

Electric Vehicles:

The New Customer Engagement  
Opportunity for Utilities

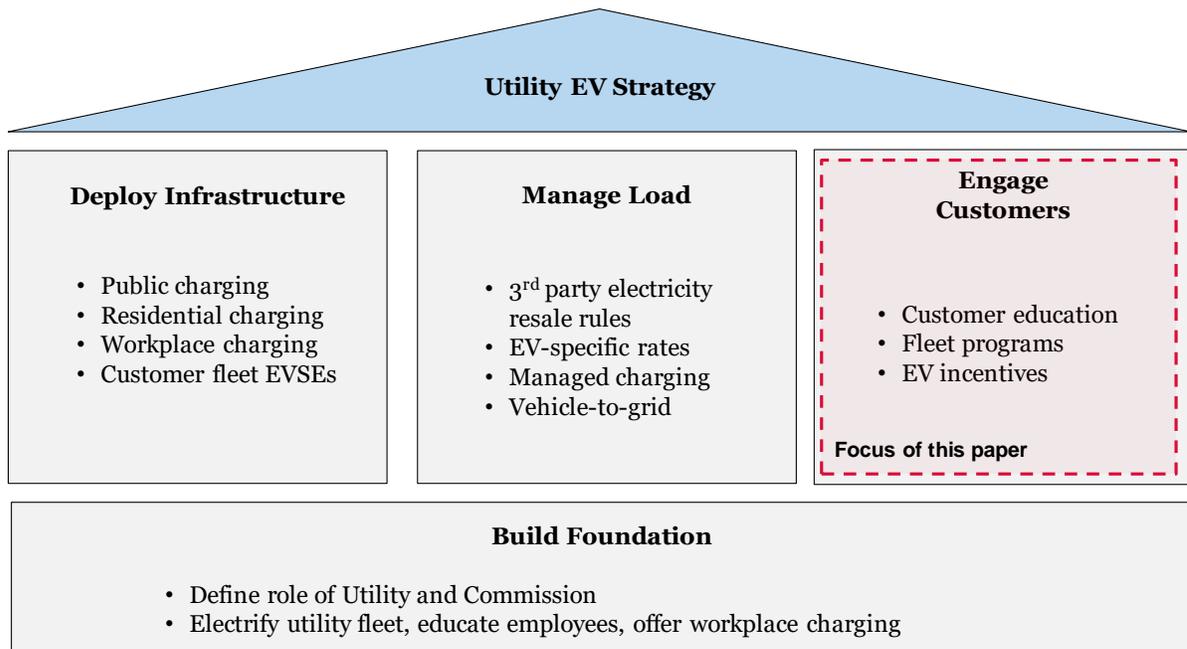
---

# UTILITIES AT A CUSTOMER ENGAGEMENT CROSSROADS

Electric Vehicles (EVs) are becoming a viable alternative to traditional gasoline vehicles in America. In 2017, 200,000 new EVs were sold, a 25% increase over 2016<sup>1</sup>; EVs now account for over 1% of new vehicle sales. Meanwhile, automakers are making headlines by announcing ambitious plans to electrify their vehicle lineup and sell millions of EVs globally by 2025.

After years of treading cautiously, U.S. utilities have now fully understood the value they can capture from vehicle electrification – chiefly, increased energy sales, grid stabilization, meeting policy goals, and increased revenues from new business models. Consequently, many utilities are embracing the technology with vigor, typically by pursuing strategic initiatives as depicted in Exhibit 1.

**Exhibit 1** The typical utility EV strategy is articulated around 4 pillars: build a foundation, deploy infrastructure, manage load and engage customers



After building foundational understanding, utilities usually focus on infrastructure deployment and load management – according to SEPA<sup>2</sup>, these two pillars account for 77% of U.S. utility EV dockets as of December 2017. This is in line with utilities’ core competencies: deploying capital and managing power flows.

However, no utility EV strategy is complete without substantial effort in customer engagement.

First, infrastructure investment and rate design don't bring EVs on the road – vehicle purchases by customers do. Engaging and helping customers in their EV journey drives EV penetration, utilization of deployed equipment, power sales, and realization of load management programs at scale.

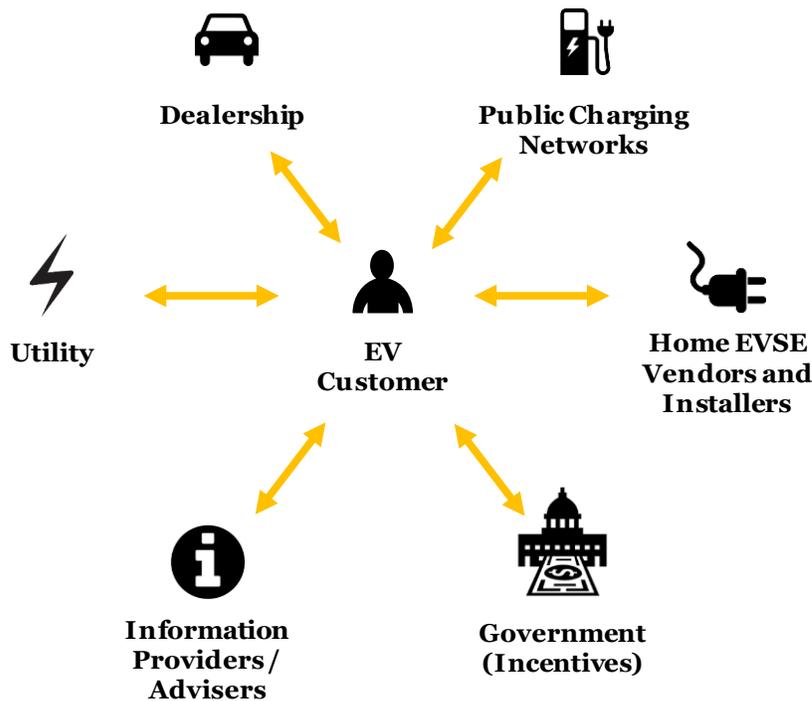
In addition to sheer growth of EV sales, engaging customers also has indirect benefits for utilities. Customer relationships are improved; utilities receive positive publicity and more favorable regulatory treatment. They also gain the ability to influence what technologies are deployed on the grid, and how they are used by consumers.

**Beyond these immediate benefits lies a much larger opportunity.** Electric vehicles offer utilities an opening to position themselves at the center of the emerging new mobility ecosystem – and profit handsomely from it.

As depicted in Exhibit 2.a., EV customers currently have to interact with a half-dozen EV industry actors to acquire (via purchase, lease, or subscription) and charge their vehicles.

**Exhibit 2.a**

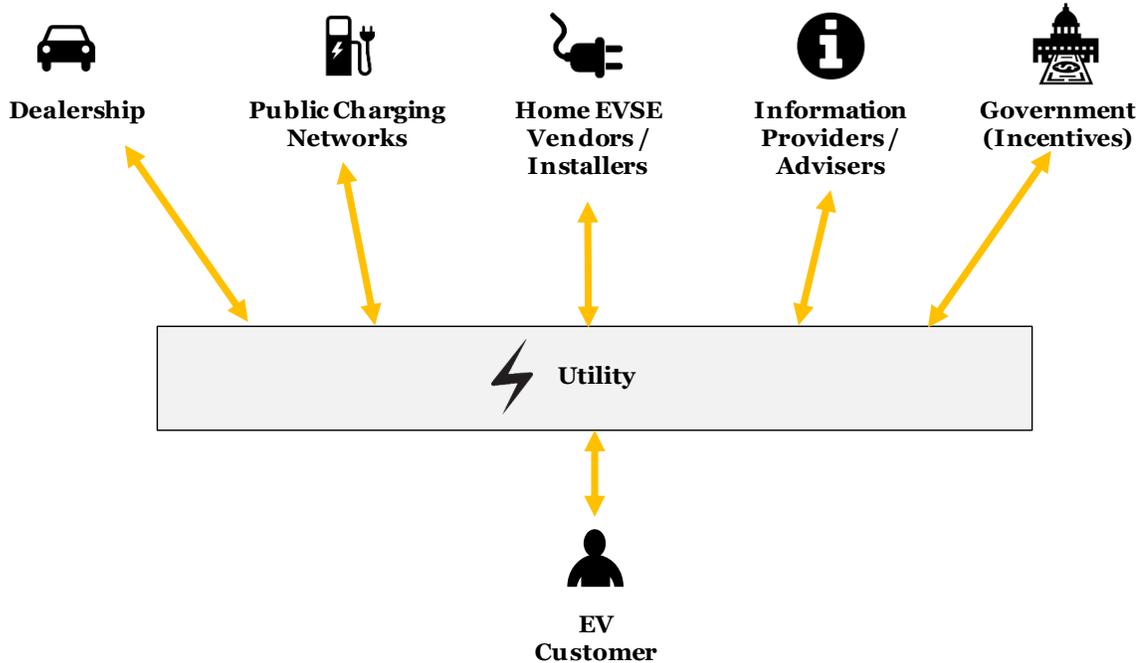
EV Customers must interact with a wide range of industry participants – most of them absent from the traditional gasoline car experience. The utility is one player amongst many.



However, utilities could move to the center of the customer experience, as shown in Exhibit 2.b. Leveraging existing customer relationships, they have the ability to offer a one-stop-shop experience and cover the entire value chain, collaborating with or replacing other actors.

**Exhibit 2.b**

Utilities have the opportunity to position themselves at the center of the customer EV experience



This new position in the ecosystem could unlock a wide range of new business models and revenue streams. Synergies also exist with adjacent customer-facing activities such as energy efficiency and solar offerings.

**Leading utilities are already taking steps in this direction.** Their customer education efforts position them as trusted EV advisors. Their home and public charging programs simplify the customer experience and reduces costs. By offering Ride-and-Drive events, they are encroaching on dealerships’ traditional activities. In other words, leading utilities are already taking the lead in customer engagement, moving away from the “let’s wait for the load to come to us” mindset.

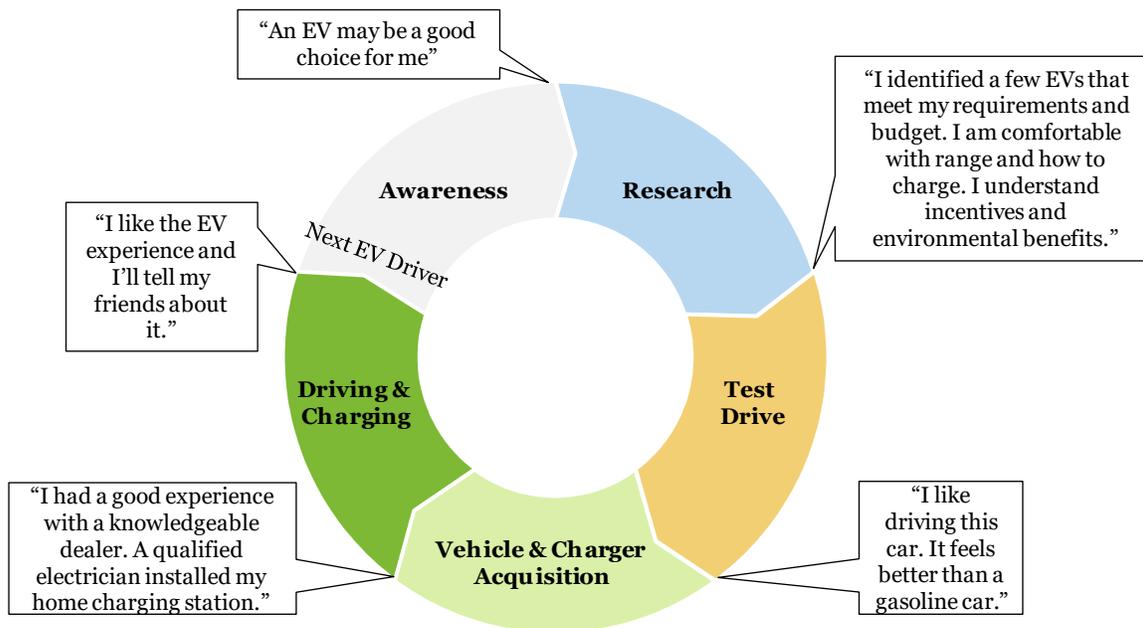
In the following sections, we will explore how utilities can better engage customers<sup>3</sup>, draw lessons learned from these leaders, and position themselves for the future.

*Leading utilities are already moving away from the “let’s wait for the load to come to us” mindset*

## THE EV CUSTOMER JOURNEY

The first step to effective customer engagement is looking at EVs from a customer's perspective, as depicted in Exhibit 3.

**Exhibit 3** The EV Customer Journey. Customers must have a positive experience at each step of the journey to acquire an EV and spread the word. On average, consumers decide what car to buy in 15 to 17 weeks.



Utility have opportunities to assist customers at every step of the lifecycle, from Awareness to Driving and Charging.

### Awareness Phase

#### Lack of Awareness Hampers EV Adoption

The EV customer journey begins when the customer learns that EVs exist as a viable alternative to traditional gasoline vehicles. Unfortunately, most consumers are unaware of the present opportunities to drive and buy EVs<sup>4</sup>. As of early 2016, 60% of Americans did not know that plug-in electric cars exist<sup>5</sup>; even in California, over 90% of new car buyers do not give serious consideration to EVs<sup>6</sup>.

This lack of awareness is partly driven by automakers' reluctance to aggressively market and advertise EVs, as they compete with their traditional vehicle offering<sup>7</sup>. Besides, despite substantial growth in charging infrastructure, electric charging is less visible than gas stations and contributes little to awareness growth<sup>8 9</sup>.

*Even in California, over 90% of new car buyers do not give serious consideration to EVs.*

Fortunately, utilities have the ability to play a major role in spreading the word. According to a study by the Edison Electric Institute<sup>10</sup>, they are the second-most trusted source of information on EVs, after Consumer Reports – car dealers are last.

*Utilities are the second-most trusted source of information on EVs, after Consumer Reports.*

### **Leveraging Utility Channels and Marketing Campaigns to Improve Awareness**

Utilities can first leverage **utility channel outreach** to communicate about EVs' availability and benefits. This includes advertising on their websites, on billing statements, through newsletters, social media, energy efficiency programs or the customer service hotline.

Leveraging utility channels has the benefit of low cost and potential high impact. In addition, utilities may conduct **marketing campaigns** through mainstream channels such as online ads, billboards, TV, radio or auto shows. Such campaigns reach a wider audience but carry a substantially higher cost, which utilities may not be able to afford without regulatory approval.

### **Using Utility Data for Targeted Outreach**

Regardless of channel, utilities can leverage internal and external data for improved and targeted outreach. For instance, they can promote EVs to customers located in areas of the distribution network where charging is least disruptive. Alternatively, leveraging demographic and charging station footprint data, utilities could focus outreach on customers most likely to adopt EVs in the short to medium term.

## **Research Phase**

In the Research phase, customers seek to understand their car purchasing options, assess different models and narrow down their options to vehicles they will want to test drive. In this phase, they typically seek answers to 6 key questions.

**What electric cars are available?** The public generally believes that few EV models are available, awareness being often limited to Tesla vehicles, the Chevrolet Bolt/Volt or the Nissan LEAF. In reality, there are over 30 BEV and PHEV models currently available in the US<sup>11</sup>.

**Will I run out of battery on the road?** Range anxiety is a legitimate and well-documented concern<sup>12</sup>. However, BEVs do meet the daily needs of most American drivers<sup>13</sup>, and PHEVs remove that concern entirely.

**Where can I charge?** Availability of public charging stations is one of the highest barriers to EV adoption<sup>14</sup>. Consumers need to be informed of their charging options, whether at home or on the go.

**What incentives can I claim?** Consumers can benefit from a variety of different incentives for car purchase, charging station installation, reduced electricity costs and

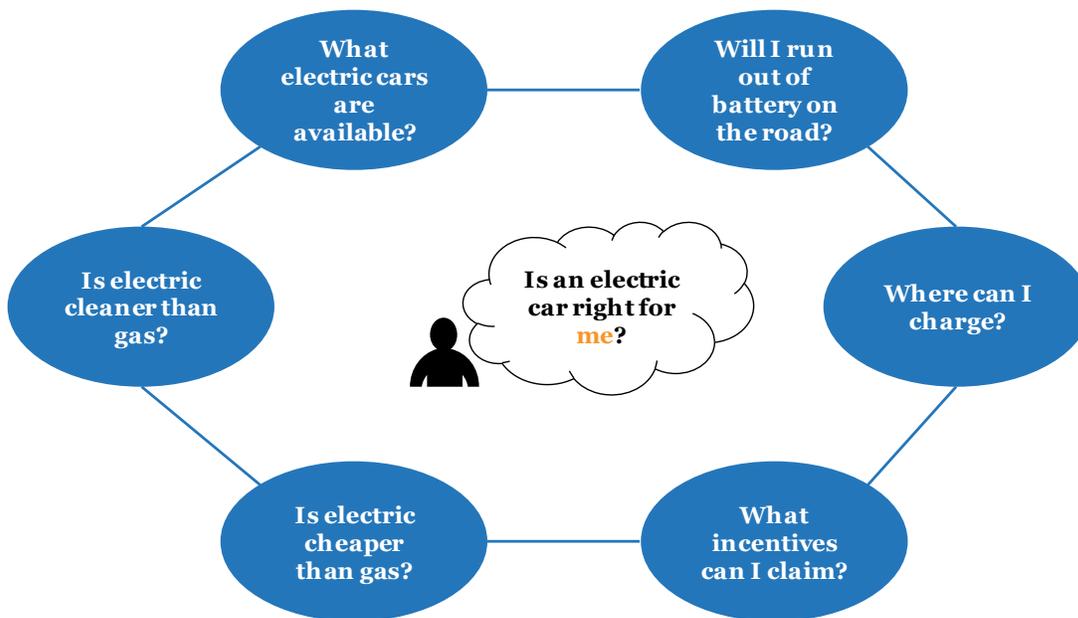
other perks such as HOV lane access<sup>15</sup>. Unfortunately, incentive complexity contributes to consumer confusion, as they vary according to location, availability, customer income, tax liability and even vehicle sales history (for the Federal Tax Credit).

**Is electric cheaper than gas?** When all incentives are taken into account, the answer is yes most of the time, both on a per mile and total cost of ownership basis<sup>16</sup>. However, the sticker price (pre-incentives) of EVs is typically higher than similar gasoline cars, which leads to consumer confusion<sup>17</sup>.

**Is electric cleaner than gas?** In most U.S. locations, the answer is yes depending on the local power mix<sup>18</sup>. Some consumers are driven by environmental considerations and should be told accurate estimates of their vehicle's impact.

Today, customers are left to their own devices when it comes to answering these questions. As a result, they may feel that purchasing an EV is too risky and revert to traditional gasoline cars.

**Exhibit 4** The EV Customer's Key Questions. All questions need to be answered satisfactorily for the customer to seriously consider an EV.



Here again, utilities can help by providing accurate information to their customers. Car buyers spend 59% of their time doing research online<sup>19</sup>, and utilities can help shape the information they find to increase likelihood of an EV purchase by supplying the following:

**Basic EV knowledge** – most utilities already have an EV section in their website that presents electric cars’ value proposition, electric rates and charging options.

**Virtual Vehicle and EVSE Showcase/Guide** – utilities can present available models in a brand-neutral way, highlighting key attributes such as range, price, 3<sup>rd</sup> party reviews, safety ratings, etc. Exelon is leading the space with their EZ-EV virtual showcase<sup>20</sup>.

On the charging front, utilities can help customers decide on a home EVSE and estimate installation costs -- which is an opportunity to advertise EV-specific utility rates and V2G programs. They can also present the range of public charging options, and help the consumer decide what networks to sign up for.

**Customized Incentive Estimation** – utilities can give customers a comprehensive view of their incentives using minimal relevant information e.g. zip code and income. Then can then calculate net prices of vehicles and homes chargers of interest – which, in the end, is the actionable information that customers need.

**Cost and Emissions Estimation** – utilities can paint a full picture of all costs of ownership, including depreciation, incentives, fuel, maintenance and insurance. They can help the consumer evaluate lease options, which may be a more attractive way to benefit from the federal tax credit; compare to equivalent gasoline vehicles; and quantify the environmental impact of EVs based on the local power mix.

## *Engaging EV Customers Online*

In the iPhone age, consumers expect to interact with websites that are well-designed, clear, pleasing to the eye and even entertaining. Offering a top quality online experience goes a long way in giving customers confidence about a new technology such as EVs.

**Talk about cars, not kilowatt-hours.** Most customers are not interested in learning technical utility jargon; they just want a car that works for them, at the best cost.

**Visual, simple and actionable.** No buggy web pages full of text. Provide engaging tools and leverage video whenever possible. Always provide a “next step” that takes the customer closer to an EV purchase.

**Device agnostic** - 46% of car shoppers use multiple devices in the research phase<sup>19</sup>. Make sure the information you present is equally compelling on smartphones, tablets and larger screens.

## **Test Drive Phase**

Test drives are often the first time customers experience the vehicle’s acceleration, handling, comfort and silent operation, and as a result make the decision of acquiring an EV<sup>21</sup>.

Utilities are well-positioned to accompany customers to test drives.

Many already organize **Ride and Drive Events** where customers can interact with the vehicle in a pressure-free environment. While organizing Ride and Drive events is a good first step, it is crucial to promote them far and wide in the local community to achieve substantial impact. Cross-promotion with other local partners such as municipalities and local EV groups further amplifies success.

**Physical Showcase** Some utilities want to go further and establish a physical presence to help customers experience EVs. For instance, Austin Energy has established an EV Eco-District showcase in downtown Austin. Residents of Portland, Oregon can interact with EVs and EVSEs for free at the Forth Electric Mobility Showcase, downtown.

**Home test drive** The more forward-looking auto dealers offer home test drives to customers who prefer that experience to a trip to the dealership. Utilities can choose to sponsor home test drives to facilitate customer interaction, increase conversion, and deepen the customer relationship.

## Vehicle and Charger Acquisition Phase

In this most crucial phase, the customer purchases or leases an EV from a dealership, and usually purchases and installs a home charging station.

**Dealer Engagement** Most auto dealers are not set up to effectively sell EVs<sup>22</sup>. Unprepared staffs, inconsistent practices, limited EV inventory and information result in a poor dealership experience for a majority of EV customers.

Utilities can provide support by sponsoring training and certification of auto dealers. Currently, the most rigorous and widely accepted dealer training and certification program is PlugStar, run by Plug In America<sup>23</sup>. PlugStar has certified dealers in San Diego, Boston and Los Angeles and is expanding nationally.

Whether they sponsor training and certification, utilities can also identify the most competent EV dealers, and inform their customers accordingly.

**EVSE Installer Engagement** Similarly, electricians performing home EVSE installations may perform work of variable quality. Some utilities such as Austin Energy<sup>24</sup> engage electricians and maintain a list of qualified EVSE installers for their customers – an easy first step for utilities to take nationwide.

**Incentives** Utilities may want to improve the overall EV economics by providing incentives for vehicles purchase or lease, and for EVSE installation. In particular, California's Low Carbon Fuel Standard has enabled utilities to offer cash rebates to EV customers.

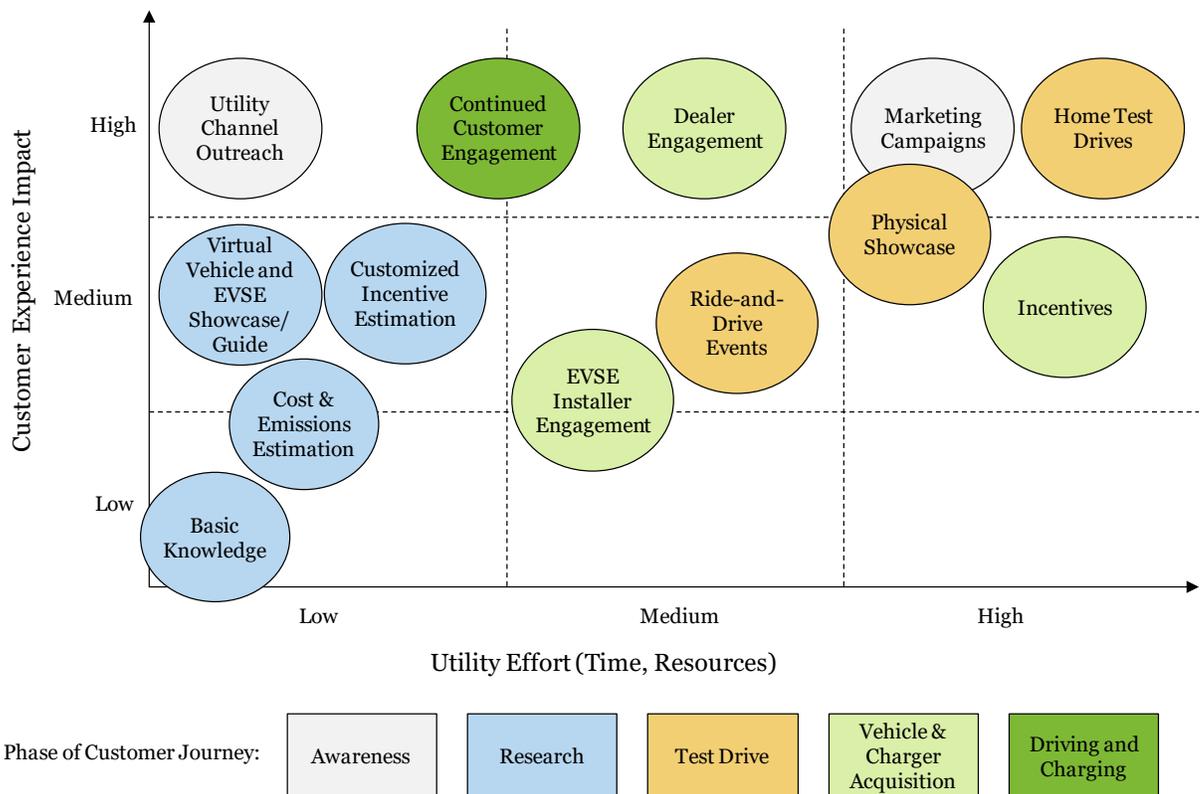
## Driving & Charging Phase

The journey and potential for engagement does not stop when the customer has acquired an EV. The utility can stay involved through **Continued Customer Engagement** activities, such as:

- Asking customers to rate their EV purchasing experience, especially with regards to dealers and EVSE installers
- Run an "EV driver club" where EV drivers can interact with the utility and among themselves
- Highlight new public charging stations in their area and special deals from charging network
- Encourage customers to share their experience with other potential EV buyers

Continuing customer engagement enables continuous improvement and facilitates spreading the word further.

**Exhibit 5** Summary of Utility Customer Engagement Measures. Utilities can deploy a range of measures to encourage EV adoption throughout the customer lifecycle.



## Leaders in EV Customer Engagement

Exhibit 6 highlights consumer engagement practices from 4 leading utilities. While they all leverage the fundamental tactics of utility channel outreach and sharing basic EV knowledge, they differ in other areas.

**Exhibit 6** Leading utilities provide a full suite of customer engagement measures. Other leading utilities include SDG&E, SMUD and SCE

Phase of Consumer Journey	Utility Support Measure				
Awareness	Utility Channel Outreach	✓	✓	✓	✓
	Marketing Campaigns	✓	✓	✓	
Research	Basic Knowledge	✓	✓	✓	✓
	Virtual Vehicle and EVSE Showcase/ Guide				✓
	Customized Incentive Estimation				Partial
	Cost & Emissions Estimation		Partial		
Test Drive	Ride-and-Drive Events	✓	✓	✓	
	Physical Showcase			✓	
	Home Test Drives				
Vehicle & Charger Acquisition	EVSE Installer Engagement			✓	
	Dealer Engagement	✓			
Driving and Charging	Continued Customer Engagement		✓	✓	✓

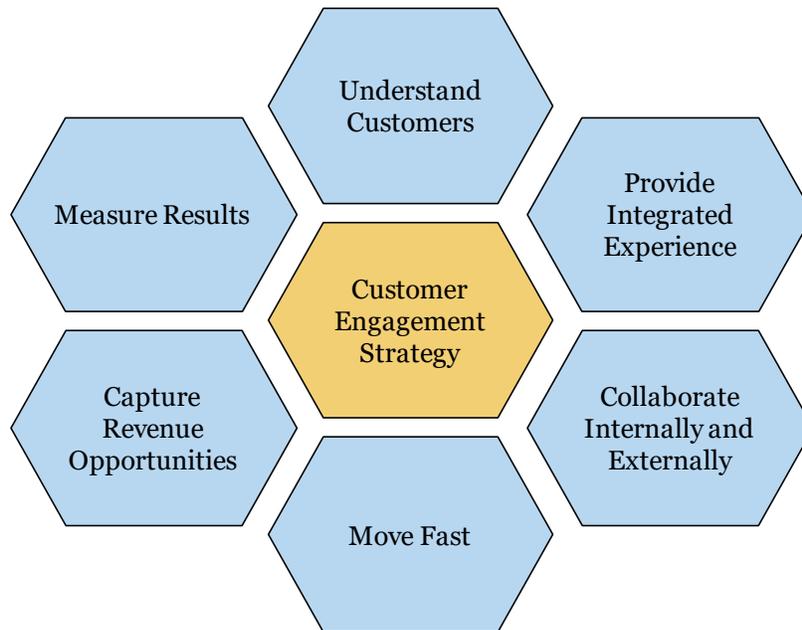
PG&E stands out in its marketing efforts, notably creative messaging and presence at auto shows<sup>25</sup>; the San Francisco-based utility also provides a basic cost calculator that incorporates various rate situations. LADWP's most notable efforts include creative outreach, such as presence at the LA Auto show, and investment in dealer training<sup>26</sup>.

Austin Energy focuses on nurturing its local EV community, by facilitating experience sharing between current and potential EV drivers, offering a physical showcase and engaging EVSE installers. Meanwhile, ComEd/Exelon offers a comprehensive vehicle showcase platform and concierge service to assist customers at every step.

## DESIGNING A SUCCESSFUL EV CUSTOMER ENGAGEMENT STRATEGY

As utilities roll out customer engagement measures, a consistent strategic framework is key to delivering impact. In our view, utilities should follow the guiding principles laid out in Exhibit 7, below.

**Exhibit 7** Utility EV Customer Engagement Strategy



**Understand Customers.** From California to Maine to Florida, individual situations and preferences vary widely. For instance, in the North-East, customers are more concerned about range reduction from driving in cold weather. Texas-based EV enthusiasts may be turned off by the lack of pickup truck options. Rural drivers worry more about charging on the go than suburban commuters. Owners of older homes need to think about the extra cost of electrical work for charger installation.

Given this variety of customer profiles, utilities should understand the specific issues faced in their local communities, notably using focus groups and surveys, and provide targeted solutions.

### **Provide an Integrated Experience**

While providing isolated services may be helpful, utilities can provide a vastly enhanced customer experience through integration. For instance, customers who find out about an EV on the utility’s website should be able to seamlessly book time at a Ride-and-Drive event, identify the best suited charger, and connect with the best deal from a qualified dealer in the neighborhood.

Utilities should also integrate the customer experience with other programs, such as vehicle-to-grid or demand response. Presenting a simple, one-stop-shop interface goes a long way in increasing customer trust and satisfaction.

### **Collaborate Internally and Externally**

Customer engagement efforts do not happen in a vacuum, and utilities have to collaborate internally and externally for optimal outcomes.

Internally, existing customer information and engagement programs on non-EV topics are excellent starting points. EV-related projects should work closely with the customer service department, energy efficiency programs and other customer-facing staff.

Externally, a range of actors are engaged in promoting EVs, including local and state governments, the Department of Energy, local and national NGOs, as well as neighboring utilities. Utilities should coordinate outreach and promotion efforts, Ride-and-Drive events and other customer engagement activities.

### **Move Fast**

The U.S. electric vehicle landscape is currently in formation stage. Companies are positioning themselves; alliances and partnerships are being forged that will impact the landscape for decades to come.

In this context, utilities have a window to capture the emerging EV opportunity. However, other players may take their place if it goes unclaimed. Therefore, moving fast – while at odds with utilities’ traditional way of doing business – is paramount.

*Moving fast – while at odds with utilities’ traditional way of doing business – is paramount*

While the more capital-intensive measures may require regulatory approval, or the formation of non-regulated entities, utilities can already implement low-cost measures to kick-start their efforts; as such, there are no major barriers to setting plans in motion in the short term.

### **Capture Revenue Opportunities**

Industry analysts expect U.S. EV sales to surpass 1 million units per year by 2025, amounting to a market size over \$40b. While utilities will provide the lion’s share of electricity used to charge these vehicles, and a percentage of the charging infrastructure, they could do much more – and capture a larger share of this emerging pie.

As they position themselves at the center of the customer experience, many new revenue opportunities will emerge, such as concierge services for vehicle acquisition,

on-demand test drives, referral fees from equipment purchases, vehicle charging services or even mobility-as-a-service offerings.

## Measure Results

Utilities should define clear success metrics and use them to evaluate customer engagement program success. In particular, the usefulness and impact of online resources and in-person events must be assessed in order to feed continuous improvement loops.

## CONCLUSION

The vehicle electrification transition we are currently experiencing in the U.S. is here to stay: investments made today are likely to pay off over the next decades. In this context, utilities can take advantage of this unique opportunity to craft a new and unique role in the emerging consumer landscape.

Many are already moving in the direction of EVs and building the basic building blocks of an integrated EV experience. In the long run, however, the highest benefits will accrue to utilities that provide the best customer service, and that are able to leverage this new positioning to create new business models and revenue sources.

## ABOUT ZAPPYRIDE

ZappyRide is a consumer engagement advisory and software platform dedicated to electric vehicles. We provide strategic advice, data and online solutions to all actors of the electric vehicle value chain, working toward the ultimate goal of universal EV adoption.

## NOTES AND REFERENCES

---

<sup>1</sup> “Monthly Plug-In Sales Scorecard”, InsideEVs, <https://insideevs.com/monthly-plug-in-sales-scorecard/>

<sup>2</sup> “Utilities and Electric Vehicles: Evolving to Unlock Grid Value”, SEPA, <https://sepapower.org/resource/utilities-electric-vehicles-evolving-unlock-grid-value/>

<sup>3</sup> According to the Bureau of Transportation Statistics, only ~2% of light duty vehicles are owned and operated by fleets. As a result, this white paper focuses on consumer vehicles. However, engagement of commercial and industrial customers is also worthy of utility efforts

<sup>4</sup> “Awareness, knowledge, experience and attitudes towards ZEVs”, UC Davis Plug-In Hybrid and Electric Vehicle Research Center: <https://phev.ucdavis.edu/project/awareness-knowledge-experience-and-attitudes-towards-zevs/>

- 
- 5 “Survey Says: 60% of Americans Don’t Even Know that Plug-In Electric Cars Exist”, InsideEVs, <https://insideevs.com/survey-says-60-americans-dont-even-know-plug-electric-car-exist/>
- 6 “Automakers and Policymakers May Be on a Path to Electric Vehicles; Consumers Aren’t”, UC Davis Plug-In Hybrid and Electric Vehicle Research Center, <https://its.ucdavis.edu/blog-post/automakers-policymakers-on-path-to-electric-vehicles-consumers-are-not/>
- 7 “New Data Shows Auto Industry Failing to Advertise Electric Cars”, Sierra Club, <https://www.sierraclub.org/compass/2016/12/new-data-shows-auto-industry-failing-advertise-electric-cars>
- 8 “Car buyers have no idea electric-car charging stations even exist”, Green Car Reports, [https://www.greencarreports.com/news/1110863\\_car-buyers-have-no-idea-electric-car-charging-stations-even-exist](https://www.greencarreports.com/news/1110863_car-buyers-have-no-idea-electric-car-charging-stations-even-exist)
- 9 “Invisible charging stations a headache for electric car drivers”, HJnews, [https://news.hjnews.com/allaccess/invisible-charging-stations-a-headache-for-electric-car-drivers/article\\_4a5a6120-fe30-58d1-ad8e-d6fb67aaabd4.html](https://news.hjnews.com/allaccess/invisible-charging-stations-a-headache-for-electric-car-drivers/article_4a5a6120-fe30-58d1-ad8e-d6fb67aaabd4.html)
- 10 “Transportation Electrification: Utility Fleets Leading the Charge”, Edison Electric Institute, [http://www.eei.org/issuesandpolicy/electrictransportation/FleetVehicles/Documents/EEI\\_UtilityFleetsLeadingTheCharge.pdf](http://www.eei.org/issuesandpolicy/electrictransportation/FleetVehicles/Documents/EEI_UtilityFleetsLeadingTheCharge.pdf)
- 11 “Browse Electric Cars”, ZappyRide, <https://www.zappyride.com/cars>
- 12 “Electrifying insights: How automakers can drive electrified vehicle sales and profitability”, McKinsey & Co. <https://www.mckinsey.com/~media/mckinsey/industries/automotive%20and%20assembly/our%20insights/electrifying%20insights%20how%20automakers%20can%20drive%20electrified%20vehicle%20sales%20and%20profitability/how%20automakers%20can%20drive%20electrified%20vehicle%20sales%20and%20profitabilitymck.ashx>
- 13 “42% of US households could use today’s EVs”, Union of Concerned Scientists <https://www.ucsusa.org/clean-vehicles/electric-vehicles/bev-phev-range-electric-car>
- 14 “The Real Barriers to EV Adoption”, MIT Sloan, <http://mitsloan.mit.edu/newsroom/articles/the-real-barriers-to-electric-vehicle-adoption/>
- 15 “Your Incentives”, ZappyRide, <http://www.zappyride.com/incentives>
- 16 “How Long Does it Take to Recoup the Extra Cost of an Electric Car?”, FleetCarma, <https://www.fleetcarma.com/miles-recoup-cost-electric-car/>
- 17 “Everyone is making the same mistake about electric cars”, Business Insider, <http://www.businessinsider.com/electric-vehicle-cost-mistake-2018-1>
- 18 “Cleaner cars from cradle to grave”, Union of Concerned Scientists, <https://www.ucsusa.org/clean-vehicles/electric-vehicles/life-cycle-ev-emissions>
- 19 “2016 Car Buying Journey”, Autotrader, <https://b2b.autotrader.com//agame/pdf/2016-car-buyer-journey.pdf>
- 20 EZ-EV: <http://ez-ev.com>
- 21 “Why We Talk About Electric Vehicle Test Drives”, REACH Strategies, <http://www.reach-strategies.org/2017/02/16/why-we-talk-about-electric-vehicle-test-drives/>
- 22 “Ipsos RDA Study Finds U.S. Dealerships Not Prepared for the EV Invasion”, Ipsos, <https://www.ipsos.com/en-us/news-polls/rda-finds-us-dealerships-not-prepared-ev-invasion>
- 23 “PlugStar Dealer Program”, Plug In America, <https://pluginamerica.org/plugstar/>
- 24 Charging Station Installers, Austin Energy, <https://austinenergy.com/ae/green-power/plug-in-austin/charging-station-installers>
- 25 “PG&E: Your Partner for Electric Car Ownership”, SF Auto Show, <http://www.sfautoshow.com/attractions/pge-your-partner-for-electric-car-ownership-exhibit/>
- 26 “Electrification of transportation should be top priority: LADWP GM”, American Public Power, <https://www.publicpower.org/periodical/article/electrification-transportation-should-be-top-priority-ladwp-gm>