

Commercial EV Public Charging Quantitative Research

Executive Summary

Prepared for:



January 2023



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Contents

- 1. Project Background and Objectives
- 2. Knowledge & Understanding
- 3. Consideration
- 4. Conclusions & Recommendations

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Xcel Energy's electric vehicle (EV) product development team wants to understand the thoughts and opinions of commercial customers around EV public charging stations, including level of interest and barriers to installation. The team would like to understand commercial customer preferences and attitudes regarding:

- Ownership model (owned vs. hosted/third-party owned), investment level and revenue streams necessary to invest in this technology
- Ongoing operation and maintenance of public charging stations

The Martec Group completed market research to generate the necessary customer, market, and competitive intelligence to drive strategy for this growing sector . They conducted an online survey of 251 commercial customers within Xcel Energy's Colorado territory to understand the value, features/benefits of public charging stations. Martec, with the guidance of Xcel Energy, targeted specific quotas of gas station, truck stop, retail, restaurant, grocery, and government facility representative respondents.



Required Information

The following are questions that Martec addressed over the course of the fieldwork and analysis:

- What is customers' level of interest in having public EV charging on-site within the next 5 years?
- What are the primary considerations/barriers to the implementation of public EV charging at the business?
- What is the primary value customers see in having public charging on-site? (e.g., increased foot traffic, customer satisfaction, additional revenue source, sustainability goals, etc.)
- What is the customers' level of understanding around different aspects of public EV charging?
 - Level 2 vs. DC fast charging e.g., speed of charging, costs, etc.)
 - Rates charged to customers
 - Electricity costs to site hosts
 - What is the customers' preferred ownership model? Why?
 - Would they prefer to own, operate and maintain charging stations (involving purchasing equipment and paying for all O&M costs including electricity used by the chargers) while collecting charging revenue?
 - Would they prefer a hosted model where a third-party owns and operates stations?
- To what degree is charging revenue important to the business decision?
- What amount of upfront capital would customers be willing to invest in public charging infrastructure?
 - Xcel Energy wants to understand at what level of subsidization (e.g., rebate or full ownership) would customers be willing to invest.

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Respondent Demographics



N = 251 Commercial Customers within Xcel Energy's Colorado Territory Q2, Q3, Q4, Q6, Q9, Q16, Q35, Q36, Q37, Q38, Q39

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EV Charging Stations

About 20% of respondents currently have EV chargers installed and a little over half of them would be highly interested in installing additional stations. Of the nearly 80% of respondents that do not have EV chargers currently installed, a little over half are highly interested in having stations in the future and 64% have done some sort of research into having EV charging stations.



Q10, Q11, Q12, Q13

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EV Charging Station Interest by Number of Parking Spots

Respondents representing businesses with more than 10 parking spots that do not currently have charging stations are significantly more interested in having EV charging stations installed in the future.



Reasons in Favor & Deterrents of Having EV Charging Stations

The top five reasons in favor and deterrents of having EV charging stations amongst respondents were:

REASONS IN FAVOR

- 1. Increased Customer Base Potential/Brand Differentiation
- 2. Improve Customer Relationships/Satisfaction/Experience
- 3. Increased/Additional Revenue
- 4. Following More "Green" Initiatives
- 5. Improves Company Image to Drive Loyalty

CONCERNS

- 1. Cost/Budgeting for Installation/Higher Utility Bills
- 2. Changes to the Parking Lot and Lack of Infrastructure
- 3. Maintenance Concerns
- 4. Questionable Return on Investment
- 5. Handling Peak Demand or Lack of Demand

QUESTIONS SURROUNDING EV CHARGING STATION IMPLEMENTATION

- Cost of Set-Up & Maintenance
- Install Time
- Electrical Demand Spikes / Higher Energy Bills
- Types of Rebates / Government Subsidies Offered
- Return on Investment
- Charging Speed
- Data Collected from Station & Software Required
- Safety & Reliability Concerns

N = 251 Q14, Q15, Q34



Knowledge Sources for EV Charging Stations

The top two sources of information for learning about EV charging stations are industry newsletters and websites. Those who have started planning for EV charging stations or are further along the research process note their electric utility company and charging station manufacturers to be additional sources of knowledge.



Indicated statistical significance at a 95% confidence interval

EV Charging Level Familiarity & Price Estimate

Respondents were least familiar with Level 3/DC fast charging compared to Level 1 & 2 charging. 48% of respondents believe the price for one hour of Level 3/DC Fast charging is between \$20- \$25, with \$20 dollars being the most noted estimated price.

EV CHARGING LEVEL FAMILIARITY

N = 251

Q18, Q19



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EV Charging Station Awareness, Feature Importance, & Concerns





51% 27%

27%

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71%

N = 251 Q20, Q21, Q22 76%

EV Charging Scenarios

Respondents were shown the following two scenarios and then were prompted to answer questions based on their selection.

OWNED

Your business owns, operates, and maintains EV charging stations at your location. You would receive funding from a government entity or your electric utility which reduces the upfront cost. Your business would be fully responsible for all operations and maintenance expenses, including electricity costs. Your business would receive all charging revenue from the stations.

HOSTED

A third party owns, operates, and maintains EV charging stations at your location. The third party would cover the costs to install, operate, and maintain the stations. You would provide access to all necessary land and parking spaces on your property (which generally involves an easement or lease payment). You would pay no electricity bills for the stations and would receive no revenue from the charging stations.

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Model Selection

About 41% of respondents prefer the owned model most often because of their company's control preference, profitability, and charging revenue. After being asked again, most respondents did not change their decision to own. About 59% of the respondents would prefer to host with the most common reasons being to avoid maintenance and electricity expenses and to avoid upfront costs.



Q25, Q26, Q27

Upfront Financial Support & Additional Revenue Impact

48% of respondents would be highly impacted by upfront financial support for purchasing/installing stations on their decision to own. 53% feel additional revenue is highly important in their decision to own.



Respondents who prefer the owned model generally indicated higher upfront capital that their business would be willing to invest in EV charging infrastructure.

UPFRONT CAPITAL INVESTMENT IN EV INFRASTRUCTURE



Model Selection Insights

Respondents representing gas stations and grocery stores found the owned model to be more favorable while respondents representing convenience stores, truck stops, restaurants, and government facilities found the hosted model to be more favorable. Respondents that prefer the owned model are most often willing to consider 1-3 parking spaces for EV charging stations. Respondents that prefer the hosted model are most often willing to consider 2-4 parking spaces for EV charging stations.



MODEL SELECTION BY COMPANY TYPE

MODEL SELECTION BY NUMBER OF PARKING SPOTS CONSIDERED



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Preliminary Conclusions and Recommendations

MARKETING & EDUCATIONAL MATERIALS

Respondents see installing EV charging stations as a way to attract a set of new and diverse customers apart from their current customer base. This potential business differentiation, and an additional source of revenue, is a favorable way to highlight businesses that are up-to-date with societal trends from a "green" perspective.

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When considering the content that is distributed to potential EV charging station site hosts, Xcel should be sure to highlight the aforementioned benefits of new installation and address the benefits of hosting vs owning from a cost standpoint to ease the decision maker's mind. By clearly noting that the site host is not responsible for maintenance and laying out a return-on-investment projection, Xcel Energy can take into consideration a majority of respondents' biggest concerns with EV charging station installation.

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Respondents within this target audience prefer to receive their information and educational materials through industry newsletters, the internet, and electric companies, rather than by word of mouth from friends, family, and colleagues. Xcel Energy's position as a utility company allows for both brand recognition and loyalty to be a deciding factor for businesses looking for reliable information surrounding EV charging stations. By leveraging existing relationships and addressing top concerns, Xcel Energy has the capability to properly educate and position itself in its customers' minds as a brand invested in the business itself, rather than the revenue.



Preliminary Conclusions and Recommendations (cont.)

TARGETING INSIGHTS & OWNED VS HOSTED MODELS

Respondents with 10 or more parking spots who do not currently have EV charging stations are more interested in installing stations in the future. Of those that already have EV charging stations, gas stations, restaurants, government facilities, and retail stores are the most interested types of businesses represented by respondents, although sample sizes are small. Of those that do not currently have EV charging stations installed, restaurants, government facilities, and gas stations are the most interested types of businesses represented by respondents.

Grocery stores and gas stations were the only two types of businesses where the majority preferred the owned model with their top reasons being that their company preferred control, they felt they would profit more with this model, and felt it would be easier than having a third party.

Restaurants, truck stops, government facilities, and convenience stores preferred the hosted models with their top reasons being avoiding upfront costs, avoiding maintenance and electricity expenses, not wanting responsibility for operating and maintaining the stations, and overall feeling of ease as compared to owning.



By understanding which types and sizes of businesses are more apt to adapt EV charging station installation, Xcel Energy can properly target potential customers and highlight the specific notes that make their model more desirable than others.

Preliminary Conclusions and Recommendations (cont.)

EV CHARGING STATIONS FEATURE IMPORTANCE

Most respondents agree that government funding is one of the most important factors in their consideration to pursuing the installation of an EV charging station at their business. Other important factors included ease of maintenance, increased foot traffic, cost of installation, and sustainability goals.



By being prepared to address these factors with facts and figures, Xcel Energy will have a better chance to sell the decision maker on the installation of EV charging stations.

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CONTACT

Chuck Bean

Partner/CMO (248) 327-8005 Chuck.bean@martecgroup.com

Allie Holmes

Senior Analyst (248) 327-8010 allie.holmes@martecgroup.com

www.martecgroup.com

