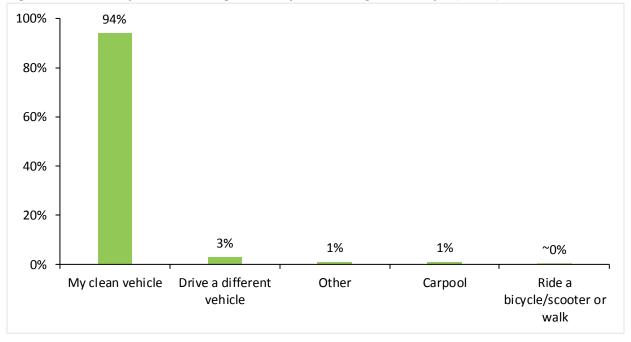


Figure 13. "How do you most often get where you need to go currently?" (n=256)





## **Primary Motivations for Adoption**

To understand participants' motivations for adoption, respondents were asked to rate how important several factors were in their decision to acquire their clean vehicle on a five-point scale (not at all important to extremely important). Responses were coded numerically (1 = not at all important and 5 = extremely important), allowing means to be calculated for each factor. As shown in Figure 14, saving money overall and saving money on fuel costs had the highest importance ratings. Reducing environmental impacts and vehicle range on a single charge/tank were also highly rated.

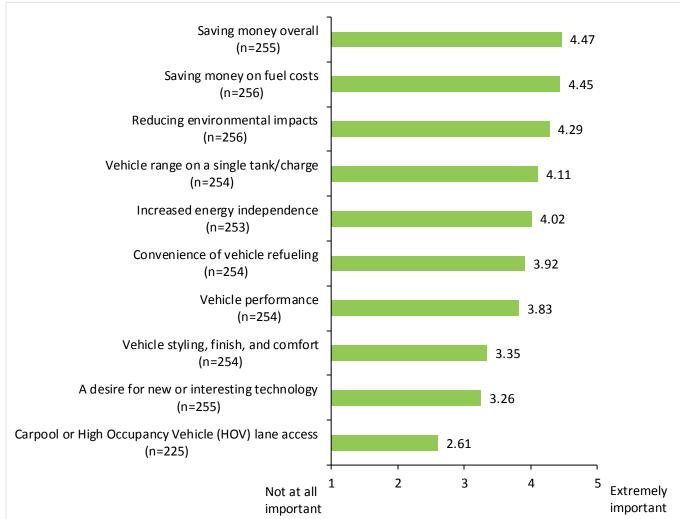


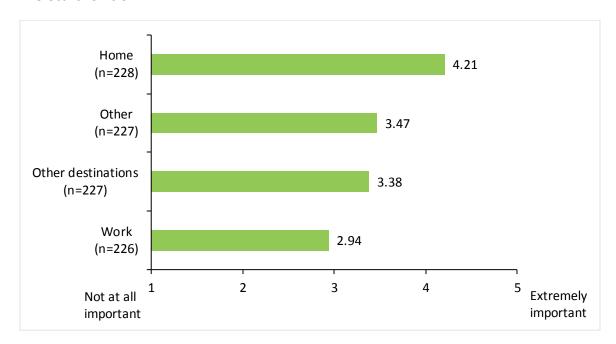
Figure 14. Importance of factors in respondents' decision to acquire a clean vehicle

Respondents who purchased a PHEV or BEV were asked to rate how important the availability of charging at certain locations was to their decision to acquire their clean vehicle (Figure 15). The availability of home charging had the highest average importance of any of the listed locations. These importance ratings did not differ significantly between PHEV and BEV respondents. However, these



ratings varied by housing type. As shown in Figure 16, the availability of charging at home was most important for those who live in detached homes. While access to charging at work had the lowest importance rating overall, it was rated much higher among respondents who live in an apartment or condominium.

Figure 15. Importance of charging at the following locations in respondent's decision to acquire a plugin electric vehicle





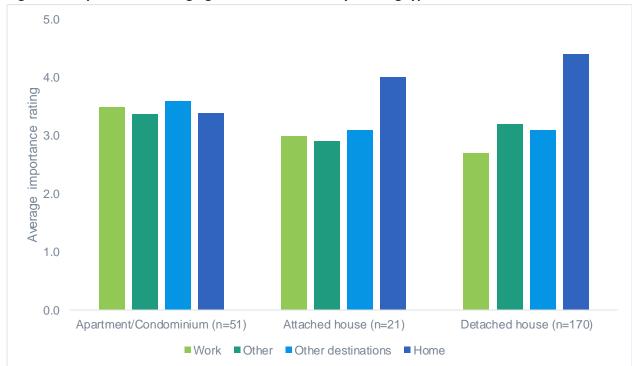


Figure 16. Importance of charging at certain locations by housing type

F-tests were conducted between each housing type for each location. Statistically significant differences were found between housing types for all charging locations (p<0.05).

Respondents were also asked to rate how important several factors were in making it possible for them to acquire their clean vehicle. Figure 17 shows that the CVA grant was rated as the most important factor in making it possible for respondents to acquire their vehicles. The loan through BSB had high average importance among respondents who received a loan through BSB. Only respondents who purchased a new vehicle were given the option to rate the importance of "federal tax incentives" since that incentive is only available to new car buyers. Among those who did purchase a new car, the federal tax incentives were highly important.



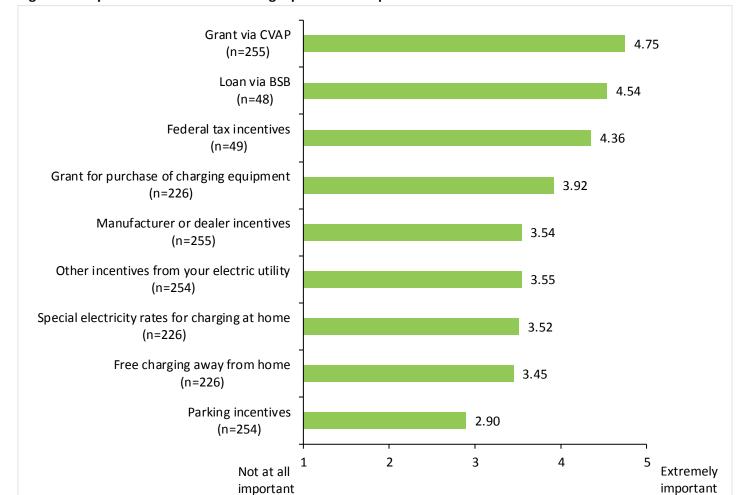


Figure 17. Importance of factors in making it possible to acquire a clean vehicle

# **Concerns for Adoption**

To understand program participants' concerns regarding adopting an electric vehicle, respondents were asked to rank their top three concerns they had when shopping for their clean vehicle. Respondents were asked one of three variations of this question with slightly different response options depending on their vehicle type. Figures 18-20 show the top five responses for each technology type. Figures i-iii in Appendix A show the rankings for all responses.

Across all three vehicle types the cost of the purchase was most frequently chosen as the top-ranked concern. Driving range on a single charge was also a concern for many respondents, especially BEV drivers. It was selected among the top three concerns by 75% of BEV respondents and 50% of PHEV respondents.



Figure 18. Ranked concerns when shopping for a BEV

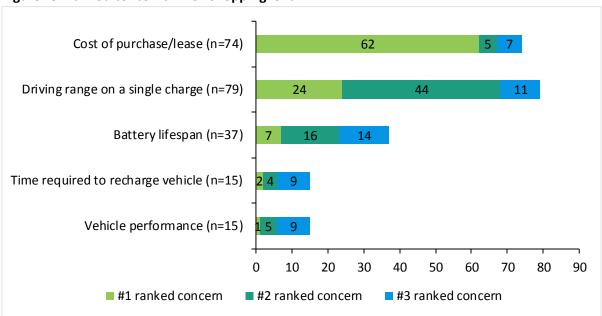
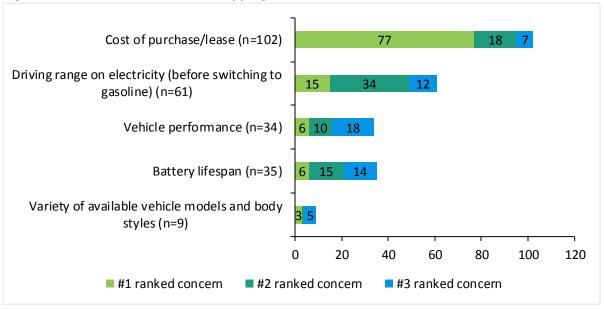


Figure 19. Ranked concerns when shopping for a PHEV





Cost of purchase/lease (n=19)

Cost of fuel (n=12)

Vehicle performance (n=10)

Cost to maintain vehicle (n=10)

Driving range (n=9)

#1 ranked concem

#2 ranked concem

#3 ranked concem

Figure 20. Ranked concerns when purchasing an HEV

Respondents were asked about how much they pay to insure their clean vehicle (Figure 21). The question allowed respondents to report this amount by either month or year. To analyze the responses from this question all responses given by year were converted to monthly amounts. Most respondents are paying between \$51 and \$150 a month to insure their clean vehicle.

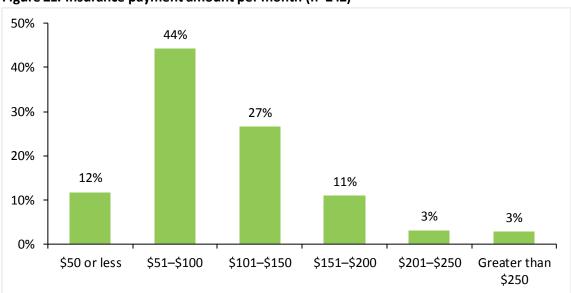


Figure 21. Insurance payment amount per month (n=242)



The majority of respondents who purchased a new clean vehicle (54%) reported that their insurance premium was slightly or much more than expected. Respondents who purchased a used clean vehicle were more likely to report that their insurance premiums were about the same as expected (Figure 22).

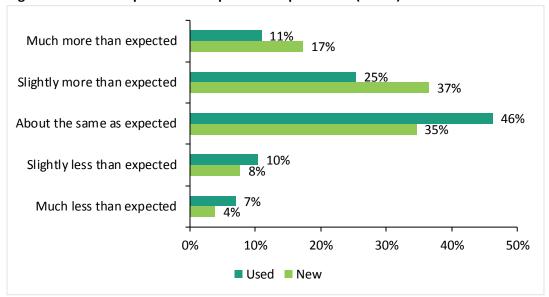


Figure 22. Insurance premium compared to expectations (n=253)

Statistically significant difference between new and used clean vehicle purchasers (p=0.003)

### **Program Impacts**

Respondents were highly grant and loan "essential," meaning they stated that they would not have adopted a clean vehicle without the CVA program. Ninety percent of respondents reported they would not have purchased their clean vehicle without the CVA grant (Figure 23). Of the 49 respondents who received a loan through BSB, 61% of them would not have purchased their clean vehicle without the financing provided by BSB (Figure 24). The high levels of grant and loan essentiality are unsurprising due to the income limit participants must fall under to be eligible for CVA.



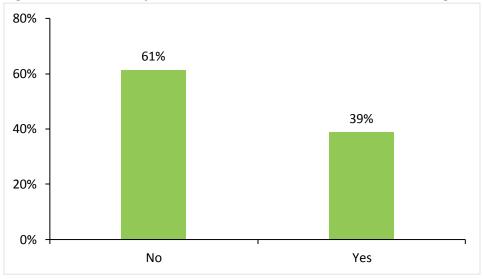
100% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% | 90% |

No

Figure 23. Would have purchased a clean vehicle without the grant through CVA (n=255)



Yes



Respondents were asked what they would have done had the CVA grants or loans not been available (Figure 25). The majority of respondents (54%) reported that they would not have made any purchase or lease at all without the CVA grants and loans; of this group, 88% reported that their previous mode of transportation was driving another vehicle. Therefore, most purchases induced by CVA are likely replacing older, less-efficient vehicles with cleaner vehicles, rather than adding more vehicles to the road. Those who purchased a used vehicle were more likely than those who purchased a new vehicle to report that they would have acquired a different used conventional non-hybrid vehicle (22% vs. 19%).



0%

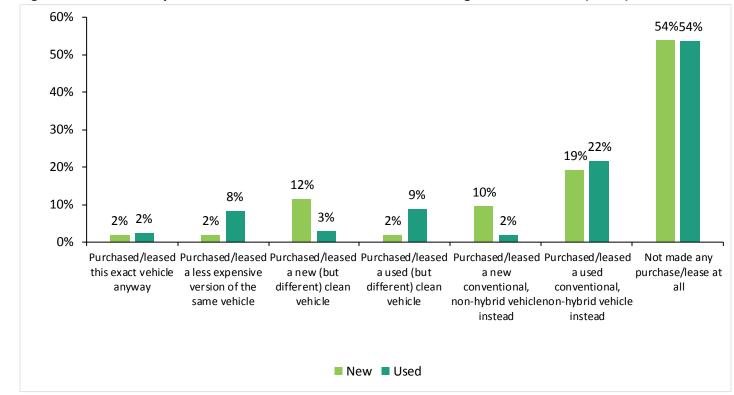


Figure 25. What would you have done if the Clean Vehicle Assistance Program did not exist? (n=255)

Statistically significant difference between new and used clean vehicle purchasers (p=0.001)

# **Charging Behavior**

Respondents who purchased a BEV were asked if they had received a Level 2 charging station through GRID Alternatives or were in the process of getting one. As seen in Figure 26, over one-third (36%) of respondents who purchased a BEV have received or are in the process of receiving a Level 2 charger.



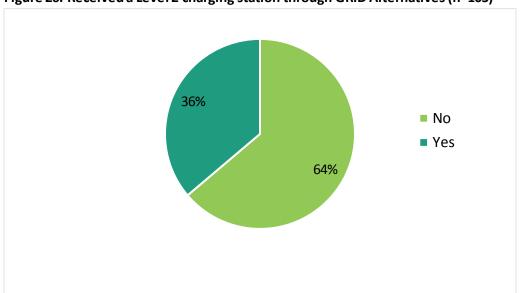


Figure 26. Received a Level 2 charging station through GRID Alternatives (n=105)

Respondents who purchased a BEV were asked if they received any other incentives besides the charger through GRID Alternatives to reduce the cost of installing a Level 2 charging station (Figure 27). Very few respondents (9%) had received any additional incentives.

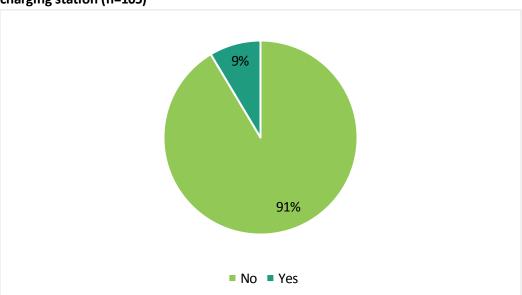


Figure 27. Received any other incentives that reduce or eliminate the cost of installing a Level 2 charging station (n=105)

Respondents who purchased a PHEV were also asked if they received any incentives to reduce the cost of installing a Level 2 charging station. Eighty-nine percent reported that they had not received any incentives for installing a Level 2 charging station (Figure 28).



Figure 28. Received any incentives that reduce or eliminate the cost of installing a Level 2 charging station (n=121)

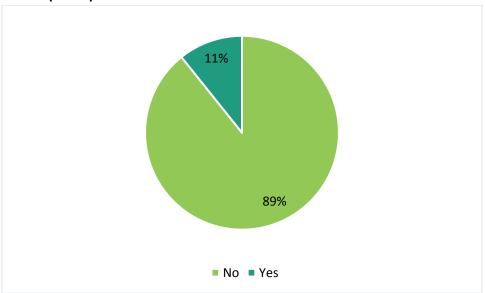
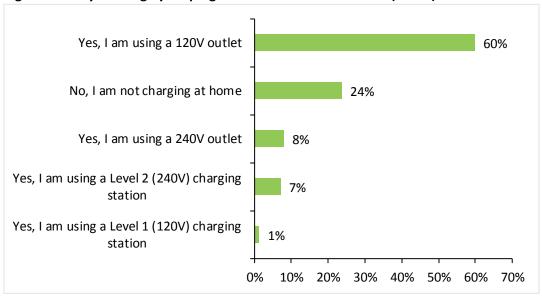


Figure 29 shows that 76% of respondents who purchased a BEV or a PHEV reported charging at home. The remaining 24% reported that they are not charging their vehicles at home.

Figure 29. Do you charge your plug-in electric vehicle at home? (n=227)



To understand charging behaviors by housing type, respondents were segmented by whether they charge at home or not. Figure 30 shows that 53% of respondents who do not charge at home live in an apartment or condominium.



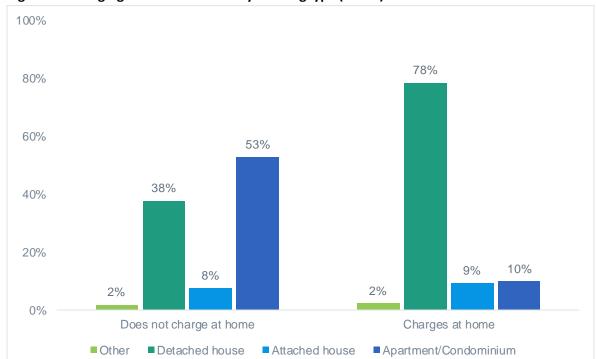


Figure 30. Charging behavior at home by housing type (n=225)

Figure 31 shows that respondents who charge at home were more likely to have received a Level 2 charging station through GRID Alternatives than respondents who do not charge at home (41% vs 17%).

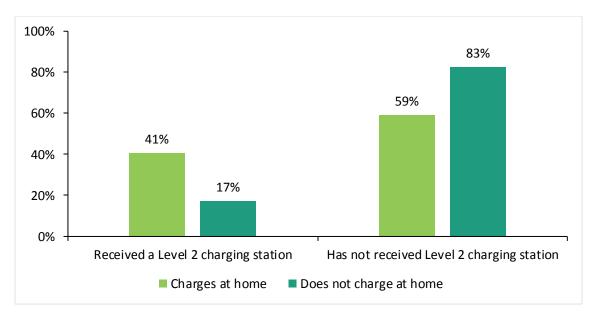


Figure 31. Charging behavior at home segmented by GRID Alternatives charging station (n=104)



The 24% of respondents who reported that they were not charging at home were asked if they would be able to charge at home in the next year (Figure 32). About one-third (31%) reported that they would be able to charge at home in the next year.

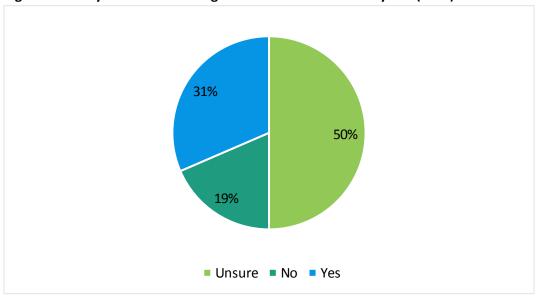
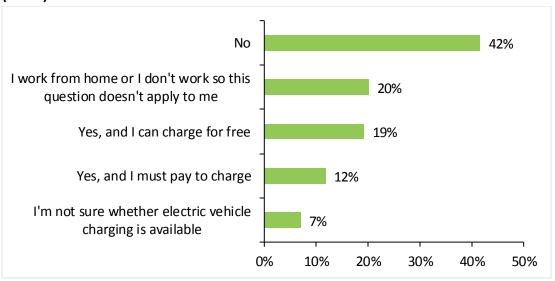


Figure 32. Will you be able to charge at home within the next year? (n=54)

Respondents who purchased a BEV or PHEV were asked about the availability of charging at their workplace. Forty-two percent reported that they do not have charging available at their work. Only 31% of respondents had charging available at work.







# Program Satisfaction and Feedback

Respondents were asked to rate their satisfaction with CVA's online application process, the program's online customer service and their dealership experience on a scale of zero through ten. Responses to these questions were recoded into five categories: 0–1 were recoded as "very dissatisfied," 2–3 as "dissatisfied," 4–6 as "neither satisfied nor dissatisfied," 7–8 as "satisfied" and 9–10 as "very satisfied." As shown in Figure 34, respondents reported high levels of satisfaction with the online application process and the online customer service they received, with 73% and 77% of respondents reporting being very satisfied, respectively. The dealership experience received lower ratings but two-thirds (69%) of respondents still reported they were satisfied or very satisfied.

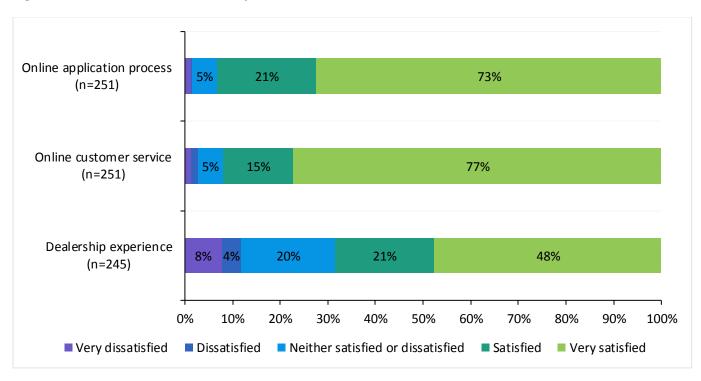


Figure 34. Level of satisfaction with aspects of CVA

Respondents who received a loan were asked to rate their satisfaction with the loan process through BSB. The majority of the respondents who received a loan were satisfied or very satisfied with the loan process (Figure 35).



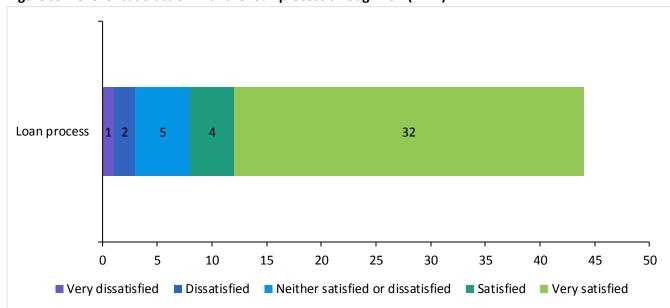


Figure 35. Level of satisfaction with the loan process through BSB (n=44)

In an open-ended question, survey respondents were asked how they think the grant or loan process could be improved. This question had a high engagement rate with 181 of the 256 survey respondents providing feedback.

Many respondents shared positive feedback, expressing their overall satisfaction with the program (n=35). Several recommendations for improvement were also mentioned. The most common improvement suggested by respondents was to increase dealer awareness of the program (n=41). Those who mentioned this theme reported issues with dealers not knowing the program existed or not knowing how the grant or loan process worked. Another common theme was that it took too long to be approved for and receive the grant (n=22). Table 6 shows the top seven themes reported by respondents.

Table 6. Respondent feedback

Theme	Number of Responses
Increase dealer awareness of the program	41
Positive feedback	35
The process to be approved for and receive the grant took too long	22
Improve communication during the application and approval process	19
Increase dealer participation	13
Disseminate more information about participating and knowledgeable	
dealers	9
Clarify the process for receiving a free charger through GRID Alternatives	8



## VI. Discussion

The results of this survey indicate that CVA has effectively incentivized low- to moderate-income consumers to adopt clean vehicles. Almost all survey respondents (90%) reported that they would not have purchased their clean vehicle without the grant provided by CVA. Sixty-one percent of respondents who received a loan from BSB reported they would have not purchased their vehicle without the loan. The availability of the grant and the loan were rated as the most important factors in making adoption possible for respondents. Further research into understanding the characteristics of respondents who reported that they were highly influenced by the grant or loan may provide useful information in understanding barriers that are preventing them from adopting otherwise.

The inclusion of used vehicles in CVA provides an opportunity to compare consumers of new versus used vehicles. There was little statistically significant difference between new and used vehicle consumers. This could be due to the small portion of respondents who purchased a new vehicle. One key difference between these two groups was their education level. Respondents who purchased a new car also had more education, with 83% of respondents having a bachelor's degree or higher versus 42% for used car buyers. Another difference was the home ownership rate, which was higher among respondents who purchased new cars (60% vs. 42%). The *type* of housing (attached, detached or apartment/condominium) was not significantly different between respondents who purchased new and used cars but was different between renters and owners. Renters were less likely than owners to be living in a detached home, but they were more likely to be living in a detached home than the average renter in California. This may reflect the fact that consumers who live in attached homes or apartments/condominiums have more barriers to charging.

Almost all respondents (94%) reported that their current mode of transportation is the clean vehicle they acquired. Eighty-eight percent reported that a different vehicle was their previous mode of transportation. These results indicate that CVA increased vehicle access among a small fraction of participants, but most had access to a vehicle before participating in the program.

Costs were very salient for respondents. Saving money overall and saving money on fuel costs were the most important motivating factors for respondents' decision to acquire a clean vehicle. The top-rated concern among BEV, PHEV and HEV respondents while shopping for their clean vehicle was the cost of the purchase. These results show that focusing marketing strategies on explaining the ways clean vehicles save money — such as an estimated cost savings calculator on the website — could be an effective method to communicate about the program. The electric range of BEVs and PHEVs was also a frequently cited concern.

Twenty-four percent of respondents who purchased a BEV or PHEV reported that they do not charge their vehicle at home. This number rises to 53% for those who live in an apartment or condominium. Consistently, access to charging at work was rated as important for respondents who live in an apartment or a condominium. These results highlight the lack of access to home charging as one of the



barriers to EV adoption faced by residents of multi-unit dwellings. Providing resources with information about away-from-home charging stations or incentive programs for installing charging at multi-unit dwelling could help alleviate concern about this barrier.

Results indicate that program satisfaction was high for most respondents — 73% of respondents reported that they were very satisfied with the online application process and 77% reported they were very satisfied with the online customer service. Thirty-six out of 44 respondents who received a loan through BSB reported that they were satisfied or very satisfied with the loan process. In open-ended feedback, concerns raised were long processing times and poor communication during the application and approval process.

Dealership satisfaction ratings were mixed with 48% of respondents reporting that they were very satisfied with their experience. Opportunities to improve dealership experiences were mentioned in responses to the open-ended question asking for program feedback. Forty-one respondents reported that they ran into issues with dealership awareness of the program. Ensuring that all dealerships listed on the CVA website as a CVA network dealership have been contacted and have received information on the grant and loan process could alleviate some of the dissatisfaction with dealers experienced by participants. Conducting dealership trainings or holding in-person information sessions with relevant dealership staff may also help bridge the disconnect between dealers and program participants.

These preliminary results from the adoption survey indicate that CVA has been instrumental in helping a wide range of consumers adopt clean vehicles. CVA participants will be invited to take a follow-up survey approximately one year after they purchased their clean vehicle, which will provide additional insights into their ownership experience. While these survey results provide valuable insight into the CVA participant population, it is important to note that CVA was launched as a pilot program with a limited number of participants. Due to the small population size, conclusions from this report should not be generalized to the entire low- to moderate-income car buying population.



# VII. Appendix A: Additional Charts

Figure i. Ranked concerns when shopping for a BEV

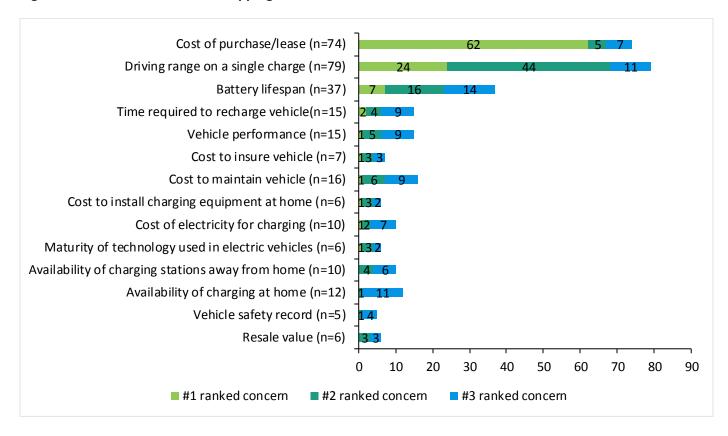




Figure ii. Ranked concerns when shopping for a PHEV

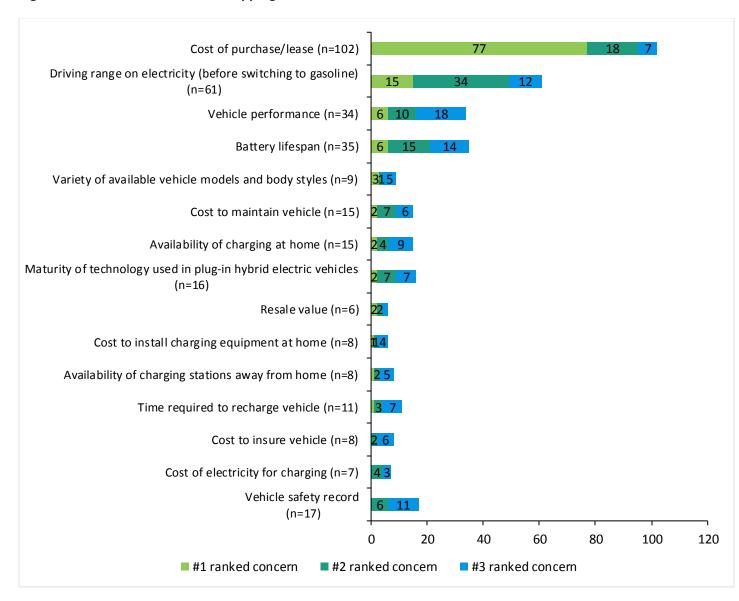
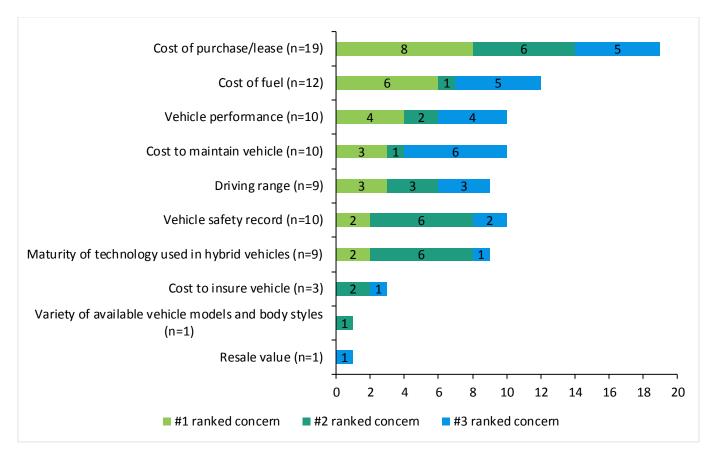




Figure iii. Ranked concerns when shopping for a HEV





# VIII. Appendix B: Survey Instrument

# **Survey Introduction**

#### Congratulations on your new clean vehicle!

We want to help other Californians get clean vehicles too – and you can help, by sharing your feedback and experience with the Clean Vehicle Assistance Program in this brief survey. **This survey is** administered by the Center for Sustainable Energy, on behalf of the Beneficial State Foundation and the California Air Resources Board.

This survey will take about 10 minutes. Your link is personalized and cannot be shared with others. This means that your progress will be saved, so you can exit and return at a more convenient time to complete the survey. Remember that your identity will remain confidential, and all reported results will be anonymous. We know your time is valuable, and we are grateful you are sharing it with us.

If you have any questions about this research project, or if you experience any technical difficulties, you may contact the Center for Sustainable Energy (CSE) at:

Phone: (866) 984-2532

Email: transparency@energycenter.org



### **Introductory Questions**

#### Logic: Show/hide trigger exists. Hidden unless: "CVA ID" is missing

1) What is your Clean Vehicle Assistance Program (CVA) ID? (You can find this in the email that links to this survey.)\*

#### Logic: Show/hide trigger exists. Hidden unless: "Grant Received" is missing

- 2) Did you purchase a clean vehicle with a grant from the Clean Vehicle Assistance Program? [Grants are a form of financial assistance that do not need to be repaid]\*
- () No
- () Yes

### Logic: Show/hide trigger exists. Hidden unless: "Loan Received" is missing

- 3) Did you purchase a clean vehicle with a loan from the Beneficial State Bank? [Loans are a form of financial assistance that need to be repaid]\*
- () No
- () Yes

Page exit logic: IF: Q2 AND Q3 = ("No") OR IF "Grant Received" AND "Loan Received" = ("No") THEN: Jump to Disqualify Page

Logic: Show/hide trigger exists. Hidden unless: "Tech type" is missing



#### Your Vehicle

4) For what type of vehicle did you receive your grant/loan?*
() A battery electric vehicle (uses electricity only)
( ) A plug-in hybrid electric vehicle (uses gasoline and/or electricity)
() A conventional hybrid vehicle (uses gasoline only)
( ) A fuel-cell electric vehicle (uses hydrogen)

Logic: Show/hide trigger exists. Hidden unless: ((#4 Question "For what type of vehicle did you receive your grant/loan?" is one of the following answers ("A battery electric vehicle (uses electricity only)") OR techtype is exactly equal to "Electric") AND (vehiclemake OR vehiclemodel))

- 5) Please specify the make and model of the battery electric vehicle.\*
- () BMW i3 REx
- () BMW i3
- () BMW i3s
- () BYD e6
- () Chevrolet Bolt EV
- () Chevrolet Spark EV
- () Fiat 500e
- () Ford Focus Electric
- ( ) Honda Clarity Electric
- ( ) Hyundai Ioniq Electric
- () Kia Soul EV
- () Mercedes-Benz B250e
- () Mitsubishi i-MiEV
- () Nissan LEAF
- ( ) smart Electric Fortwo Cabriolet
- () smart Electric Fortwo Coupe
- () Tesla Model 3
- () Tesla Model S
- () Tesla Model X
- () Volkswagen e-Golf

Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is "A plug-in hybrid electric vehicle (uses gasoline and/or electricity)" AND "Make" OR "Model" is missing.



- 6) Please specify the make and model of the plug-in hybrid electric vehicle.\* ( ) Audi A3e-tron
- () BMW 530e
- () Cadillac ELR
- () Chevrolet Volt
- () Chrysler Pacifica
- () Ford C-MAX Energi
- () Ford Fusion Energi
- () Honda Clarity Plug-In Hybrid
- () Hyundai Ioniq PHEV
- () Hyundai Sonata Plug-in Hybrid
- () Kia Niro Plug-in Hybrid
- () Kia Optima Plug-in Hybrid
- () Mitsubishi Outlander PHEV
- () Toyota Prius Prime
- () Volvo S90 T8
- () Volvo XC60T8
- () Volvo XC90T8

Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is "A conventional hybrid vehicle (uses gasoline only)" AND "Make" OR "Model" is missing.

- 7) Please specify the make and model of the conventional hybrid vehicle.\*
- () Acura ILX
- () Acura RLX Hybrid
- () Audi Q5 Hybrid
- () BMW ActiveHybrid 3
- () BMW Active Hybrid 5
- () BMW ActiveHybrid 7
- () BMW Active Hybrid X6
- () Buick LaCrosse eAssist
- () Buick Regal eAssist
- () Cadillac Escalade
- () Chevrolet Malibu
- () Chevrolet Silverado
- () Chevrolet Impala eAssist
- () Chevrolet Tahoe
- () Chrysler Aspen
- () Dodge Durango
- () Ford C-Max Hybrid
- () Ford Escape
- () Ford Fusion



- () GMC Sierra
- () GMC Yukon
- () Honda Accord
- () Honda Civic
- () Honda CR-Z
- () Honda Insight
- ( ) Hyundai Sonata
- () Infiniti M35h/Q70
- () Infiniti Q50
- () Infiniti QX60 Hybrid
- () Kia Optima
- () Lexus CT 200h
- () Lexus ES 300h
- () Lexus GS 450h
- () Lexus HS 250h
- () Lexus LS600hL
- () Lexus NX Hybrid
- () Lexus RX400h/450h
- () Lincoln MKZ
- () Mazda Tribute
- () Mercedes-Benz E400 Hybrid
- () Mercedes-Benz ML450
- () Mercedes-Benz S400
- () Mercury Mariner
- () Mercury Milan
- () Nissan Altima
- ( ) Nissan Pathfinder Hybrid
- () Porsche Cayenne
- ( ) Porsche Panamera S
- () Toyota Avalon
- ( ) Toyota Camry
- () Toyota Highlander
- () Toyota Prius
- () Toyota Prius c
- () Toyota Prius v
- () Saturn Aura
- () Saturn Vue
- ( ) Subaru XV Crosstrek Hybrid
- () Volkswagen Jetta Hybrid
- () Volkswagen Touareg Hybrid

Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is "A fuel-cell electric vehicle (uses hydrogen)" AND "Make" OR "Model" is missing.



- 8) Please specify the make and model of your fuel cell electric vehicle.\*
- () Honda Clarity Fuel Cell
- () Hyundai Tucson Fuel Cell
- ( ) Toyota Mirai Fuel Cell Vehicle

Logic: Show/hide trigger exists. Hidden unless: Q5 "Please specify the make and model of the battery electric vehicle." is one of the following answers ("Other") OR Q6 "Please specify the make and model of the plug-in hybrid electric vehicle." is one of the following answers ("Other")) OR Q7 "Please specify the make and model of the conventional hybrid vehicle." is one of the following answers ("Other")

9) You said you acquired a clean vehicle other than those shown in the drop-down menu. Please specify the make and model here.

\_\_\_\_\_

#### Logic: Show/hide trigger exists. Hidden unless: "New or Used" is missing

- 10) Is the vehicle you purchased new or used?\*
- () New
- () Used

Logic: Show/hide trigger exists. Hidden unless: "Model Year" is missing AND if Q10 = "New" OR IF "New or Used" = "New"

- 11) And what is the model year of the clean vehicle you just purchased?\*
- () MY 2019
- () MY 2018
- () MY 2017

Logic: Show/hide trigger exists. Hidden unless: "Model Year" is missing AND if Q10 = "Used" OR IF "New or Used" = "Used"

- 12) And what is the model year of the clean vehicle you just purchased?\*
- () MY 2019
- () MY 2018
- () MY 2017
- () MY 2016



() MY 2015 () MY 2014 () MY 2013 () MY 2012 () MY 2011 () MY 2010
13) What is the primary intended use for this vehicle?*
( ) Private use
() Commercial/organizational use
Validation: Min = 0 Max = 3000 Must be numeric
14) Approximately how many total miles do you estimate you will drive the clean vehicle in a typical week (including commuting, errands, recreation)?
() 0 – 74
() 75 – 149
( ) 150 – 224
( ) 225 – 299
( ) 300+
15) How did you most often get where you needed to go before you bought the clean vehicle?
() I drove a different vehicle
( ) I took public transit
() I paid someone else to drive me (examples: ride-sharing, taxis)
() Someone else drove me for free (examples: carpooling, rides from friends or family)
() I rode a bicycle or walked

( ) Other, please specify:\_\_\_\_

16) How do you most often get where you need to go currently?
( ) [mode selected above]
( ) My clean vehicle
( ) Other, please specify:

#### Clean Vehicle Interest

#### Randomized row order

Logic: Show/hide trigger exists. "Carpool or High Occupancy Vehicle (HOV) lane access" will be hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is "A battery electric vehicle (uses electricity only)" OR "A plug-in hybrid electric vehicle (uses gasoline and/or electricity)" OR "A fuel-cell electric vehicle (uses hydrogen)"

17) How important were each of the following factors in your <u>decision to acquire</u> the clean vehicle you just purchased?

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
Saving money on fuel costs	()	()	()	()	()
Saving money overall	()	()	()	()	()
Reducing environmental impacts	()	()	()	()	()
Increased energy independence	()	()	()	()	()



Vehicle styling, finish, and comfort	()	()	()	()	()
A desire for new or interesting technology	()	()	()	()	()
Vehicle performance	()	()	()	()	()
Convenience of vehicle refueling	()	()	()	()	()
Vehicle range on a single tank/charge	()	()	()	()	()
Carpool or High Occupancy Vehicle (HOV) lane access	()	()	()	()	()

If there were any other factors in your decision that were very or extremely important, please specify below:

Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is "A battery electric vehicle (uses electricity only)" OR "A plug-in hybrid electric vehicle (uses gasoline and/or electricity)"



18) How important to your <u>decision to acquire</u> your plug-in electric vehicle was the availability of charging at each of the following locations?

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
At or near your home	()	()	()	()	()
At or near your workplace	()	()	()	()	()
At or near other destinations (such as shopping, friends/family, transit stations)	()	()	()	()	()
On the way to other destinations	()	()	()	()	()

### Clean Vehicle Incentives

#### Randomized row order

Logic: Show/hide triggers exist.

The last three options – "Special electricity rates for charging at home," "Free charging away from home," and "Grant for purchase of charging equipment" – will be hidden unless:



Q4 "For what type of vehicle did you receive your grant/loan?" is "A battery electric vehicle (uses electricity only)" OR "A plug-in hybrid electric vehicle (uses gasoline and/or electricity)"

The "Federal tax incentives" option will be hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is "A battery electric vehicle (uses electricity only)" OR "A plug-in hybrid electric vehicle (uses gasoline and/or electricity)" OR "A fuel-cell electric vehicle (uses hydrogen)

The "Grant via the Clean Vehicle Assistance Program" option will be hidden unless: Q2 "Did you purchase a clean vehicle with a grant from the Clean Vehicle Assistance Program?" is "Yes" OR "Grant Received" = "Yes"

The "Loan via Beneficial State Bank" option will be hidden unless: Q3 "Did you purchase a clean vehicle with a loan from the Beneficial State Bank?" is "Yes" OR "Loan Received" = "Yes"

19) How important were each of the following factors in <u>making it possible</u> for you to acquire your clean vehicle?

	Not applicab le	Not at all importa nt	Slightly importa nt	Moderat ely importan t	Very importa nt	Extreme ly importa nt
Federal tax incentives	()	()	()	()	()	()
Grant via the Clean Vehicle Assistance Program	()	()	()	()	()	()
Loan via Beneficial State Bank	()	()	()	()	()	()
Manufactur er or dealer	()	()	()	()	()	()



incentives (such as low interest rate, cash back)						
Parking incentives (employer, business, or governmen t)	()	()	()	()	()	()
Special electricity rates for charging at home	()	()	()	()	()	()
Free charging away from home	()	()	()	()	()	()
Grant for purchase of charging equipment	()	()	()	()	()	()
Other incentives from your electric utility	()	()	()	()	()	()



If there were any other factors that were very or extremely important, please specify below: Logic: Hidden unless: Q2 "Did you purchase a clean vehicle with a grant from the Clean Vehicle Assistance Program?" is "Yes" OR "Grant Received" = "Yes" 20) Would you have purchased your clean vehicle if you did not receive a grant through the Clean Vehicle Assistance Program? () Yes () No Logic: Hidden unless: Q3 "Did you purchase a clean vehicle with a loan from the Beneficial State Bank?" is "Yes" OR "Loan Received" = "Yes" 21) Would you have purchased your clean vehicle if you did not receive a loan through the Beneficial State Bank? () Yes () No 22) If the Clean Vehicle Assistance Program did not exist, and its grants/loans were not available to you, what do you think you would have done? () Purchased/leased this exact vehicle anyway ( ) Purchased/leased a less expensive version of the same vehicle () Purchased/leased a new (but different) clean vehicle (a conventional hybrid, plug-in hybrid, or battery electric vehicle) () Purchased/leased a used (but different) clean vehicle (a conventional hybrid, plug-in hybrid, or battery electric vehicle) () Purchased/leased a new conventional vehicle instead

() Purchased/leased a used conventional vehicle instead

() Not made any purchase/lease at all



## Clean Vehicle Concerns

### Randomized option order (with the exception of 'Other')

Validation: Max. answers = 3 (if answered)

Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is one of the following answers ("A battery electric vehicle (uses electricity only)")

23) Which concerns did you have when you were shopping for your battery electric vehicle? (Please rank up to three, with 1 being your greatest concern):
Cost of purchase
Resale value
Driving range on a single charge
Maturity of technology used in electric vehicles
Battery lifespan
Vehicle safety record
Variety of available vehicle models and body styles
Time required to recharge vehicle
Availability of charging at home
Cost of electricity for charging
Availability of charging stations away from home
Cost to install charging equipment at home
Cost to maintain vehicle
Cost to insure vehicle
Vehicle performance



If there were any other concerns you had, please specify below
OR
If none of the items listed above were concerns when purchasing/leasing your clean vehicle, please write "None".
Randomized option order (with the exception of 'Other')
Validation: Max. answers = 3 (if answered)
Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is one of the following answers ("A plug-in hybrid electric vehicle (uses gasoline and/or electricity)")
24) Which concerns did you have when you were shopping for your plug-in hybrid electric vehicle?  (Please rank up to three, with 1 being your greatest concern): Cost of purchase
Resale value
Driving range on electricity (before switching to gasoline)
Maturity of technology used in plug-in hybrid electric vehicles
Battery lifespan
Vehicle safety record
Variety of available vehicle models and body styles
Time required to recharge vehicle
Availability of charging at home
Cost of electricity for charging
Availability of charging stations away from home



\_Cost to maintain vehicle

\_\_\_Cost to insure vehicle \_\_\_Vehicle performance

If there were any other concerns you had, please specify below
OR
If none of the items listed above were concerns when purchasing/leasing your clean vehicle, please write "None".
Randomized option order (with the exception of 'Other')
Validation: Max. answers = 3 (if answered)
Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is one of the following answers ("A hybrid electric vehicle (uses gasoline only)")
25) Which concerns did you have when you were shopping for your conventional hybrid vehicle? (Please rank up to three, with 1 being your greatest concern): Cost of purchase
Resale value
Driving range
Maturity of technology used in hybrid vehicles
Vehicle safety record
Variety of available vehicle models and body styles
Cost to maintain vehicle
Cost to insure vehicle
Cost of fuel
Vehicle performance
If there were any other concerns you had, please specify below
OR
If none of the items listed above were concerns when purchasing/leasing your clean vehicle, please write "None".



# Randomized option order (with the exception of 'Other')

Validation: Max. answers = 3 (if answered)

Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is one of the following answers ("A fuel-cell electric vehicle (uses hydrogen)")

up to three, with 1 being your greatest concern):
Cost of purchase
Resale value
Driving range on a single fill
Maturity of technology used in fuel cell vehicles
Durability of fuel cell
Cost of fuel cell replacement
Vehicle safety record
Variety of available vehicle models and body styles
Availability of hydrogen fueling stations
Reliability of hydrogen fueling stations
Cost of hydrogen fuel
Cost to maintain vehicle
Cost to insure vehicle
Environmental impact of producing hydrogen fuel
If there were any other concerns you had, please specify below
OR
If none of the items listed above were concerns when purchasing/leasing your clean vehicle, please write "None".



27) About how much do you pay, in dollars, to insure the clean vehicle you just acquired?

Validation: Min = 0 Max = 5000 Must be numeric
Insurance cost:
Per:
() Month
() Year
28) Relative to your expectations when you purchased your clean vehicle, is your insurance
premium:
( ) Much less than expected
( ) Slightly less than expected
( ) About the same as expected
( ) Slightly more than expected
() Much more than expected

Page entry logic: The "Charging and Using Your Electric Vehicle" section of questions will be hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is "A battery electric vehicle (uses electricity only)" OR "A plug-in hybrid electric vehicle (uses gasoline and/or electricity)"

# Charging Your Electric Vehicle

Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is one of the following answers ("A battery electric vehicle (uses electricity only)" OR "A plug-in hybrid electric vehicle (uses gasoline and/or electricity"))



29) Have you already received a Level 2 charging station through GRID Alternatives, or are you in the
process of doing so?

() Yes

() No

Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is one of the following answers ("A battery electric vehicle (uses electricity only)" OR "A plug-in hybrid electric vehicle (uses gasoline and/or electricity"))

- 30) Have you received any <u>other</u> incentives that reduce or eliminate the cost of installing a Level 2 charging station?
- () Yes
- () No

If yes, please describe:

Logic: Show/hide trigger exists. Hidden unless: Q4 "For what type of vehicle did you receive your grant/loan?" is one of the following answers ("A plug-in hybrid electric vehicle (uses gasoline and/or electricity)")

- 32) Presently, do you charge your plug-in electric vehicle at home?
- () Yes, I am using a 120V outlet (typical household outlet)
- () Yes, I am using a 240V outlet (such as a clothes dryer outlet)
- () Yes, I am using a Level 1 (120V) charging station
- () Yes, I am using a Level 2 (240V) charging station
- () No, I am not charging at home

Logic: Show/hide trigger exists. Hidden unless: Q29 "Presently, do you charge your plug-in electric vehicle at home?" is one of the following answers ("Yes, I'm using a Level 1 (120V) charging station", "Yes, I'm using a Level 2 (240V) charging station")

- 33) Please describe your electric vehicle charging station.
- () I had it installed when I acquired my new electric vehicle
- () I had it installed when I acquired a previous electric vehicle
- ( ) The charging station is already installed for use in my apartment complex
- () The charging station was already installed when I moved into my home



Logic: Show/hide trigger exists. Hidden unless: Q32, "Please describe your electric vehicle charging station" is ("I had it installed when I acquired my new electric vehicle")

34) About how much did/will you pay (after any incentives) to purchase and install your charging station, including any electrical upgrades that were needed? [please enter a numerical answer; do not include loan interest]

Validation: IVIIII – 0 IVIAX – 30000 IVIAST BE HATTIETTE
Cost estimate:
Logic: Show/hide trigger exists. Hidden IF: Q29 "Presently, do you charge your plug-in electric
vehicle at home?" is one of the following answers ("No, I am not charging at home")

35) How has charging your newly-acquired clean vehicle at home impacted your electricity bills?

- () I am not sure
- () I have yet to receive a bill that might reflect increased charges

Validation: Min - 0 May - 50000 Must be numeric

- () There has been no change
- () A little
- () A notable amount
- () A great deal

Logic: Show/hide trigger exists. Hidden unless: Q29 "Presently, do you charge your plug-in electric vehicle at home?" is one of the following answers ("No, I'm not charging at home")

36) Will you be able to charge at home within the next year?

- () Yes
- () No
- () Unsure

Randomized option order (with the exception of 'Other')



Logic: Show/hide trigger exists. Hidden unless: Q35 "Will you soon be able to charge at home?" is one of the following answers ("No")

37) Why will you not be charging at home?
[] I rent or have a homeowners association and am not authorized to make this type of change at my residence
[] My residence has no off-street parking
[] I can charge for free or at a lower cost somewhere else
[] Adding an outlet or charging station would be too expensive
[] Adding an outlet or charging station would be too complicated
[] I only plan to have my electric vehicle for a few years
[] I will be moving soon
[] I never charge my vehicle (just use it as a hybrid)
[ ] Other, please specify:*
38) When you get to work is there somewhere you can charge your plug-in electric vehicle?  () I work from home or I don't work so this question doesn't apply to me.
() I'm not sure whether electric vehicle charging is available.
() Yes, and I can charge for free.
() Yes, and I must pay to charge.
( ) No
Logic: Show/hide trigger exists. Hidden IF: Q37 "When you get to work is there somewhere you can charge your plug-in electric vehicle?" is one of the following answers ("I work from home or I don't work so this question doesn't apply to me.")
39) About how far, in miles, is your typical daily commute?
Validation: Min = 0 Max = 500 Must be numeric



# Your Home

# Logic: Show/hide trigger exists. Hidden unless: "Rent or Own" is missing

40) Do you own or rent your residence?*	
() Own	
() Rent	
() Prefer not to answer	
41) What type of residence do you live in?*	
( ) Detached house (single-family home)	
( ) Attached house (such as townhome, duplex, triplex)	
( ) Apartment/condominium	
( ) Other, please specify:*	
( ) Prefer not to answer	
() Prefer not to answer	
() Prefer not to answer  42) What is your electric utility?*	
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<ul><li>42) What is your electric utility?*</li><li>( ) Los Angeles Department of Water and Power</li></ul>	
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## Your Household

Remember that your identity will remain confidential, and reported results will be anonymous. **This data helps us contextualize the answers you have given thus far.** 

46) Including the clean vehicle you just purchased, how many vehicles does your household own in total? [please exclude motorcycles, ATVs, RVs, and any vehicles not currently registered]
() 1
()2
()3
( ) 4 or more

### Logic: Show/hide trigger exists. Hidden unless: "# in Household" is missing

47) How many people live in your household, including yourself?
() 1
() 2
() 3
() 4
() 5
() 6
() 7
() 8
() 9+
() Prefer not to answer

Logic: Show/hide trigger exists. Hidden unless: "Date of Birth" is missing



48) What is your age?
() 16-20
() 21-29
() 30-39
() 40-49
() 50-59
() 60-69
() 70-79
() 80+
() Prefer not to answer
49) How do you prefer to describe your gender?
() Female
() Male
() Non-binary/third gender
( ) Prefer to self-describe:
( ) Prefer not to say
50) What is the highest level of education you have completed?
( ) Some high school but no diploma
( ) High school graduate or equivalent
( ) Some college, no degree
( ) Associate degree
( ) Bachelor's degree
( ) Postgraduate degree
() Prefer not to answer



51) Are you Hispanic or Latino?
() Yes
( ) No
( ) Prefer not to answer
52) How do you prefer to describe your racial identity? [check all that apply]
[] American Indian or Alaska Native
[ ] Black or African American
[ ] East Asian
[ ] Middle Eastern or North African
[ ] Native Hawaiian or other Pacific Islander
[ ] South Asian
[ ] Southeast Asian
[ ] White or Caucasian
[] Other
[] Prefer not to answer



### **Program Satisfaction**

53) On a scale of 0 (low) to 10 (high), please share your level of satisfaction with the **online application process** for the Clean Vehicle Assistance Program.

[0 – 10 sliding scale]

54) On a scale of 0 (low) to 10 (high), please share your level of satisfaction with the **customer service** for the Clean Vehicle Assistance Program.

[0 – 10 sliding scale]

55) On a scale of 0 (low) to 10 (high), please share your level of satisfaction with your **dealership experience** when using the Clean Vehicle Assistance Program.

[0 – 10 sliding scale]

Logic: Hidden unless: Q3 "Did you purchase a clean vehicle with a loan from the Beneficial State Bank?" is "Yes" OR "Loan Received" = "Yes"

56) On a scale of 0 (low) to 10 (high), please share your level of satisfaction with the **loan process for the Beneficial State Bank**.

[0 – 10 sliding scale]



7) How do you think the grant or loan process could be made better? The feedback you share
an help us improve the program, so other Californians can also get clean vehicles.
<del></del>
<sup>-</sup> hank You!
hank you for your time – your feedback will help us improve the Clean Vehicle Assistance
Program.
Disqualify Page

Logic: Hidden unless: Q2 "Did you purchase a clean vehicle with a grant from the Clean Vehicle Assistance Program?" AND Q3 "Did you purchase a clean vehicle with a loan from the Beneficial State Bank?" is one of the following answers ("No") OR "Grant Received" = "No" AND "Loan Received" = "No"

This survey is specifically intended for those who have participated in the Clean Vehicle Assistance Program. Since you did not indicate that you received a grant or a loan through CVA, you do not qualify, but we thank you for your time and interest.





# One simple mission — DECARBONIZE.

The Center for Sustainable Energy\* (CSE) is a nonprofit offering clean energy program administration and technical advisory services. With the experience and streamlined efficiency of a for-profit operation, CSE leads with the passion and heart of a nonprofit. We work nationwide with energy policymakers, regulators, public agencies, businesses and others as an expert implementation partner and trusted resource.

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