



Successful Dealerships, Happy Customers:

Plug In America's PlugStar Program Bridges the
Electric Vehicle Sales Gap

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EXECUTIVE SUMMARY

Electric vehicle (EV) targets are becoming more ambitious across the U.S. at federal, state, and local levels. In the state of California, there are ambitious goals for the future of EVs, targeting 1.5 million on the road by 2025 and 5 million by 2030. These targets are motivated by a number of factors, including greenhouse gas emissions targets, air quality targets, and domestic energy security. However, several significant barriers exist at the interface of EV buyers and sellers that hinder EV adoption. These include:

- (1) **Consumer barriers:** Consumer awareness of the varying aspects and benefits of EV ownership, including EV fueling and incentives.
- (2) **Franchised automotive dealership barriers:** Ongoing support in a rapidly changing EV ecosystem, confidence in selling a new technology, and alignment of automotive dealership incentives for selling EVs.

We observe that the combination of these factors has created, in effect, an “EV Sales Gap” hindering the uptake of EVs and the customer experience.

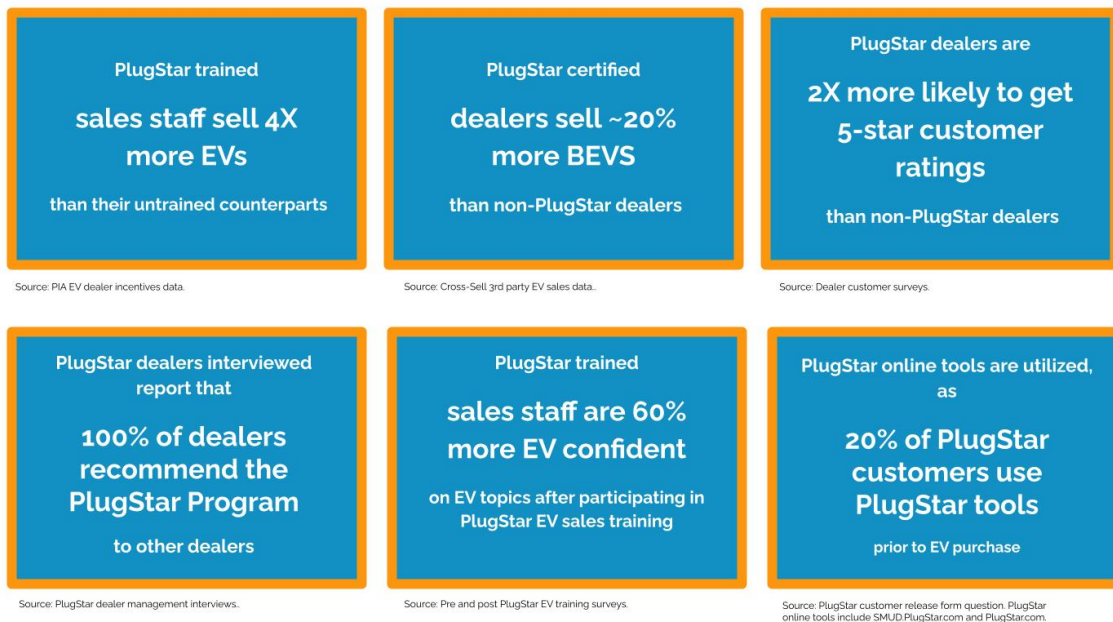
In 2016, Plug In America (PIA) developed the PlugStar Program to address these issues. PlugStar is an integrated consumer and dealership engagement program that includes an online EV information site that connects EV-educated consumers with EV-educated certified dealerships. They are supported through our turn-key dealership training and support program to grow EV sales.



PlugStar Programs Across the U.S.

PlugStar was the first program in the United States to recognize that multiple points of intervention, rather than consumer education or dealership training alone, would be needed to grow EV sales by franchised dealerships and the EV market as a whole. Since its introduction, the PlugStar Program has trained thousands of salespeople at hundreds of dealerships nationwide. PlugStar.com, PIA's consumer EV shopping tool featuring PlugStar trained dealerships, has been visited over 500,000 times since launching in 2018.

This report focuses on PlugStar Program impacts at 19 participating dealerships in the Sacramento metro region from August 2018 through December 2019. During this period, PlugStar delivered the following results:



In addition, this analysis finds that if the PlugStar Program were in effect throughout the state of California, it could contribute to an additional 80,000–110,000 EV sales over the next five years, helping close almost 10% of the remaining sales gap to meet California's 2025 EV target. This increase in EV sales is driven by direct benefits of higher EV competence and confidence among sales staff and is likely to be even larger when considering the network effects of improved customer experience. Though it would require significant work to scale the program statewide in California, this report outlines the potential California-level impacts to provide an example of how a program that reduces barriers to both EV consumers and dealerships, while also connecting the two, can be significantly helpful in increasing EV uptake. The following sections provide more detail on the PlugStar Program and its impacts.

THE EV SALES GAP AND PLUGSTAR

THE HURDLES HINDERING US EV ADOPTION

Despite increases in EV consumer choice and awareness over the last decade, there still exist considerable barriers to the sale of EVs in the United States. Figure 1 shows the distinct challenges both consumers and dealerships face during the EV sales process.



Figure 1: Summary of challenges facing EV consumers and dealers

Despite the difficulties present in the market, franchised dealerships prepared to sell EVs can play a meaningful role in solving many of these challenges. 74% of owners say dealerships have a strong influence on EV purchases, yet the majority of dealerships (66%) receive little to no EV-specific sales and marketing support from manufacturers.¹ Among those that do, just one-third report manufacturer assistance as “very helpful.” The implications of this relationship are clear—dealerships have the capability to address customer needs and achieve higher EV sales if they receive additional EV ecosystem training and support beyond EV model specific training.

While dealership training can address knowledge gaps, the perceived dealership profitability issues facing EVs still remain. With longer sales cycles and more modest sales incentives, many dealerships view EVs with an unclear path to profitability. While specific figures vary, it is clear that additional dealership-facing sales incentives can be a key component of leveling the playing field. This is helpful while consumers and dealerships get familiar with electric powertrains and as they get more comfortable with electricity as a vehicle fuel.

¹Cox Automotive, [“2019 Cox Automotive Evolution Of Mobility- The Path To Electric Vehicle Adoption”](#)

HOW THE PLUGSTAR PROGRAM IS BRIDGING THE GAP

The PlugStar Program addresses the core challenges hindering EV sales through targeted dealership engagement, consumer engagement, and ongoing tools and support for both. These are the three pillars of an integrated engagement program that acknowledges the central role dealerships play in facilitating EV sales. PlugStar is unique in that it combines EV consumer marketing, events, online EV shopping tools and turn-key dealership recruitment, training, certification, dealership sales incentives, and support to grow EV sales. Training is designed to supplement and complement manufacturer and program specific EV training, focusing on topic areas that typically get little attention during EV model or program-specific training—the local EV ecosystem that includes charging, incentives, and best practices for selling EVs. In short, the PlugStar Program exists to reduce the burden on dealerships in selling a new technology, provide marketing support for dealerships and EVs, while helping to create happier customers—ultimately to increase EV uptake.

Figure 2 traces the consumer and dealership journey, including throughout the PlugStar Program touchpoints, as they're supported by location-specific websites, training, sale, and incentive claims. This allows the PIA team to collect critical data all along the customer and dealer journeys.

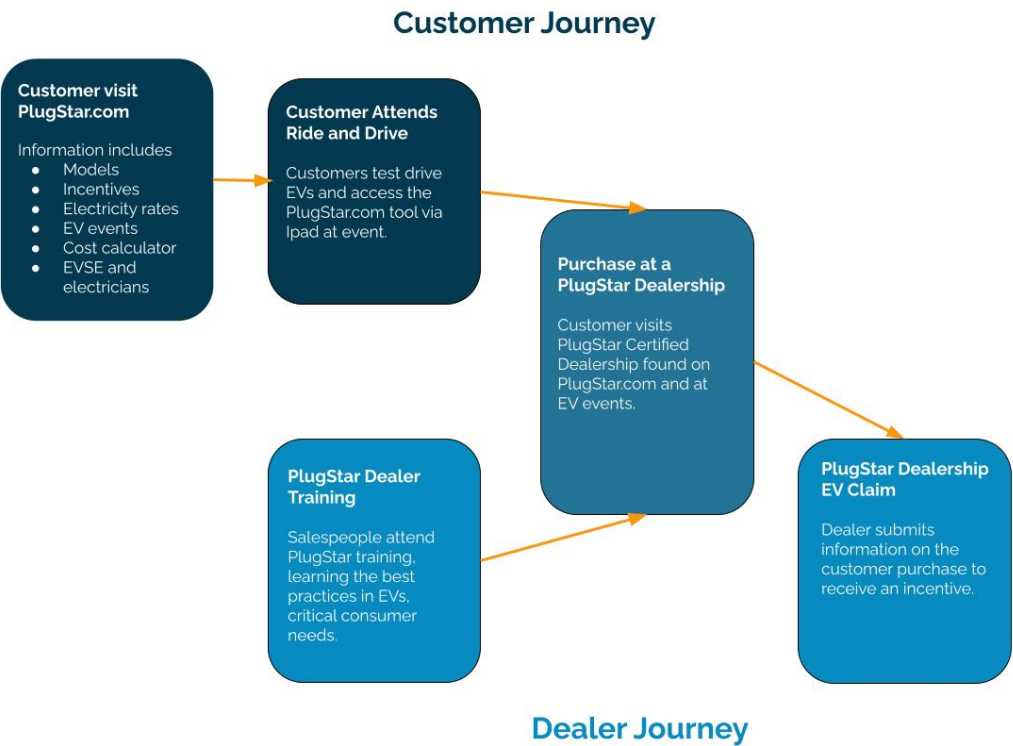


Figure 2: Parallel consumer and dealer journeys through the PlugStar Program

These steps and supporting resources mitigate major pain points in the EV shopping journey, creating a smoother process for consumers and dealerships. We address the extent to which this process improves customer and dealership satisfaction, and leads to more EV sales in the next section. An overview of the Sacramento PlugStar Program during the evaluation period is found in Table 1, including ongoing dealership EV support, training, certification, a per EV sold sales incentive, and EV consumer engagement.

Program Element	Sacramento
Evaluation Period	August 2018 - December 2019
Trained sales staff	208
Participating dealers	19
Trained EV Sales Incentive (Total / Salesperson)	\$300 / \$200
Untrained EV Sales Incentive (Total / Salesperson)	\$150 / \$100

Table 1: Summary of Sacramento PlugStar Program

PLUGSTAR RESULTS

CUSTOMER SATISFACTION: CREATING EV ADVOCATES, NOT DETRACTORS

Every unanswered EV customer question is a source of uncertainty, anxiety, and ultimately discontent in understanding a new vehicle technology. When these EV unknowns are layered upon the car buying process, the results should not be surprising—dissatisfied car buyers. When dealerships haven't been extensively trained on the EV ecosystem and supported to sell this new technology, over 20% of customers reported negative experiences. Just 35% report an excellent experience. This is compared to over 70% of customers leaving PlugStar Certified dealerships with excellent experiences and none reporting negatively. In summary, we find that PlugStar Certified dealerships are about two times more likely to get a five-star customer rating than a non-PlugStar dealership.² Figure 3 displays the proportion of customer experiences between PlugStar and non-PlugStar dealerships.



Figure 3: Customer EV purchase experience rating of PlugStar and Non-PlugStar Dealers

These customers don't simply report their experiences, they share them with friends and family. Research on customer experience indicates that negative experiences are more likely to be shared than positive, undermining sentiment about a technology, and in turn, its adoption. On average, a customer with a highly negative experience will share their experience with seven people, while those who have had an excellent experience will relay their experience to only three others, and those with neutral experiences one other.³ Figure 4 estimates the total number of Californians who would hear positive, negative or neutral characterizations of the EV-buying experience from friends and family under both PlugStar Certified dealership and non-PlugStar quality reviews.⁴

²Based on a PIA survey of EV Car Buyers. 5-star reviews = excellent, 3 and 4 = good, 1 and 2 = negative.

³Satisfaction: How Every Great Company Listens to the Voice of the Customer; Chris Denove, James D. Power IV.

⁴See Methodology section for model detail.

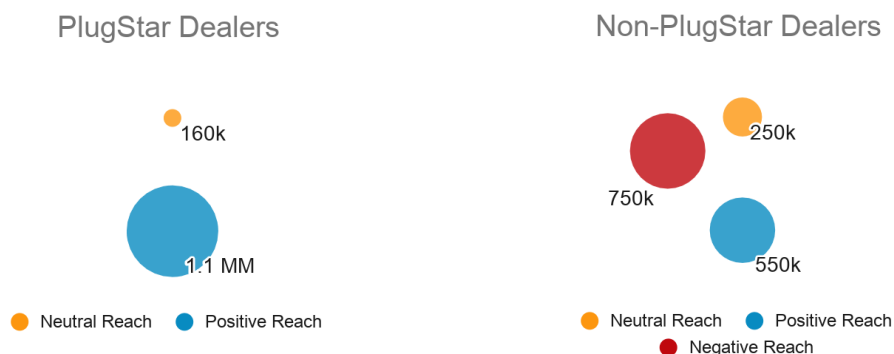


Figure 4: Estimated number of Californians contacted by EV-buyers under PlugStar and Non-PlugStar dealer experiences (2021-2025)

The experience offered by the existing EV market would result in an estimated 750,000 Californians with negative impressions of EVs due to the experiences of their friends and family, and 550,000 with positive. At the same scale, the experience offered by PlugStar Certified dealerships would create 1.1 million Californians with positive impressions of the EV-buying experience, a net change of 1.3 million citizens, approximately half of whom will purchase a vehicle over the next five years.⁵

Negative experiences and their sharing can have significant consequences on a population's perception of an innovative technology like EVs. This support is especially critical for a customer population where 80% are buying an EV for the very first time, and over 60% are not settled on a specific model when entering the dealership.⁶ The evidence is clear—dealerships that are not supported in selling EVs create fewer positive experiences, and more negative, avoidable experiences, than PlugStar dealerships.

PIA also knows that customers are using PlugStar.com and other online PIA tools before shopping at PlugStar Certified dealerships, as 20% of PlugStar dealership customers are citing the use of PIA tools prior to EV purchase.⁷

⁵See Methodology section for model detail.

⁶Based on a survey of customers purchasing EVs from PlugStar certified dealerships.

⁷Based on PlugStar Program customer release form information.

DEalership Satisfaction: Increasing Confidence & Sales

Evidence from the Sacramento metro area PlugStar Program shows that customers not only have a better experience buying from PlugStar dealerships, but that these experiences and the program support for dealerships result in more EV sales.^{8,9} The increase in sales can be primarily attributed to a more supported and confident sales staff. Figure 5 displays salesperson confidence across 12 key EV sales competencies ranging from familiarity with EV incentives to fuel cost comparisons and model knowledge, both prior to and after PlugStar training. The program has seen that, on average, PlugStar trained sales staff are about 60% more EV confident across all EV training topics after participating in PlugStar EV sales training.

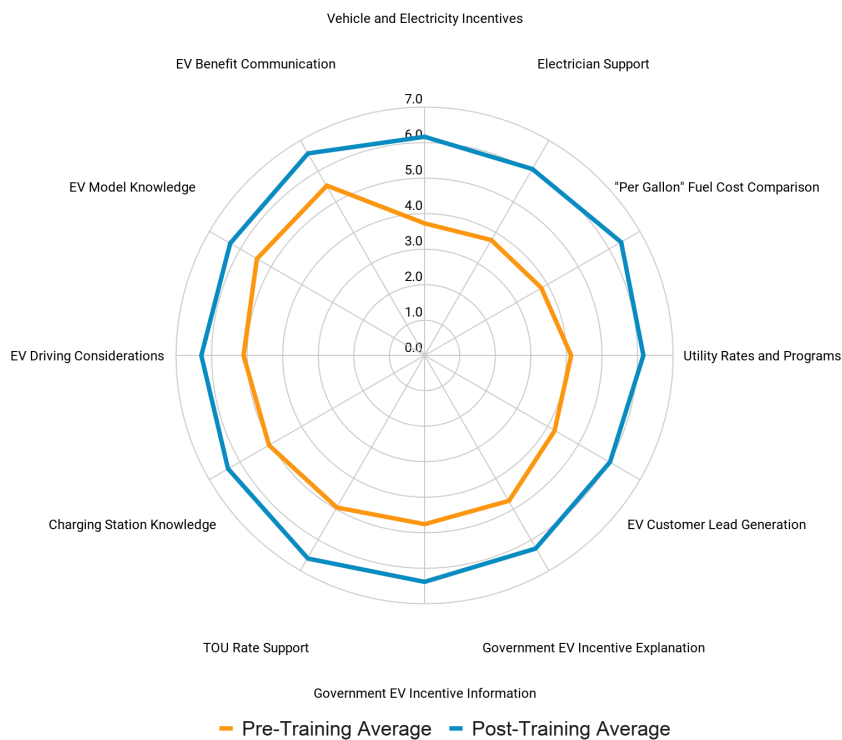


Figure 5: Average salesperson confidence in key EV sales competencies pre-and-post PlugStar training (1-7 Likert Scale)

⁸See methodology for calculation detail.

⁹Sacramento was chosen for evaluation due to the larger number of participating dealerships, and greater consistency in customer experience throughout the PlugStar Program incentive period.

The majority of salespeople entered PlugStar training with some OEM EV model-specific training (80%), but also with limited personal experience regularly driving EVs (20%) and limited confidence in command over key EV ecosystem competencies. The same salespeople left the training with considerably higher confidence, 99% learned something in addition to factory training, and 99% indicated they would recommend PlugStar training to others.¹⁰ This confidence comes through when looking at PlugStar Program impact on sales-staff-level EV sales, as PlugStar-trained sales staff sell about four times more EVs than their untrained counterparts.



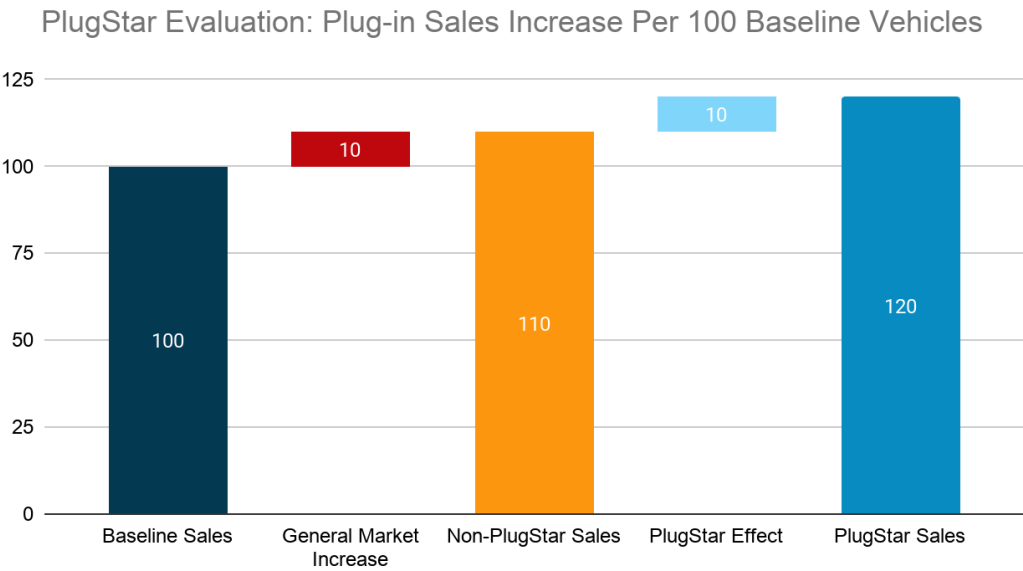
Program satisfaction also aggregates to the dealership level, where 100% of surveyed dealer management participants rated the program five out of five stars and said they would recommend the program to other dealerships. 94% of dealerships indicated they stocked more EVs due to PlugStar participation, 100% indicated they believed they sold more EVs, and would have done so even without monetary incentive.¹¹ Indeed, the regional EV sales data backs up what dealerships have conveyed on perceived sales impacts. Figure 6 examines monthly sales registration data from Dominion Cross-Sell for Sacramento-area PlugStar dealerships, comparing baseline period PlugStar sales, non-PlugStar “market” dealership performance, and the net impact of the PlugStar Program. Comparison of EV sales between PlugStar Certified dealerships and non-PlugStar dealerships indicate a general 10% increase in all plug-in vehicle sales, while PlugStar dealerships saw a 20% increase, resulting in a net 10% benefit of the PlugStar Program.¹² Focusing on all-electric vehicles only (battery electric vehicles or BEVs), the net benefit increases to around 20%. At this rate, if the PlugStar Program were in effect throughout the state of California, it could contribute to an additional 80,000–110,000 EV sales over the next five years, helping close almost 10% of the remaining sales gap to meet California’s 2025 EV target.¹³

¹⁰PlugStar training surveys.

¹¹PlugStar dealership management surveys.

¹²See methodology for calculation detail.

¹³See methodology for calculation detail.



Source: Dominion Cross-Sell

- **Counties:** Placer; Sacramento; Yolo
- **Baseline period:** August 2016-December 2017
- **Program period:** August 2018-December 2019
- **Vehicle registrations:** 600,000
- **Total Dealerships:** 170
- **PlugStar dealerships:** 19

Figure 6: Comparison of all plug-in sales between PlugStar and Non-PlugStar Dealers [Source: Dominion Cross-Sell]

Dealerships expressed universal satisfaction with the program and displayed their commitment by investing in training for over 200 staff.

CONCLUSIONS & FURTHER RESEARCH

The PlugStar Program was developed to address a specific set of known barriers that exist within the EV sales ecosystem, creating difficulty for consumers and dealerships alike. It was the first program in the United States to recognize that multiple points of intervention, rather than EV consumer education or EV dealership training alone, would be needed to grow EV sales by franchised dealerships and the EV market as a whole. Since its introduction, the PlugStar Program has trained thousands of salespeople at hundreds of dealerships nationwide and reached hundreds of thousands through PlugStar.com. Now, through the evaluation of customer and dealership survey data and vehicle registrations, we have a clear understanding of the considerable effectiveness of the PlugStar Program.

The PlugStar Program empowers salespeople with command of critical EV ecosystem knowledge and increases PlugStar Certified dealerships' EV sales. It pleases customers so they are more likely to purchase EVs, more likely to share positive experiences with friends and family, and less likely to share negative experiences. It compels dealerships to stock more EV inventory and allocate precious sales time to training. If the PlugStar Program were in effect across the state of California, an estimated 80,000–110,000 additional EVs would be on state roads by 2025, helping to meet approximately 10% of the state's 2025 EV target.

Given these promising results, we believe that there exists a significant opportunity to grow EV sales throughout California and the US through a comprehensive EV training, support, certification, and rewards program such as PlugStar. A program that empowers salespeople to champion EVs at their dealership and provides incentives to help bring the revenue benefit of EVs up to parity with ICEs for dealerships and salespeople can have an enormous impact on greenhouse gas, air quality, and EV adoption targets throughout the country.

CONSIDERATIONS FOR FURTHER RESEARCH

While current results are encouraging, there exist several areas of further research that would help clarify program impacts, and allow for further refinement of the PlugStar Program. Priority further studies would include:

- a larger dealership applicant pool, allowing for a deeper understanding of the key variables driving sales increases.
- assessment of the impact of varying financial incentive treatments on program engagement, compliance, data collection, and sales.
- assessment of the expanded Sacramento PlugStar Program, which has recently grown in scope with an enhanced EV Support Program (EVSP) or "call center" for

BRIDGING THE EV SALES GAP WITH PLUGSTAR

- both EV dealerships and customers, as well as an incentive for dealerships to sell cars through the Sacramento Clean Cars for All Program (CC4A Program).
estimation of the market-wide EV sales impact of customer experience word-of-mouth. With modest purchase probability change, 1.3 million Californians with improved EV impressions could add 10,000–20,000 EV sales in California.¹⁴

This report outlines the potential California-level impacts to provide an example of how a program that reduces barriers to both EV consumers and dealerships, while also connecting the two, can be significantly helpful in increasing EV uptake. In order to scale the program, it would require additional PIA partnerships and stakeholder engagement.

¹⁴See methodology for calculation detail.

AUTHORS AND ACKNOWLEDGMENTS

ABOUT PLUG IN AMERICA

Plug In America (PIA) is a non-profit, supporter-driven advocacy group. Our mission is to drive change to accelerate the shift to plug-in vehicles powered by clean, affordable, domestic electricity to reduce our nation's dependence on petroleum, improve air quality and reduce greenhouse gas emissions. PIA helps consumers, policy-makers, auto manufacturers and others to understand the powerful benefits of driving electric by providing practical, objective EV information.

REPORT CONTACT

Please contact us at support@pluginamerica.org for additional information.

ACKNOWLEDGMENTS

Listed in alphabetical order.

- Eric Ast, Chief Data Officer, East Data, LLC
- Eric Cahill, Program Advisor, Plug In America
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- Tom Moloughney, Program Advisor and Lead Dealer Trainer, Plug In America
- Mellisa Park, Program Associate, Plug In America
- Corey Permann, Program Advisor, Plug In America
- Kathryn Urquhart, Program Director, Plug In America
- Roman Vazquez, Dealer Trainer, Plug In America

- Placer County Air Pollution Control District (PCAPCD)
- Roseville Electric Utility (Roseville EU)
- Sacramento Municipal Utility District (SMUD)

METHODOLOGIES

Total Estimated Electric Vehicles Sales; California Dealerships [2021-2025]: 540,000

Word of Mouth Reach:

- Positive Reach = Total Dealership Sales x Pct. Excellent Reviews x Contacts Per Excellent Review
- Negative Reach = Total Dealership Sales x Pct. Negative Reviews x Contacts Per Negative Review
- Contacts Per Excellent Review = 3
- Contacts Per Negative Review = 7

Word of Mouth Sales Impact:

- Positive Sales Impact = Positive Reach x Baseline 5yr EV Sale Probability x Excellent review sales increase factor
- Negative Sales Impact = Negative Reach x Baseline 5yr EV Sale Probability x Negative review sales decrease factor
- Baseline 5yr EV Sale Probability: Annual Vehicle Purchase Rate x Plug-In Purchase Rate x 5
- Annual Vehicle Purchase Rate: 8%
- Plug-In Purchase Rate: 8%
- Excellent review sales increase factor: 30%-50%
- Negative review sales decrease factor: 30%-50%

PlugStar Market Lift:

- Baseline Period: August 2016-December 2017
- Program Period: August 2018-December 2019
- Eligible Sales: New, Non-Fleet, Plug-In Vehicles
- PlugStar Sales Delta = [Total Sales Program Period/Total Sales Baseline Period] for PlugStar Participating Dealerships
- Market Sales Delta = [Total Sales Program Period/Total Sales Baseline Period] for Non-PlugStar Participating Dealerships
- Market Lift = [PlugStar Sales Delta]/[Market Sales Delta]