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Issue: Liberty-Empire's Missouri Transportation Electrification Program
Witness: Robin McAlester
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Before the Public Service Commission

of the State of Missouri

Direct Testimony

of

ROBIN MCALESTER

on behalf of

The Empire District Electric Company

November 29, 2020

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Robin McAlester. My business address is 602 South Joplin Avenue, Joplin, MO, 64802.

Q. By whom are you employed and in what capacity?

A. I am employed by Liberty Utilities Service Corp. ("LUSC"), a subsidiary of Liberty Utilities Co. ("Liberty"). I am employed by LUSC as the Senior Manager of Sustainability for the Liberty Innovations Team. In this role I lead the strategy and implementation of the transportation electrification programs across the Liberty electric jurisdictions: California, Missouri, and New Hampshire. In addition, I am responsible for our Smart Community program and support our sustainability initiatives across the United States.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of The Empire District Electric Company ("Liberty-Empire" or the "Company"), a Liberty subsidiary.

Q. Please describe your educational and professional background.

A. In 1998, I completed my Bachelor of Arts in Communications from Missouri Southern State University. In 2015, I received my Master of Business Administration from Missouri State University. From May 1998 to September 2000, I was employed by the United Way of Southwest Missouri in a variety of social service project implementation initiatives until joining the marketing and public relations team at St. John's Regional Medical Center where I served as the official hospital spokesperson,

developed outreach campaigns, and supported the hospital's mission to help the medically underserved in our community. In April 2005, I joined the National Audubon Society to develop the first Audubon Center in the state of Missouri. In the role of Executive Director, I managed the project from the capital campaign, through construction, and later program development focusing our efforts on environmental conservation and stewardship, education, and water quality. I joined the Communications Team at Liberty-Empire in April 2013. In September 2016, I was promoted to Manager, Business and Community Development, as lead contact for key accounts including large business and industry, eighteen cities/counties, and seven schools, and maintained relationships with local and state government officials. I also managed the electric vehicle ("EV") initiative in the Liberty-Empire service area. In June 2019, I assumed my current position.

Q. Have you previously testified before the Missouri Public Service Commission or any other regulatory agency?

A. No, I have not previously provided testimony before the Missouri Public Service Commission ("Commission") or any other regulatory agency.

Q. Are you sponsoring any schedules with your testimony?

A. Yes. I am sponsoring the following schedules attached to my Direct Testimony, including six specimen tariff sheets:

- Schedule RM-1 – Residential Smart Charge Pilot Program ("RSCPP") proposed tariff;
- Schedule RM-2 – Ready Charge Pilot Program ("RCPP") proposed tariff;

- Schedule RM-3 – Commercial Electric Vehicle Rate Pilot ("CEV") proposed tariff;
- Schedule RM-4 – Commercial Electrification Pilot Program ("CEPP") proposed tariff;
- Schedule RM-5 – Electric School Bus Pilot Program ("ESBPP") proposed tariff;
- Schedule RM-6 – Non-Road Electrification Pilot Program ("NREPP") proposed tariff;
- Schedule RM-7 – Liberty-Empire's Customer Survey Results;
- Schedule RM-8 – Liberty-Empire RSCPP Cost Elements.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your Direct Testimony?

A. My Direct Testimony provides an overview of the proposed portfolio of transportation electrification pilot programs, which include those supporting the electrification of on-road vehicles and non-road equipment, and the associated benefits. The portfolio is comprised of pilot programs that target a range of customer segments, including residential, commercial, and industrial, seeking to build out charging infrastructure and encourage the use of beneficial electric equipment throughout the Liberty-Empire service territory. My testimony includes an overview of each pilot program as well as the Company's proposed means of cost recovery for the pilot programs. I will also provide a brief history of Liberty's experience in transportation electrification to date and our vision for future programs and offerings.

Q. What are the overarching goals of Liberty-Empire's proposed pilot programs?

A. The choice to group this collection of pilot programs into a single proposed transportation electrification portfolio demonstrates the Company's commitment to increase transportation electrification across our customer segments – including residential, commercial, and industrial. The Company seeks to support the deployment of charging infrastructure in a manner that increases access to electricity as a transportation fuel, encourages beneficial charging behavior, and accelerates the regional EV and electrified non-road equipment market.

The proposed pilot programs are designed to address key barriers to increased transportation electrification in the Liberty-Empire territory, which include high upfront cost of charging infrastructure (both residential and commercial) and lack of awareness of electric technology benefits. Thanks to efforts by other utilities as well as state agencies and related partnerships, our customers have a basic level of awareness about EVs and technologies, but we seek to build customer understanding. The Company also seeks to complement, but not duplicate, efforts underway to install EV charging stations funded by Volkswagen Settlement funding, both via the State Beneficiary Mitigation Plan and Electrify America.

Because these are designed as pilot programs, the Company seeks to gather data and customer insight to better understand the local EV charging dynamics, including charging behavior and consumer response to price signals. As the number of EVs in the service territory increases, it will be imperative that the Company have a way to monitor charging, encourage customers to shift charging to off-peak periods, and gauge the effectiveness of the utility's programs and initiatives.

Q. Will additional witnesses submit testimony on the Company's behalf?

A. Yes. Two expert witnesses are providing pre-filed direct testimony. Ms. Stacy Noblet, Senior Director of Transportation employed by ICF Resources LLC ("ICF"), is an on-road transportation electrification expert. Her testimony will address technical, policy, and analytical aspects of the Company's proposed on-road pilot programs. In addition, Ms. Ambika Coletti, Beneficial Electrification Manager at ICF, is a non-road electrification expert who will address technical, analytical, and strategic aspects of the proposed non-road technology pilot program. These are in addition to my testimony, which contains information relevant across the proposed portfolio of pilot programs.

Q. Please describe ICF and its role in this matter.

A. ICF is a global consulting services company. Liberty-Empire engaged the services of ICF to assist in the research, program concept screening, program design, and cost benefit analysis, and to support the review and approval process for the Missouri regulatory filing.

III. TRANSPORTATION ELECTRIFICATION – EXPERIENCE AND BENEFITS

Q. What is transportation electrification?

A. Transportation electrification refers to the use of electricity from external sources of electric power, such as the electric grid, to power all or part of vehicles, trains,

watercraft, and other non-road equipment that are mobile sources of air pollution and greenhouse gases ("GHGs").[1]

Q. Please describe the Company's background with transportation electrification.

A. The Company has gained experience with on-road transportation electrification through the launch of the "EVolve" program in 2015 where we installed 63 Level 2 ("L2") charging ports within the Liberty-Empire service territory and launched a customer education campaign. Within that program, the Company also incentivized employees and customers with rebates for converting to new or used plugin vehicles. Liberty is also gaining experience in our California service territory through the California Public Utilities Commission ("CPUC") approved suite of EV-related programs for Liberty Utilities (CalPeco Electric) LLC ("Liberty CalPeco") which include: a DC Fast Charger Project; a Residential Charger Installation Rebate; a Small Business Charger Installation Rebate; a Customer Online Resource Project; and an Electric Bus Infrastructure Program. Liberty CalPeco also has a separate program to implement charging stations at schools and parks.[2] Through the DC Fast Charger Project, Liberty CalPeco has been authorized by the CPUC to spend up to $4 million to install the infrastructure needed to support direct current fast charging ("DCFC") stations at sites in its service territory. Through the Residential Charger Installation

[1] California Public Utilities Commission, *Transportation Electrification*, published June 2016, available at: https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/About_Us/Organization/Divisions/Policy_and_Planning/PPD_Work/PPD_Work_Products_(2014_forward)/PPD%20Transportation%20Electrification%20Whitepaper%20.pdf.

[2] California Public Utility Commission (CPUC) D.18-09-034 issued on September 27, 2018 (Phase One) and CPUC D.19-11-017, issued on November 7, 2019 (Phase Two) https://www.cpuc.ca.gov/sb350te/#:~:text=18%2D09%2D034%20authorizing%20the,goals%20to%20accelerate%20EV%20adoption%2C.

Rebate Program, Liberty CalPeco has been authorized by the CPUC to offer rebates of up to $1,500 to up to 1,000 residential customers for installing L2 charging stations. Through the Small Business Charger Installation Rebate Program, Liberty CalPeco plans to offer rebates of up to $2,500 to up to 100 small commercial customers for installing L2 charging stations. The Customer Online Resource Project is an opportunity for Liberty CalPeco to develop a customer resource providing information to its California customers about the benefits of electric vehicles and enrolling in EV time-of-use ("TOU") rates. Through the Electric Bus Infrastructure Program, Liberty CalPeco plans to install the infrastructure needed for Tahoe Transportation District to have in-depot charging stations installed to support at least three new electric transit buses. Finally, through the Schools and Parks Charging Station Program, Liberty CalPeco plans to implement charging stations at schools and parks, including 28 L2 chargers and 2 DCFCs. 18 of these L2 chargers are at K-12 school sites; 2 L2 chargers and 2 DCFC are located at Lake Tahoe Community College; 8 L2 charging stations are located at the Lake Tahoe Unified School District Bus Barn; and 5 L2 charging stations are located at area parks.

Q. Generally, what benefits can transportation electrification provide to utility customers, the electricity system, and the public?

A. Transportation electrification can provide a range of benefits to all utility customers, the grid, and society. *First, transportation electrification provides the opportunity to place downward pressure on electricity costs for all customers.* EVs and other electrified non-road equipment are distributed assets that sit unused at some part of the day. This flexibility allows for a large share of vehicle and equipment charging to

occur at times when the grid is underutilized and when marginal costs to serve additional load are low. By increasing utility revenues and system load factor without commensurate increases in utility costs, the incremental EV load can help mitigate potential electricity rate increases and put downward pressure on electricity rates in the long-term by spreading fixed system costs over a greater amount of kilowatt-hours ("kWh") sold.[3] Some EV charging will inevitably occur during peak hours and will be driven by customers' refueling needs. However, there exists a significant opportunity to incorporate incremental EV and equipment load using time-based pricing to the benefit of all utility customers. Analysis of utility revenues and costs in two areas with the highest penetration of light-duty EVs in the country by Synapse Energy Economics suggests that on-road transportation electrification has already provided a beneficial impact on electricity rates.[4]

Second, EVs can enhance the reliability and flexibility of the electricity system. EVs and electrified non-road equipment can provide the grid with a source of flexible, manageable load. With the proper information and incentives, vehicles and equipment can charge in a manner that responds to grid conditions – filling troughs in load without increasing overall capacity requirements. This flexible load can also support the integration of increasing levels of renewable generation that might otherwise be underutilized or curtailed. In Missouri where wind generation continues to scale and peak during overnight hours, EVs are particularly well positioned to absorb this load

[3] Jones et al., *The Future of Transportation Electrification: Utility, Industry, and Consumer Perspectives,* published August 2018
[4] Frost et al., *Electric Vehicles Are Driving Electric Rates Down,* published June 2019, available at: https://www.synapse-energy.com/sites/default/files/EV-Impacts-June-2019-18-122.pdf.

and enhance the flexibility of the grid. Research from the U.S. Department of Energy ("DOE") found that with the 1.5 million EVs that California expects to have on the road by 2025, the State has the potential to leverage the equivalent of approximately one gigawatt of storage capability for valuable grid services such as valley-filling (increasing load during periods of low demand on the electricity system) and ramp-up mitigation (reducing the amount of additional generation capacity needed to satisfy electricity system demand in the transition from off-peak to on-peak periods) with smart-charging technology that is readily available today.[5]

Third, transportation electrification can significantly reduce air pollutant and GHG emissions relative to internal combustion engine alternatives. Fully electric vehicles and equipment produce zero tailpipe emissions, reducing the transportation sector's contribution to harmful nitrogen oxide emissions and the risk of ozone nonattainment. These benefits can be pronounced when EVs and nonroad equipment replace the use of diesel vehicles and equipment. Additionally, EVs generally produce less emissions than comparable internal combustion engine vehicles even when accounting for emissions from upstream electricity generation. According to the DOE, a light-duty EV charging with electricity generated from Missouri's resource mix produces approximately 33% less GHG emissions than a comparable gasoline vehicle.[6] As Missouri and the region continue to integrate zero-emission generation resources to the grid, the emissions profile associated with EVs and electric equipment

[5] Jonathan Coignard et al., *Clean Vehicles as an Enabler for a Clean Electricity Grid*, 13 ENVTL. RES. LETTERS 054031 (2018), https://doi.org/10.1088/1748-9326/aabe97.
[6] The DOE's estimates serve as a reasonable proxy for estimating EV GHG emissions in Missouri https://afdc.energy.gov/vehicles/electric_emissions.html.

will continue to decline. These public health-related benefits are critical since the transportation sector is a leading source of pollution, and disadvantaged communities tend to face disproportionately high exposure to the negative impacts. A report by the American Lung Association found that widespread adoption of zero-emission transportation technologies could result in the following in Missouri in 2050: 96 avoided premature deaths, more than 1,500 avoided asthma attacks, nearly 6,500 avoided lost work days, and $1.1 Billion in avoided health impact cost.[7]

EVs and electrified non-road equipment can reduce costs for customers and improve the operational experience. Total cost of ownership for the vehicles and equipment continues to fall as technology improves. With fewer parts and lower fuel prices, maintenance and operational costs are already lower than internal combustion alternatives in some cases. Additionally, EVs and equipment offer a quieter and cleaner operating experience whether on or off-road, improving the comfort of drivers and the public alike.

If properly integrated, this incremental load associated with EVs and electric equipment can enhance the flexibility and reliability of the grid while increasing overall system efficiency. Liberty's proposed pilot portfolio seeks to address this.

Q. Has the Commission previously issued guidance and orders supporting utility transportation electrification efforts?

[7] American Lung Association, *The Road to Clean Air: Benefits of a Nationwide Transition to Electric Vehicles*, available at https://www.lung.org/clean-air/electric-vehicle-report.

A. Yes, the Commission has addressed utility transportation electrification efforts in previous orders and proceedings. Notably, the Commission approved the stipulation and agreement of Ameren Missouri's transportation electrification program filing, *Charge Ahead*, in October 2019.[8] *Charge Ahead*'s purpose is "to stimulate the development of Infrastructure within [Ameren Missouri's] service territory that is needed to support widespread adoption of electric vehicles by the public."[9] The three-year program includes a $6.6 million budget – supporting investment in L2 and DCFC charger technologies across a range of market segments. The program also included budgets for administrative, reporting, and marketing expenses associated with implementation. In its Report and Order, the Commission emphasized the benefits of increased transportation electrification. "Financial benefits from an EV charging network accrue to both the utility and the ratepayers. Utilities and ratepayers benefit economically from the improved utilization of fixed assets when charging is done in off-peak times. EVs are considered to be a flexible load that can charge during periods when demand is low."[10] Further, the Commission noted that, "The financial benefits to the utility and to the ratepayer from an EV charging network are not merely from the additional electricity sales at the charging stations, but are also obtained through additional electric sales from charging at home and creating more efficient utilization of the electric grid. All ratepayers ultimately will receive those benefits from the

[8] *Order Approving Stipulation and Agreement,* Case No. ET-2018-0132, October 17, 2019.
[9] *Id.*
[10] *Report and Order,* Case No. ET-2018-0132, February 6, 2019.

spreading of fixed costs over a greater amount of usage creating rates that are lower than if there was less usage."[11] Ultimately, the Commission's Order declared the final program and associated tariffs to "support safe and adequate service at just and reasonable rates and is in the public interest."[12]

During the proceeding on Ameren Missouri's transportation electrification program filing, the Commission also released an Order initiating a new proceeding to evaluate mechanisms for facilitating charging infrastructure deployment in Missouri.[13] While the proceeding is still open as of the submission of my Direct Testimony, Commission Staff released a report in September 2019 providing a summary of activities in the docket, and this document includes a wealth of information on utilities' role in transportation electrification.[14] The report also provides further guidance from Staff on the utilities' transportation electrification role, including a continued need for broader customer education and implementation of time-varying rates that leverage the flexibility of EV charging for grid benefit.[15]

These proceedings illustrate the Commission's familiarity with utility transportation electrification topics and confirm the Commission's ability to review and approve utility transportation electrification programs and tariffs.

[11] *Id.*
[12] *Order Approving Stipulation and Agreement,* Case No. ET-2018-0132, October 17, 2019.
[13] *Order Opening a Working Case Regarding EV Charging Stations and Directing Staff to Schedule a Workshop Meeting,* Case No. EW-2019-0229, February 14, 2019.
[14] *Staff Report,* Case No. EW-2019-0229, September 30, 2019.
[15] *Id.*

IV. OVERVIEW OF THE COMPANY'S PROPOSED TRANSPORTATION ELECTRIFICATION PORTFOLIO OF PILOT PROGRAMS

Q. Please provide a summary of the Company's proposed Transportation Electrification Portfolio ("Portfolio").

A. The Portfolio is designed to accelerate electric technology adoption and provide utility customer, grid, and societal benefits. The Portfolio is broadly divided into three components: the On-Road Component, the Non-Road Component, and the Administrative Component. Each component consists of specific programs and offerings that address transportation electrification in various market segments.

On-Road Component

- *Residential Smart Charge Pilot Program* – provides a subscription service for residential customers to install smart L2 charging stations that encourages beneficial EV charging aligned with TOU pricing. The terms of the Residential Smart Charge Pilot Program are reflected in the proposed tariff sheet, which is attached to my direct testimony as Schedule RM-1.
- *Ready Charge Pilot Program* – deploys Company owned and operated smart L2 and DCFC charging infrastructure at publicly accessible commercial customer sites for public use. The terms of the Ready Charge Pilot Program are reflected in the proposed tariff sheet attached to my direct testimony as Schedule RM-2.
- *Commercial Electric Vehicle Rate Pilot* – encourages third-party investment in DCFC and L2 infrastructure as well as supports workplace and fleet settings by providing a temporary incentive to lower EV charger operational costs. The terms of the

Commercial Electric Vehicle Rate Pilot are reflected in the proposed tariff sheet attached to my direct testimony as Schedule RM-3.

- *Fleet Advisory Services Pilot* – provides business case analysis and support, and technical assistance for vehicle fleets in the Company's service area seeking to transition to EVs. There is no proposed tariff sheet for this program.
- *Commercial Electrification Pilot Program* – deploys Company owned and operated smart L2 charging infrastructure at commercial customer sites for use by customer fleets, employees, and tenants. The terms of the Commercial Electrification Pilot Program are reflected in the proposed tariff sheet attached to my direct testimony as Schedule RM-4.
- *Electric School Bus Pilot Program* – supports the deployment of Company owned and operated smart charging infrastructure for school bus applications in Liberty-Empire's service area. The terms of the Electric School Bus Pilot Program are reflected in the proposed tariff sheet attached to my direct testimony as Schedule RM-5.

Non-Road Component

- *Non-Road Electrification Pilot Program* – provides incentives to support the deployment of charging infrastructure for non-road applications, including electric forklifts, truck refrigeration units (TRUs), truck stop electrification (TSE), agricultural wells, and custom equipment. The terms of the Non-Road Electrification Pilot Program are reflected in the proposed tariff sheet attached to my direct testimony as Schedule RM-6.

Administrative Component

The administrative component is essential for the implementation of both the On-Road and Non-Road components of the Portfolio and includes the following:

- *Customer Education & Outreach* – supports Portfolio-wide education & outreach (E&O) activities to increase customer awareness of transportation electrification programs and benefits, as well as encourage beneficial charging of EVs and non-road equipment.
- *Annual Reporting & Evaluation* – enables the data collection, analysis, and reporting of key portfolio metrics to the Commission and interested stakeholders.
- *Program Implementation* – supports the set-up, launch, and on-going implementation of the transportation electrification portfolio.

Table 1 below provides a summary of the Company's Portfolio, including offerings, market segments addressed, proposed charging infrastructure investments (where applicable), and proposed budgets. A workpaper associated with the budget details is being provided to the parties as well.

Table 1. Company's Proposed Transportation Electrification Portfolio Summary

Component	Pilot Program	Target Market Segment	Charging Ports Supported (estimated)	Total Budget	Capital Budget	O&M Budget
On-Road	Residential Smart Charge	Residential	500 L2	$1M	$525,000	$540,000
	Ready Charge	Comm.	100 L2, 15 DCFC	$2.9M	$2.9M	-
	Commercial Electric Vehicle Rate	Comm.	-	-	-	-
	Fleet Advisory Services Program	Comm.	-	$200,000	-	$200,000
	Commercial Electrification Program	Comm.	100 L2	$775,000	$775,000	-

	Electric School Bus Program	Comm.	20 L2	$266,000	$266,000	-
Non-Road	Non-Road Electrification	Comm. and Industrial	N/A	$5.1M	-	$5.1M
Administra-tive	Education & Outreach	All	N/A	$400,000		$400,000
	Annual Reporting & Evaluation	All	N/A	$100,000		$100,000
	Program Implementation	All	N/A	$857,000		$857,000
Budget Total				$11.7M		

Q. What is the anticipated utility customer bill impact associated with the Portfolio?

A. In the near-term, based on the total budget of the proposed Portfolio, the Company anticipates a slight increase in customer bills, less than 0.5% overall. In the longer term, the Company anticipates the Portfolio will provide net benefits to all utility customers in the form of eventual downward pressure on electricity rates. Refer to Ms. Noblet's testimony for additional detail on ICF's modeling specific to rate pressure and customer bill impacts.

Q. Why is it important for the Company to have these pilot programs in place?

A. Transportation electrification provides benefits for utility customers, the electricity system, and society. However, lack of adoption of EVs and electrified equipment, driven by lack of charging infrastructure, customer awareness, and technical advisory support, pose critical barriers to growth. As the region's authority on electrical infrastructure and trusted energy advisor, Liberty-Empire is well positioned to help overcome these barriers and unlock the regional benefits of transportation electrification. Without the Company's supportive role, lower EV and electric equipment adoption and greater risk of unmanaged charging would likely lead to fewer

overall customer benefits, greater challenges in integrating future vehicle and equipment load, and increased emissions. The proposed pilot programs seek to deploy smart charging infrastructure that will enable future demand response and managed charging capabilities.

Q. What is the Company's vision for transportation electrification and how does the proposed portfolio align with that vision?

A. In the long-term, the Company seeks to be a key partner in advancing regional transportation electrification efforts by educating and connecting customers to grow the EV market both through the purchase of EVs and through technical and electrical infrastructure support. These efforts will benefit the grid, and in turn benefit all customers.

Given the current lack of charging infrastructure in Liberty-Empire's service area, the Company seeks to play a more active role in providing EV charging infrastructure that supports the needs of prospective EV drivers in the near-term. The Portfolio aligns with this vision by establishing the foundation of a regional charging infrastructure network, encouraging off-peak charging behavior that supports grid reliability, and raising awareness of transportation electrification efforts in the region. By establishing a baseline level of EV charging infrastructure, Southwestern Missouri becomes better positioned to attract additional private investment. For example, Electrify America's previous investment cycles have prioritized charging

infrastructure deployment in regions where EV adoption and station utilization are expected to grow.[16]

Liberty-Empire also recognizes that the need for EVs extends beyond light-duty passenger vehicles and envisions a holistic program that brings the benefit of electrification to all customer segments including residential, commercial, and industrial customers.

A. On-Road Component Overview

Q. Please provide a summary of the Company's proposed On-Road Component.

A. As discussed earlier in my Direct Testimony, the Company's On-Road Component includes the following programs: the Residential Smart Charge Pilot Program, the Ready Charge Pilot Program, the Commercial Electric Vehicle Rate Pilot, the Fleet Advisory Services Pilot Program, the Commercial Electrification Pilot Program, and the Electric School Bus Pilot Program. The Administrative Component is also critical to the implementation of all the pilot programs in the On-Road Component as it includes resources dedicated to increasing awareness among customers as well as gathering and reporting valuable data collected during these pilot programs. The goal of the On-Road Component is to support the deployment of charging infrastructure in a manner that increases access to electricity as a transportation fuel, encourages beneficial charging behavior, and accelerates the regional EV market.

[16] Electrify America, *National ZEV Investment Plan: Cycle 2*, February 4, 2019, available at https://www.epa.gov/sites/production/files/2019-02/documents/cycle2-nationalzevinvestmentplan.pdf.

i. Residential Smart Charge Pilot

Q. Please provide a description of the Residential Smart Charge Pilot Program.

A. The Residential Smart Charge Pilot Program ("RSCPP") is a voluntary program designed to increase the deployment of smart L2 charging infrastructure in single-family residences in the Company's service area and encourage beneficial EV charging during hours that do not coincide with peak system load. Participating customers will pay a monthly subscription fee that covers the smart L2 charger cost, installation costs, electricity costs associated with EV charging from 9 p.m. to 6 a.m., and networking fees associated with data collection and management. In exchange, the Company will provide turnkey installation of smart L2 charging infrastructure – leveraging the submetering technology embedded in the charging equipment to monitor energy usage – and will own the charging equipment. The use of the smart charger as a submeter avoids the need to install a second meter at the customer's property while still allowing data collection and monitoring of energy usage occurring within and outside of the established periods. This pilot program has the benefit of reducing customer costs by making it less expensive to operate an EV. In response to a recent survey, residential customers identified "a special utility rate to save money on EV charging" as the utility initiative in which they would find the greatest value. The full results of the survey are provided in Schedule RM-7.

Q. What eligible costs if the RSCPP designed to cover?

A. The monthly subscription rate charged to participating customers is designed to cover the costs listed below:

- Smart L2 charging equipment;

- Installation of smart L2 charging equipment;
- Networking, maintenance, and data agreements; and
- Monthly time-based electricity service for EV charging occurring between the hours of 9 p.m. and 6 a.m. daily.

Q. Please describe the L2 charger technology eligibility criteria.

A. L2 chargers deployed in the RSCPP must be new, equipped with a SAE J1772 standard plug, and capable of delivering at least 6.2 kilowatts ("kW") of power to an EV.[17] Chargers must also be network-enabled, capable of delivering station utilization data to the Company, capable of receiving a demand response signal, be ENERGY STAR certified, and listed by a nationally recognized testing laboratory (e.g., UL). The Company will identify one or more qualified vendors that meet the eligibility requirements at the outset of the program launch via a request for proposals.

Q. Please describe the participant eligibility criteria for the RSCPP.

A. Site hosts must be residential account holders that own or lease an EV in Liberty-Empire's service area and commit to keeping the charger installed for at least five years. Residential customers will be limited to one RSCPP smart L2 charger per site. Since chargers will be collecting and sending charging data over Wi-Fi, customers must have reliable access to Wi-Fi. Additional provisions of the RSCPP are included in the draft tariff attached to my direct testimony as Schedule RM-1.

Q. What is the Company's proposed monthly subscription charge for the RSCPP?

[17] This kW rating is standard for many L2 chargers today.

A. The Company proposes that the pilot program subscription rate for customers participating in the RSCPP be set at approximately $40 per month for the five-year duration of the program. This monthly cost is based on calculations using estimated costs for the charging station, installation, operations, the time-based electricity rate, and necessary billing system upgrades. Refer to Schedule RM-8 for these calculations and sources. Compared to the monthly gasoline expenditures of the average residential customer, which is approximately $100 based on the results of the recent customer survey (see Schedule RM-7), the subscription may result in significant savings for the customer. Income-qualified customers will be eligible for a reduced subscription charge of approximately $20 per month.

Q. How does the Company intend to bill customers for EV charging that occurs outside of the hours included in the subscription cost?

A. The subscription fee will cover the cost attributable to time-based EV charging that occurs daily between 9 p.m. and 6 a.m. These windows were selected to reduce coincident demand with Liberty-Empire's system peak across seasons. However, if EV charging occurs during the 6 a.m. to 9 p.m. period, participating customers will be billed $0.25 per kWh of electricity consumed by the smart charger during those hours. This price differential is intended to provide a meaningful price signal to customers in order to shift EV charging to time periods when it provides the most benefit for the grid and other utility customers: during hours that do not coincide with the system peak. Participating residential customers will be billed on their standard residential electricity rate.

Q. How does the Company propose to recover and account for the RSCPP?

A. The monthly subscription charge for participating residential customers will be set at a level to cover the equipment and operational costs associated with the RSCPP. In other words, non-participating customers will not incur costs associated with the RSCPP. However, non-participating customers will likely receive a marginal benefit from increased evening/nighttime-based EV charging that puts downward pressure on electricity rates. This cost recovery proposal is unique relative to other programs in the Company's proposed portfolio because the cost barriers to single-family residential charging tend to not be as significant as other market segments and customers that participate in the RSCPP are expected to be the sole users of their charging equipment.[18] Furthermore, the Company proposes that program costs associated with the purchase and installation of EV chargers, make-ready electrical equipment, networking, maintenance, and data agreements, and necessary billing system upgrades be treated as capital expenditures.

Q. Does the Company intend to collect data via the RSCPP?

A. Yes. To improve understanding of charging behavior and trends, the Company intends to leverage the network capabilities of its qualified L2 chargers to collect and station utilization data for program reporting. The utilization data, which will be anonymized when shared further, will provide insights to the Commission, the Company, and other stakeholders on the use of the stations, the potential for future active demand management, and related grid and environmental impacts.

[18] In the case of other market segments, site hosts themselves may not directly benefit from or use EV charging infrastructure – potentially discouraging deployment of EV charging stations at current adoption levels.

ii. Ready Charge Pilot

Q. Please provide a description of the Ready Charge Pilot Program.

A. The Ready Charge Pilot Program ("RCPP") supports the deployment of smart, network-enabled L2 and DCFC charging infrastructure at publicly accessible locations. To create a turnkey experience for site hosts, establish the foundation of a public charging network in the region, and attract future private investment, Liberty-Empire proposes to deploy, own, and operate the stations in the RCPP. Additionally, to improve understanding of charging behavior and trends, the Company intends to leverage the network capabilities of its chargers to collect and send station utilization data for program reporting. The utilization data will provide insights to the Commission, the Company, and other stakeholders on the use of the stations as well as related grid and environmental impacts.

Q. What eligible costs will the RCPP cover?

A. The RCPP will cover the following costs associated with L2 and DCFC charger deployment:

- Front of the meter distribution system upgrades needed to support EV chargers;
- Site design and engineering costs;
- Behind the meter make-ready infrastructure upgrades including trenching, boring, conduit, wiring, service panel upgrades, switchgear, and mounting pads or pedestals;
- Metering upgrades;
- L2 and DCFC charging equipment;

- Charging service network and maintenance agreements;
- Easements or other real estate leases; and
- Signage.

Costs that are not directly necessary to support the installation of L2 or DCFC chargers will not be covered.

Q. Please describe the L2 charger technology eligibility criteria.

A. L2 chargers deployed in the RCPP must be new, equipped with a SAE J1772 standard plug, and capable of delivering at least 6.2 kW of power to an EV. Chargers must also be network-enabled, capable of delivering station utilization data to the Company, capable of receiving a demand response signal, accept multiple forms of payment, be ENERGY STAR certified, listed by a nationally recognized testing laboratory (e.g., UL), and must adhere to open communication standards that support interoperability. Liberty-Empire intends to select up to three network service providers as qualified vendors at the outset of the RCPP launch via a competitive solicitation. The vendor(s) will offer at least one L2 charger that meets eligibility criteria.

Q. Please describe the DCFC charger technology eligibility criteria.

A. Fast chargers procured for the RCPP must be new, capable of delivering at least 50 kW of power, and include both SAE CCS Combo and CHAdeMO standard plugs. These plug standards are able to serve virtually all commercially-available battery electric vehicles, providing choice and flexibility for customers. DCFC chargers in the RCPP must be networked and capable of sending station utilization data to the Company. Qualified DCFC chargers must also accept multiple forms of payment and must be listed by a nationally recognized testing laboratory. The Company intends to

select up to three network service providers as qualified vendors at the outset of the RCPP launch via a competitive solicitation. The vendor(s) will offer at least one DCFC that meets eligibility criteria.

Q. Please describe the site host eligibility requirements for the RCPP and how it supports the use and usefulness of EV charging assets.

A. To ensure that EV chargers deployed in the RCPP are used and useful, they must be publicly accessible and shared use. In other words, EV chargers in the RCPP will not be dedicated for use by one particular vehicle or customer. Additionally, to take advantage of cost efficiencies from deploying multiple plugs at a site, participating site hosts will be required to deploy a minimum of two stations using a combination of dual-port L2 and/or DCFC chargers. Site hosts will permitted to deploy a maximum of three dual-port L2 stations or three DCFC chargers per site.[19] For L2 chargers, priority will be given to site hosts where vehicles are often parked for long periods of time, including: colleges and universities, municipally-owned parking structures, and retail locations. For DCFC chargers, priority will be given to sites adjacent to or in close proximity to highway corridors or to hosts where vehicles are often parked for short periods of time in heavily trafficked areas, including: grocery stores, gas stations, shopping centers, and municipally owned parking structures. Fleets and workplace charging are not a focus area of the RCPP and are covered in the Fleet Advisory Services Pilot Program and Commercial Electrification Pilot Program.

[19] The RCPP does not prohibit site hosts from deploying additional charging infrastructure at the time when RCPP-facilitated stations are being deployed. However, the costs of those additional EV chargers will not be covered by the RCPP.

Q. What does the Company intend to charge customers for the use of EV chargers facilitated by the RCPP?

A. Liberty-Empire wants to ensure that either the RCPP charger users or site hosts pay for the costs associated with providing the electricity to the charger, at a rate that is competitive with existing charging stations in the area. To this end, public users of the RCPP-facilitated chargers will be charged a fee based on the kWh dispensed from the unit, at a rate of $0.20 per kWh for L2 stations and $0.25 per kWh for DCFC. These fees match the approved rates for Evergy's Clean Charge Network stations in Missouri. Site hosts will have the option to choose one of two billing options for RCPP-facilitated chargers: (1) The site host pays the kWh Energy Charge plus applicable taxes and fees and is billed directly through the Company, or (2) the charging station user pays the kWh Energy charge plus applicable taxes and fees and is billed directly through a third-party network service provider. As noted earlier, the Company intends to select at least one network service provider to provide third-party vendor services and this vendor will facilitate billing of charging station users. RCPP-facilitated chargers must be equipped to accept multiple forms of payment from public users.

Q. What other measures is Liberty-Empire taking to mitigate costs associated with the RCPP?

A. To improve site selection and reduce program costs, the Company proposes that site hosts that enroll in the RCPP pay a one-time participation payment. The payment should not be so high as to discourage prospective site hosts from participating in the program. However, it should reaffirm the site hosts' interest and commitment to

hosting EV chargers that will support broader EV adoption in the region. For those reasons, Liberty-Empire proposes that for L2 chargers, the fee is $250 per plug, which is approximately 10% of the equipment cost (per port); and that for DCFC chargers, the fee is $500 per plug. The L2 participation fee is approximately 10% of the equipment cost, per port. The DCFC participation fee is a smaller percentage of the equipment cost but still intended to ensure site host commitment.

Q. What measures is the Company taking to incorporate equity considerations into the RCPP?

A. Chargers installed through the RCPP have the potential to serve all customers as they will be available to the public. Residential customers, including those in multi-family dwellings, without access to home charging can use RCPP chargers.

To help ensure that the benefits of the RCPP and transportation electrification are extended to all communities, Liberty-Empire proposes that the participation fees be waived for (1) Minority or Women Business Enterprises (M/WBE) certified by the Missouri Office of Equal Opportunity or (2) non-profit organizations. Disadvantaged companies will be determined by their inclusion in the Missouri Office of Equal Opportunity Minority/Women Owned Business (M/WBE) directory. [20] A Minority Business Enterprises is a business that is at least 51% owned and controlled by one or more minority persons. A Woman Business Enterprise is a business that is at least 51% owned and controlled by a woman. A racial minority is, for the purposes of the State of Missouri's MBE program, defined as individuals who are Black, American

[20] See https://oeo.mo.gov/oeo_certifications/.

Indian, Hispanic, Asian American and other similar racial minority groups as per RSMo. §33.750.

Q. What is the proposed budget for the RCPP?

A. Liberty-Empire's proposed budget for the RCPP is $2.9 million. The Company anticipates that, when considering reduced costs from the site host participation payment, the budget will enable the deployment of 50 dual-port L2 chargers and 15 DCFC chargers across approximately 25 sites. The Company anticipates many of the sites installing DCFC will also install L2 chargers.

iii. Commercial EV Rate Pilot

Q. Please describe the Commercial Electric Vehicle Rate and how it relates to the RCPP and other proposed programs.

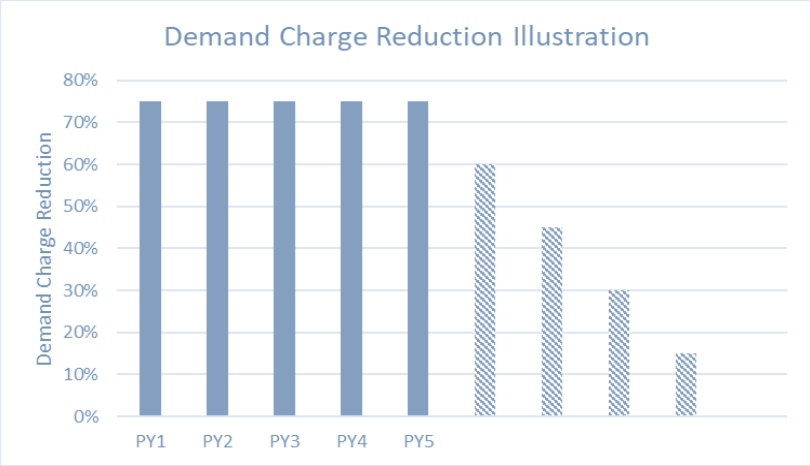
A. The Company proposes a new voluntary Commercial Electric Vehicle ("CEV") Rate Pilot that applies to EV chargers at commercial customer sites and reduces the maximum distribution demand charge resulting from chargers' contribution to customers' facility service and metered load. The demand charge rate will reduce demand charges up to 75% of the billing demand contribution of new DCFC and L2 chargers for a minimum of 5 years. For example, an eligible 60 kW DCFC charger would be billed for 15 kW of demand under the Company's current commercial rates. Applicable Commercial & Industrial tariffs for customers with over 40 kW demand include General Power Services (Schedule GP), Total Electric Building Service (Schedule TEB), and Large Power Services (Schedule LP). There are two types of demand charges on each respective rate schedule: billing demand and facilities

demand. Billing demand is determined from the highest fifteen-minute integrated kilowatt demand registered during the month by a suitable demand meter. Facilities demand is determined by a comparison of the current month's metered demand and the metered demand recorded in each of the previous 11 months. If there are less than 11 previous months of data, all available data from previous months will be used. The demand rate will be based on billing demand. EV chargers deployed in the RCPP are not eligible to participate in the CEV Rate.

Q. What is the Company's intent with respect to the CEV Rate after the five-year pilot period?

A. Liberty-Empire seeks to further evaluate how it can support private investment in high-capacity EV charging infrastructure in a manner that aligns with cost-causation principles. Simply terminating the CEV Rate Pilot after five years and returning to current commercial rates for high-capacity EV charging infrastructure does not provide the market with a consistent long-term signal that encourages market growth. Given the inherent uncertainty in determining how customers will respond to the CEV Rate Pilot, the Company plans to closely monitor customer uptake of the rate over the five years of the pilot to determine how it can modify its approach to encourage EV charging infrastructure deployment. Figure 1 illustrates how the percent reduction might phase out over time after the pilot period.

Figure 1 – Example of CEV Rate Phase-Out



Q. Please describe the eligibility criteria for participation in the CEV Rate Pilot.

A. The intent of the CEV Rate is to improve the economics for customers paying for the energy delivered to EVs through charging stations, particularly higher powered DCFC stations. To ensure that the CEV Rate is supporting stations that are useful to customers, any DCFC charger participating in the CEV Rate must be able to deliver at least 50 kW of power. Grocery stores, gas stations, shopping centers, and municipally owned parking structures are ideal locations for public DCFC stations – particularly if they are located near major highway corridors or other highly trafficked areas. EV chargers participating in the CEV Rate must be separately metered. Only EV charging loads at the customer's site will be eligible for the CEV Rate; non-EV loads are ineligible.

Q. Why are the DCFC chargers and L2 chargers in the RCPP ineligible to participate in the CEV Rate Pilot?

A. RCPP chargers are ineligible to participate in the CEV Rate Pilot because they are intended to be owned and operated by the Company. Recognizing that the Company has a role in both providing foundational infrastructure to support EV adoption and

encouraging investment from third-party sources, Liberty-Empire seeks to make the CEV Rate available to support customer operation of charging stations, including stations installed as part of the Commercial Electrification Pilot Program and the Electric School Bus Pilot Program.

iv. Fleet Advisory Services Pilot

Q. Please describe the Fleet Advisory Services Pilot Program.

A. The Fleet Advisory Services Pilot Program ("FASP") is intended to provide technical assistance to approximately 10 commercial customers that are interested in transitioning some or all of their fleet vehicles to EVs. This offering does not provide incentives for charging infrastructure or equipment. Rather, it provides an opportunity for commercial customers to receive greater assistance to understand the vehicle, infrastructure, and fueling considerations associated with electrifying their light, medium, and heavy-duty vehicle fleets, as well as with providing workplace charging for employees. This technical assistance will provide fleets with greater insight on managing fuel costs based on the Company's existing commercial rates and charging in a manner that provides grid benefits. Additionally, the assistance will support customers seeking to identify and pursue alternative funding to electrify their fleets. This program includes total cost of ownership modeling, quantifying pre- and post-emissions levels, site and infrastructure cost estimates, and funding application support for customers. Based on key findings from Liberty-Empire's recent survey of key account customers (see Schedule RM-7), the Company recognizes a need to provide customers with information that includes available incentives, physical site

evaluation for infrastructure needs, fleet vehicle use and drive pattern evaluation, and evaluation of charging infrastructure utilization or needs, among other aspects.

Q. Which market segments are served by the FASP?

A. The FASP is intended for the Company's commercial customers with fleets of at least five on-road vehicles that are based within the Company's service area. Priority will be given to government and public fleets looking to electrify their vehicles, including transit agencies and city fleet departments.

Q. What eligible costs is the Fleet Advisory Services Pilot Program designed to cover?

A. The FASP is designed to cover the cost associated with completing individual fleet-level studies to assess the performance, cost, and infrastructure requirements associated with transitioning from internal combustion engine vehicles to plug in hybrid and battery electric vehicles. These studies will include an identification of vehicles best suited to be replaced with EVs based on a total cost of ownership analysis, an action plan to implement the recommendations highlighted in the study, and identification of opportunities to offset cost associated with vehicles and charging equipment. This program offering does not provide incentives for charging infrastructure, but customers may seek to install infrastructure for fleet or workplace charging purposes through other Company programs.

Q. What is the proposed budget for the FASP?

A. Liberty-Empire proposes a budget of $200,000 for the FASP. The Company estimates it can complete approximately 10-15 fleet assessments based on similar program's budgets. Similar programs are discussed in Ms. Noblet's testimony.

v. Commercial Electrification Pilot

Q. Please describe the Commercial Electrification Pilot Program.

A. The Commercial Electrification Pilot Program ("CEPP") proposes to provide the infrastructure necessary to electrify fleets and private workplaces in Liberty-Empire's service area. The CEPP will provide for the deployment of smart L2 charging infrastructure. Similar to the RCPP, the Company proposes to deploy, own, and operate the charging stations. Results from Liberty-Empire's recent survey (see Schedule RM-7) of key accounts revealed that one of the top factors that would increase a fleet customer's interest in EVs is the installation of charging equipment by the Company.

Q. Please describe the relationship between the CEPP and the FASP.

A. While the FASP is intended to serve as an initial step for commercial customers that are interested in exploring the potential to transition to EVs and install EV charging infrastructure, the CEPP is tailored to commercial customers that are interested in deploying or expanding existing charging infrastructure. Commercial customers that participate in the FASP are eligible to participate in the CEPP provided that program funding is available. The CEPP is intended to support L2 charging infrastructure at fleet yards and workplaces with parking areas that are not accessible to the public (e.g., office parks or private workplace garages for employees). Consultations taking place as part of FASP may lead to customer participation in CEPP.

Q. What eligible costs is the CEPP designed to cover?

A. The CEPP will include the following costs associated with fleet or workplace L2 charger deployment:

- Front of the meter distribution system upgrades needed to support EV chargers;
- Site design and engineering costs;
- Behind the meter make-ready infrastructure upgrades including trenching, boring, conduit, wiring, service panel upgrades, switchgear, and mounting pads or pedestals;
- Metering upgrades;
- L2 charging equipment;
- Charging service network and maintenance agreements;
- Easements or other real estate leases; and
- Signage.

Costs that are not directly necessary to support the installation of L2 chargers will not be covered.

Q. Please describe the L2 charger technology eligibility criteria.

A. Liberty-Empire will conduct an open solicitation process through which it will select and enter into an agreement with at least one qualified vendor or vendors to provide charging equipment installed through the program. CEPP-facilitated charging infrastructure must be new, equipped with a SAE J1772 standard plug, capable of delivering at least 6.2 kilowatts (kW) of power to an EV, network-enabled, capable of delivering station utilization data to the Company, and capable of receiving a demand response signal. All CEPP-facilitated chargers must be ENERGY STAR-certified, listed by a nationally recognized testing laboratory (e.g., UL), and must adhere to open communication standards that support interoperability.

Q. Please describe the site host eligibility requirements for the CEPP and how it supports the use and usefulness of charging assets.

A. Participating customers must operate a light, medium, or heavy-duty on-road vehicle fleet and/or have privately accessible workplace parking located in Liberty-Empire's service area. To reduce per-plug deployment costs, fleets and workplaces must also commit to the deployment of at least two dual-port L2 chargers. Liberty-Empire will assess each potential project in coordination with customers to ensure that stations are being installed at locations where they are used and useful. Customers will be limited to 10 CEPP-facilitated chargers per site. Electricity used to refuel fleet or workplace EVs will be billed on the customer's existing commercial service rate. The Company does not preclude the participating customer from installing additional EV charging infrastructure while CEPP infrastructure is deployed. However, these additional costs will not be covered by the CEPP.

Q. What other measures is the Company taking to mitigate costs associated with the CEPP?

A. To improve site selection and reduce program costs, the Company proposes that site hosts that enroll in the CEPP pay a one-time participation payment. Similar to the RCPP, the payment should not be so high as to discourage prospective site hosts from participating in the program. However, it should reaffirm the site hosts' interest and commitment to hosting EV chargers that will support broader EV adoption in the region. Liberty-Empire proposes that for L2 chargers, the fee is $250 per plug, which is approximately 10% of the equipment cost per plug.

Q. What measures is the Company taking to incorporate equity into the CEPP?

A. To help ensure that the benefits of the CEPP and transportation electrification are extended to all communities, M/WBEs certified by the Missouri Office of Equal Opportunity and non-profit organizations will qualify for a waiver of the $250 per plug participation fee.

Q. What is the proposed budget for the CEPP?

A. Liberty-Empire proposes a budget of $775,000 for the CEPP. The Company anticipates that the budget will enable the deployment of 50 dual-port L2 chargers in the Company's service area.

vi. Electric School Bus Pilot

Q. Please describe the Electric School Bus Pilot Program.

A. The Electric School Bus Pilot Program ("ESBPP") proposes to provide charging infrastructure necessary to support the operation of electric school buses at school districts within Liberty-Empire's service area. The ESBPP will deploy smart L2 charging infrastructure depending on the operational needs of the participating school districts. This charging infrastructure, including the chargers, will be owned and maintained by the Company – reducing administrative and operational burdens for school districts by offering a turnkey deployment while allowing for the Company to more easily evaluate the energy storage potential of the school bus batteries. Specifically, the batteries could be used to further integrate renewable energy onto the electricity system and enhance the reliability of the grid by modifying charging during peak periods. Given the roles many schools play as emergency shelters for the community, the bus batteries could provide power on-site in the event of a long-term

power outage or be deployed elsewhere. Participating customers will take service on the applicable commercial service rate.

Q. Please provide a brief summary of the electric school bus market in Liberty-Empire's territory.

A. Based on Missouri vehicle registration data and the Missouri State Highway Patrol's 2018 Annual School Bus Inspection Reports, the Company estimated the current population of school buses within Liberty's territory to be approximately 1,300. However, to the best of our knowledge, there are currently no electric buses in use by schools in the territory.

Q. What eligible costs are included in the ESBPP?

A. The ESBPP is designed to cover the following costs related to the deployment of school bus chargers:

- Front of the meter distribution system upgrades;
- Site design and engineering costs;
- Behind the meter make-ready infrastructure upgrades including trenching, boring, conduit, wiring, service panel upgrades, switchgear, and mounting pads or pedestals;
- Metering upgrades;
- L2 charging equipment;
- Charging service network agreements;
- Easements or other real estate leases; and
- Signage.

Costs that are not directly necessary to support the installation of L2 chargers will not be covered.

Q. Please describe the L2 charger technology eligibility criteria.

A. The Company will conduct an open solicitation process through which it will select and enter into an agreement with at least one qualified vendor or vendors to provide charging equipment installed through the program. ESBPP-facilitated charging infrastructure must be new, equipped with a SAE J1772 standard plug, capable of delivering at least 6.2 kilowatts (kW) of power to an EV, network-enabled, capable of delivering station utilization data to the Company, and capable of receiving a demand response signal. All ESBPP-facilitated chargers must be ENERGY STAR-certified, listed by a nationally recognized testing laboratory (e.g., UL), and must adhere to open communication standards that support interoperability.

Q. What other measures is Liberty-Empire taking to mitigate costs associated with the ESBPP?

A. To reduce program costs, the Company proposes that school districts that enroll in the ESBPP pay a one-time participation payment. Like the other participation payments proposed as part of the Portfolio, the Company believes the payment should not be so high as to discourage prospective school districts from participating in the program. However, it should reaffirm the customers' interest and commitment to fleet electrification. Liberty-Empire proposes that for L2 chargers, the fee is $250 per plug, which is approximately 10% of the equipment cost per plug. Liberty-Empire proposes that this participation fee be waived for non-profit organizations.

Q. What is the proposed budget for the ESBPP?

A. Liberty-Empire proposes a $266,000 budget for the ESBPP, which it believes will enable the deployment of up to 20 dual-port L2 chargers and associated make-ready infrastructure at a minimum of two sites.

Q. Does the Company propose to incorporate any budget flexibility across the pilot programs within the On-Road Component?

A. Yes. Liberty-Empire recognizes that the EV market continues to evolve and that flexibility is required to support EV adoption in a manner that provides customer benefit. For these reasons, the Company proposes that up to 10% of total On-Road Component budget be able to be reallocated amongst on-road programs as needed, which is consistent with the Company's energy efficiency programs.

Q. Are there available alternative funding sources for the equipment the Company intends to support through the On-Road Component?

A. The Volkswagen Mitigation Trust, specifically the Missouri Beneficial Mitigation Plan[21], intends to fund DCFC and L2 infrastructure along major corridors in the state. The sites identified for this funding for Phase 1 resulted in one location in Liberty Utilities territory, in Joplin at the intersection of I-44 and I-49. The Company has applied for grant funding for this site in response to the EV Infrastructure Request for Applications on July 15, 2020. However, one location in our service territory is not enough to ensure a minimum practical network of charging infrastructure. Should there be funding available for Phase 2, a second location has been identified within the Company's territory in or close to Branson which would serve travel from Branson

[21] See the Missouri Department of Natural Resources website, https://dnr.mo.gov/env/apcp/vw/readvwplan.htm.

to Kansas City. The EV Collaborative, of which I am a part, has further indicated that statewide planning and additional utility involvement will be needed to ensure access to public charging outside of the major metropolitan areas. Given that DCFC infrastructure outside of St. Louis and Kansas City is very sparse, there is a need. Additionally, the merits of the proposed Ready Charge Pilot Program extend beyond the simple provision of charging infrastructure. Owning and operating this equipment will allow Liberty-Empire to gain insight into charging and operational habits for future applications.

In addition, while the Volkswagen Mitigation Trust and the Diesel Emissions Reduction Act offer grant funding for the acquisition of clean school buses, they do not fill the need served by the proposed Electric School Bus Pilot Program for charging infrastructure. The company-owned and operated infrastructure in this pilot will allow Liberty-Empire to gain valuable insight and operational data to determine how EV batteries can be used to support flexibility and grid reliability through future vehicle-to-grid integration.

B. Non-Road Component Overview

Q. Please provide a summary of the Company's proposed Non-Road Component.

A. The Liberty-Empire Non-Road Electrification Component includes marketing, technical support, and incentives to encourage adoption of qualifying electric technologies. These technologies would otherwise be powered by gasoline, diesel, or propane fuel, and include electric forklifts, truck refrigeration units, truck stop electrification, agricultural wells, and custom equipment.

Q. What equipment measures are included in the Company's proposed Non-Road Component?

A. The equipment measures within Liberty-Empire's proposed Non-Road Program include the following technologies: electric forklifts, truck refrigeration units, truck stop electrification, agricultural wells, and custom equipment. In addition, the program includes financial incentives for customers and some dealers, an awareness campaign, technology specific collateral, promotional events, a program website that will show benefits of included technologies, and technical and financial assessment tools to help customers evaluate electric equipment versus alternative fuels. Additional program services include local account managers to provide technical and application support to customers, dealers, and other stakeholders as well as data tracking, reporting and equipment verification.

Q. What customer equity provisions is the Company proposing for the Non-Road Program?

A. The program will include increased incentives for companies designated as M/WBE businesses. Certified M/WBE businesses will be offered a 20% increased incentive for equipment measures.

i. <u>Prescriptive Equipment</u>

Q. Please describe the prescriptive equipment measures included in Liberty-Empire's Non-Road Program.

Forklifts are primarily used for lifting and moving heavy loads. They are commonly found in facilities such as distribution warehouses and shipping depots. Forklifts may

be charged by one of two methods – conventional charge (8 hours daily charge) or rapid/opportunity charge (1-2 hours charge daily, with a weekly 8-hour equalization charge).

Truck Refrigeration Units (TRUs) are used by food distribution and cold storage companies to maintain temperature in trailers. On-road power typically comes from onboard auxiliary diesel engines. Electric standby or "E/S TRUs" can maintain temperatures overnight or while loading/unloading (as opposed to idling a diesel engine during those times). TRUs sold today are capable of operation using diesel fuel or by plugging in to electric infrastructure.

Truck Stop Electrification (TSE) provides infrastructure for heavy duty trucks to connect to the grid to charge or power cab appliances while parked temporarily or overnight, rather than idling a diesel engine.

Agricultural well conversion is the process of converting diesel irrigation well pumps to electric.

Q. Which market segments are served by these equipment measures?

A. The **forklift** equipment measure serves commercial and industrial customers, including customers in the manufacturing, wholesale and retail trade, and warehousing sectors. The electric **TRU** equipment measure serves commercial customers in the trucking sector. The **TSE** equipment measure intends to serve commercial trucking customers both at public truck stops and travel centers, as well as in warehouses and shipping depots. The **agricultural well conversion** equipment measure will serve commercial agricultural customers. Ms. Coletti's expert witness testimony provides

additional details about the approximate size of the market for these non-road technologies in Liberty-Empire's service territory.

Q. What is the proposed budget for the Non-Road Program?

A. The total proposed budget for Liberty-Empire's proposed 5-year Non-Road Program is $5,092,865, which includes custom and prescriptive equipment. Ms. Coletti's testimony will provide additional details about the proposed budget for Liberty-Empire's Non-Road Program.

Q. What eligible costs of these equipment measures is the Non-Road Program designed to cover?

A. The Non-Road Program will offer incentives to cover a portion of the cost of the equipment and charging infrastructure. These incentives are listed in detail in Table 2.

Table 2. Non-Road Prescriptive Incentives

Equipment Measure	Incentive
Forklifts	$2,500 (propane/diesel replacement); $700 (new equipment or fleet expansion)
TRU Infrastructure	$900 (230V Box Trucks); $4,200 (480V Trailer Units)
TSE Infrastructure	$2,300
Well Conversion Projects	$5,000

ii. <u>Custom Equipment</u>

Q. Please describe the custom equipment measure.

A. The custom equipment measure encompasses any commercial or industrial electrified equipment not included in the list of prescriptive equipment measures. Custom equipment measures will be evaluated by account managers on a case-by-case basis.

Q. Which market segments are served by the custom equipment measure?

A. The custom equipment measure serves all commercial and industrial customers.

Q. What eligible costs of the custom equipment measure will the program cover?

A. The custom equipment measure will cover a portion of the cost of custom equipment and charging infrastructure dependent on equipment type and kWh. The incentive amount will be $0.10 per kWh, based on the anticipated electric equipment's annual load, and capped at a maximum of 75% of the total project cost.

C. Administrative Component Overview

Q. Please summarize the Administrative Component of the Company's proposed Portfolio.

A. The Administrative Component of the proposed Portfolio is critical to the customer awareness-building, implementation, evaluation, and reporting of the pilot programs within the Portfolio. It is composed of three parts.

- *Customer Education & Outreach* – supports Portfolio-wide education & outreach (E&O) activities to increase customer enrollment and encourage beneficial charging of EVs.
- *Annual Reporting & Evaluation* – enables the data collection, analysis, and reporting of key portfolio metrics to the Commission and interested stakeholders.

- *Program Implementation* – supports the set-up, launch, and on-going implementation of the transportation electrification portfolio.

Q. Please describe Liberty-Empire's approach to customer education and outreach across the Portfolio.

A. Customer E&O remains critical for growing awareness of EVs and accelerating the EV market. Many customers may be unaware of or have outdated knowledge of EV range and performance, electric fuel costs, charging station locations, and model availability. Additionally, while several other states have active non-profit or member-based organizations to raise awareness of transportation electrification, Liberty-Empire is not aware of any comparable organizations or initiatives in Missouri.[22] While it is not the sole responsibility of the Company to inform customers of the benefits of transportation electrification, Liberty-Empire agrees with the consensus identified in the Staff Report from docket EW-2019-0229 that "enhanced customer education is a must."[23]

The Company is well-positioned to provide E&O in two key areas: Portfolio program offerings and the use of electricity as transportation fuel. Communicating the Company's program offerings to potential participants is a necessary element of successful customer facing programs. Particular focus should be invested in low-income and disadvantaged communities where barriers to transportation

[22] *Forth Mobility* is a non-profit organization comprised of EV charging companies, automakers, government agencies, and other groups that advances EV initiatives in the Pacific Northwest. *Veloz* is a similar organization that communicates the benefits of vehicle electrification in California. *Drive Electric Vermont* is a coalition-based initiative led by the Vermont Energy Investment Corporation that provides tools for residents to transition to EVs.
[23] *Staff Report*, Case No. EW-2019-0229, Filed September 30, 2019

electrification access may be greater than other areas. Additionally, the Company can leverage its role as an electric distribution utility by helping customers understand the interaction between EV charging behavior, electric rates, and grid impacts. This focus on EV charging complements the Company's responsibility to manage the local electricity system and serve as a trusted regional energy advisor.

The Company proposes to engage customers on its Portfolio program offerings and EV charging information across a variety of strategies aimed at maximizing customer awareness, including:

- Updates to feature EV-related content on Liberty-Empire's landing page;
- Development of outreach materials for social media (e.g., Liberty Twitter, Facebook, and LinkedIn accounts) and paid media (e.g., promoted content on social media, other webpages, newspapers, radio, and local billboards);
- Fact sheets, handouts, and brochures that target specific customer segments with relevant information (e.g., workplace charging benefits for employers);
- Customer bill inserts on available program offerings;
- Engagements and educational collateral at local public events;
- Licensing of existing EV marketing materials;
- Technical and financial assessment tools; and
- Sales training and collateral materials for area dealers.

Q. What is the proposed budget for the Company's customer education and outreach effort?

A. Liberty-Empire proposes a budget of $400,000 for E&O across the Portfolio and over the 5-year period, with a majority of that funding allocated to the On-Road Component

since the Non-Road Component budget includes some awareness-building and outreach activities. The Company seeks flexibility to tailor education and outreach efforts in a manner that optimizes uptake of Portfolio pilot program offerings. For example, if one pilot program offering is relatively undersubscribed compared to others, the Company can modify its customer engagement approach to increase customer participation for that specific pilot program.

Q. Please describe the Company's approach to reporting and evaluation across the Portfolio.

A. The implementation of the proposed Portfolio of pilot programs will generate valuable insight to help shape future programs the Company may pursue, particularly those focused on EV charging dynamics in the region. Liberty-Empire is committed to sharing information and lessons learned by proposing to develop annual reports that will review the status of the Portfolio implementation. The reports will be publicly available and submitted to the Commission. Aside from providing updates on program uptake, the Company intends to leverage the network capabilities of installed EV charging infrastructure to provide a more detailed overview of how EV charger utilization changes over time and across market segments. These insights will be critical for understanding strategies to manage future EV loads and developing future transportation electrification offerings that meet the needs of Liberty-Empire's customers. At a minimum, the Company plans to include the following information in its annual reports:

- Overview of Portfolio implementation status to date;
- Number and type of participating site hosts by program;

- Number of participating M/WBE and non-profit organizations by program;
- Number and type of chargers deployed by program;
- Number and type of non-road equipment by measure;
- Total, time-based kWh for deployed measures;
- Costs incurred compared to budgeted by program;
- Station utilization data, including kWh dispensed;
- Avoided greenhouse gas and NOx emissions;
- Updates on E&O activities; and
- Opportunities, challenges, and lessons learned.

Also, as part of the reporting and evaluation activities, the Company will survey participants (including residential customers driving EVs and charging station site hosts) to gather information about the impact of Liberty-Empire's pilot programs. The Company recognizes the importance of demonstrating how these pilot programs and related investments are shaping customer behavior, purchasing decisions, and energy use.

Q. What is the proposed budget for the Company's annual reporting and evaluation activities across the portfolio?

A. Liberty-Empire proposes a budget of $100,000 to complete anticipated annual reporting requirements for five years.

Q. Please describe the Company's approach to implementation of the pilot programs in the Transportation Electrification Portfolio.

A. Implementation will include activities to stand up, launch, and run the proposed pilot programs for a period of five years. These will be closely coordinated with the

education, outreach, reporting, and evaluation described above. Liberty-Empire anticipates pilot program implementation will include, but not be limited to: pilot program integration and operationalization; site host and rebate application and online intake portal development and management; application review and processing; pilot requirements, terms, and conditions development; charging vendor coordination; related customer service (both for interested customers and participating customers); construction project management for utility-owned charger installations; pilot program tracking; and ongoing internal coordination across operating groups.

Q. What is the proposed budget for Liberty-Empire's implementation activities?

A. The Company proposes a budget of approximately $850,000 to set up and implement the proposed on-road pilot programs for a period of five years. This budget was estimated based on 15% of the total cost of the On-Road Component (including associated education and outreach, reporting, and evaluation); the Non-Road Component budget already includes program delivery.

V. MARKET ANALYSIS

Q. Please describe the market analysis performed in support of the Liberty-Empire's proposal.

A. Liberty-Empire's expert consultant for this matter, ICF, conducted a market assessment and cost benefit analysis for the transportation electrification portfolio. The on-road market analysis included an assessment of the existing and projected EV annual sales, population, and charging infrastructure in Liberty's service territory. Additional detail around the on-road assessment and analyses are included in Ms.

Noblet's Direct Testimony filed herein on behalf of Liberty-Empire. The non-road market analysis estimated the existing convertible potential and baseline electric populations for forklifts, truck refrigeration units, truck stop electrification, exemplary custom measures (cranes and drayage trucks), and agricultural well pumps within Liberty-Empire's service territory. Additional detail around the non-road assessment and analyses are included in Ms. Coletti's Direct Testimony.

VI. COST AND REVENUE TRACKING

Q. Please describe the cost and revenue tracking methods proposed by the Company in relation to the proposed Portfolio of transportation electrification pilot programs and initiatives.

A. The Company proposes to isolate and track all costs and revenues related to the Portfolio, with net costs allowed to be reclassified as a regulatory asset and recovered in rates in the future. The Company is seeking accounting authority to defer and amortize these costs over a period of eight years to align with the average expected life of the assets.

Q. What are the advantages of seeking regulatory asset treatment for costs related to the proposed Portfolio?

A. Regulatory asset treatment has the advantage of spreading the recovery of program costs and the cost of capital over the life of the assets, which smooths rate impacts for customers. As the Commission has noted with regard to Ameren Missouri's transportation electrification proposal, "deferring the program cost recovery also serves to 'sync up' the costs of the program with the benefits or revenues of the added

load and provides 'a smoother pattern of rate impacts to' ratepayers. This is a benefit to the ratepayers."[24]

Other regulatory commissions have supported the use of regulatory assets for transportation electrification expenses, including the Michigan Public Service Commission. From its Order in response to DTE's application for the Charging Forward EV Program, "Overall, the Commission finds that regulatory asset treatment, as proposed by the Staff, is the most reasonable and prudent recovery mechanism. Regulatory asset treatment balances the company's interest with customer protection, by not requiring customers to pay for expenses that may not be incurred and by allowing the company to recover the actual costs incurred."[25]

VII. CONCLUSION

Q. Please summarize the purpose of your Direct Testimony and the goals of the proposed Portfolio.

A. I provided an overview of the proposed portfolio of transportation electrification pilot programs and the associated benefits, a brief history of Liberty's experience in transportation electrification to date, and our vision for future programs and offerings.

The proposed pilot programs are designed to address key barriers to increased transportation electrification in the Liberty-Empire territory. Our customers have a basic level of awareness about EVs and technologies, but we seek to build customer

[24] *Report and Order*, Case No. ET-2018-0132, Issued February 6, 2019. Available at: https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=ET-2018-0132&attach_id=2019011427.
[25] Michigan Public Service Commission Order, Case No. U-20134, Filed May 2, 2019. Available at: https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t0000004SM3yAAG.

understanding. The Company also seeks to complement, but not duplicate, efforts underway to install EV charging stations funded by Volkswagen Settlement funding, both via the State Beneficiary Mitigation Plan and Electrify America.

Because these are designed as pilot programs, the Company seeks to gather data and customer insight to better understand the local EV charging dynamics, including charging behavior and consumer response to price signals. As the number of EVs in the service territory increases, it will be imperative that the Company have a way to monitor charging, encourage customers to shift charging to off-peak periods, and gauge the effectiveness of the utility's programs and initiatives.

Q. Does this conclude your Direct Testimony?

A. Yes.

VERIFICATION

I, Robin McAlester, under penalty of perjury, on this 29th day of November, 2020, declare that the foregoing is true and correct to the best of my knowledge and belief.

_____/s/ Robin McAlester_____

THE EMPIRE DISTRICT ELECTRIC COMPANY

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For ALL TERRITORY

RESIDENTIAL SMART CHARGE PILOT PROGRAM

SCHEDULE RSCPP

RESIDENTIAL SMART CHARGE PILOT PROGRAM
Schedule RSCPP

PROGRAM DESCRIPTION

The purpose of the Residential Smart Charge Pilot Program is to provide a subscription service that encourages electric vehicle ("EV") charging during periods of low system utilization through time-based rates by providing residential customers the use of a smart (networked) Level 2 ("L2") charging station at their residence. Charging infrastructure deployed pursuant to Schedule RSCPP will be installed and owned by The Empire District Electric Company ("Company").

AVAILABILITY

Schedule RSCPP is available to any residential customer currently receiving permanent, metered electric service under the Company's retail rate schedules at a single-family residence. A participant must own or lease an EV and commit to keeping the charger installed for at least five years. Under this Schedule RSCPP, participants will be limited to one smart L2 charger per site. Participants must ensure reliable access to wireless internet service at the location.

DEFINITIONS

Participant: A customer of the Company that meets the eligibility criteria established in Schedule RSCPP for participation and who executes a Participant Agreement.

Participant Agreement: The agreement between the Company and the Participant further describing the terms and conditions governing the Participant's subscription to the Residential Smart Charge Pilot Program.

Site: The location at which a Schedule RSCPP-facilitated charger is installed and operated.

PRICING

Participating customers are subject to the following charges associated with Schedule RSCPP:

- Residential Smart Charge Pilot Subscription Fee: $40/month
- Time-Based Energy Charge 6 a.m. to 9 p.m.: $0.25/kilowatt-hour ("kWh")

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RESIDENTIAL SMART CHARGE PILOT PROGRAM

SCHEDULE RSCPP

- Time-Based Energy Charge 9 p.m. to 6 a.m.: $0.00/kWh

The Residential Smart Charge Pilot Subscription Fee is designed to recover all smart L2 charger costs, installation costs, electricity costs associated with EV charging between 9 p.m. and 6 a.m. daily, billing system upgrades, and networking fees associated with data collection and management.

The Company will enter into an agreement with at least one qualified vendor to provide charging equipment installed through the Residential Smart Charge Pilot Program. Schedule RSCPP-facilitated charging infrastructure must be new, equipped with a SAE J1772 standard plug, capable of delivering at least 6.2 kilowatts of power to an EV, network-enabled, capable of delivering station utilization data to the Company, and capable of receiving a demand response signal. All Schedule RSCPP-facilitated chargers must be ENERGY STAR-certified, listed by a nationally recognized testing laboratory (e.g., UL), and must adhere to open communication standards that support interoperability.

MONTHLY BILLING

1. The Subscription Fee will be billed to the Participant monthly and is inclusive of all applicable riders and charges. This includes metered energy consumption occurring during the 9 p.m. to 6 a.m. period.

2. Metered energy consumption occurring during the 6 a.m. to 9 p.m. period will be billed under the Schedule RSCPP Time-Based Energy Charge listed above, including all applicable riders and charges.

3. Other, non-energy charges defined by the standard rate schedule are not impacted by the Residential Smart Charge Pilot Program subscription and will be billed to the Participant.

4. The entire bill amount, inclusive of all standard rate charges and Residential Smart Charge Pilot Program charges, must be paid according to the payment terms set forth in the Company’s Rules and Regulations.

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RESIDENTIAL SMART CHARGE PILOT PROGRAM

SCHEDULE RSCPP

WAITING LIST

The Residential Smart Charge Pilot Program has an initial cap of 500 participants. If a customer wishes to enroll after the Company has reached the program cap, the customer may elect to be placed on a waiting list. The Company will maintain records related to the waiting list.

SUBSCRIPTION TERM

Participants must remain in the Residential Smart Charge Pilot Program for a minimum of five years, as measured from the date of participation under this Schedule RSCPP. Following the initial term, the subscription will continue indefinitely until cancelled or terminated as provided for herein.

If a Participant cancels their subscription or becomes ineligible due to some action of the Participant before the end of the initial subscription term, they are required to pay Termination Fees which will be equal to the monthly Residential Smart Charge Pilot Program subscription fee times the number of months remaining in the subscription term. These Termination Fees collected by the Company will be treated as Contribution in Aid of Construction ("CIAC"). However, a customer that is a participant in the Program will be permitted to withdraw from the Program before the initial commitment period has been completed only if a customer on the waitlist for which there is not a charger available can take the withdrawing participant's charger, and the withdrawing participant will not be refunded any fees.

PROGRAM PROVISIONS AND SPECIAL TERMS

1. Customers applying for service under this Residential Smart Charge Pilot Program must have and maintain an account that is not more than 60 days delinquent or in default at the time of application.

2. Participants waive all rights to any retrospective billing reductions arising from a claim that the Participant's service would be or would have been at a lower cost had it not participated in the Residential Smart Charge Pilot Program for any period of time.

3. Participants that have multiple eligible accounts in the Company's Missouri service territory may transfer a subscription from one eligible account to another in the Missouri service territory subject to the following conditions:

    a. The account to which the subscription is transferred is otherwise eligible to participate in the RSCPP program.
    b. Any remaining subscription term associated with the transferred subscription will remain in effect following the transfer.

4. Participants must notify the Company in writing of their intent to transfer any subscription(s). Transfers will only be effective if the transferee satisfies the terms and conditions applicable to the subscription, signs and returns the Participant Agreement to the Company, and thereby assumes all responsibilities associated therewith. Participants are responsible for the costs associated with uninstalling and reinstalling the Schedule RSCPP-facilitated charger.

5. The Company, through its network of authorized third-party independent contractors and at its expense, shall provide, install, maintain, repair or replace (collectively the "Work") the Schedule RSCPP-facilitated charger on the Site. The charger shall include a vehicle charging station and associated cords, electrical lines, wires, conduit, cables and equipment. The Company shall provide electric utility services to Participant, and Participant shall pay for such service consistent with the applicable electric utility tariff in force and effect. The Company, in its sole discretion, shall have the right to repair, modify, or replace the Schedule RSCPP-facilitated charger at any time during the Term of this Agreement.

6. Upon completion of installation and at all times during the Term of this Agreement, ownership of and title to the Schedule RSCPP-facilitated charger shall remain with the Company. Participant shall ensure that the charger shall not be subject to any lien, security interest or other claim asserted by any creditor of Participant, and any sale of the Site by the Participant shall not include the Schedule RSCPP-facilitated charger.

7. Participant shall maintain the connection between the Schedule RSCPP-

facilitated charger and an Internet Service Provider via a Wi-Fi connection for the operation of the L2 EV charger under this Agreement. The Company will make a reasonable attempt to notify the Participant if the Schedule RSCPP-facilitated charger is not reporting electricity consumption, but it is up to the Participant to maintain the Wi-Fi connection.

8. Participant will maintain the area surrounding the Schedule RSCPP-facilitated EV charger and will promptly notify the Company of any problems related to the charger that Participant becomes aware of. Such maintenance includes, but is not limited to, pavement maintenance, pruning of vegetation, and snow removal. For avoidance of doubt, Participant is not responsible for the ongoing maintenance of the RSCPP-facilitated charger.

9. Participant agrees to remedy minor issues that do not require qualified technicians to address, such as resetting infrequently tripped circuit breakers.

10. If a Participant's electric service is terminated during the initial subscription period, the Company will make the subscription available to customers on the waiting list. If the terminated subscription is not fully subscribed by another customer for the remaining subscription period, the terminating participant shall be responsible for a Termination Fee for the remaining portion of the subscription. The Termination Fee will be equal to the monthly Residential Smart Charge Pilot Program subscription fee times the number of months remaining in the subscription term. These Termination Fees collected by the Company will be treated as CIAC.

11. Customers that subscribe will continue as Participants until they cancel their subscription, or the Residential Smart Charge Pilot Program is terminated. New subscriptions and cancellations require 20 calendar day's written notice by the Participant to the Company prior to the end of the Participant's billing cycle and will take effect at the beginning of the next applicable billing cycle.

12. Any Participant who cancels its participation in the Residential Smart Charge Pilot Program must wait 12 months after the first billing cycle without a subscription to re-enroll in the Residential Smart Charge Pilot Program.

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READY CHARGE PILOT PROGRAM

SCHEDULE RCPP

READY CHARGE PILOT PROGRAM
Schedule RCPP

PROGRAM DESCRIPTION

The Ready Charge Pilot Program supports the deployment of smart, network-enabled Level 2 ("L2") and direct-current fast charging ("DCFC") infrastructure at publicly accessible commercial customer sites for shared public use to charge an electric vehicle ("EV"). Charging infrastructure deployed pursuant to Schedule RCPP will be installed, owned and operated by The Empire District Electric Company ("Company") and may be used by any EV owner who resides either within or outside the Company's service territory.

AVAILABILITY

This Schedule RCPP is available to commercial customers at publicly accessible locations who wish to serve as site hosts for Company-owned L2 and/or DCFC EV chargers. Charging infrastructure deployed pursuant to Schedule RCPP must be publicly accessible 24/7 and intended for shared use by EV drivers. Customers participating in Schedule RCPP are required to deploy a minimum of two stations using a combination of dual-port L2 and/or DCFC chargers, and a maximum of three dual-port L2 chargers or three DCFC chargers per site. For L2 chargers, priority will be given to sites where vehicles are often parked for long periods of time, including: colleges and universities, municipally-owned parking structures, and retail locations. For DCFC chargers, priority will be given to sites adjacent to or in close proximity to highway corridors or where vehicles are often parked for short periods of time in heavily trafficked areas, including: grocery stores, gas stations, shopping centers, and municipally-owned parking structures. RCPP-facilitated chargers must be separately metered from the site host's other site loads.

DEFINITIONS

Site Host: A customer of the Company that meets the Site Host eligibility criteria established in Schedule RCPP for participation and who executes a Site Host Agreement.

Site Host Agreement: The agreement between the Company and the participating Site Host further describing the terms and conditions governing the Site Host's enrollment in the Ready Charge Pilot Program.

READY CHARGE PILOT PROGRAM

SCHEDULE RCPP

Minority or Women Business Enterprise ("M/WBE"): Any business certified by the Missouri Office of Equal Opportunity as an M/WBE.

Non-profit Organization: Any organization established as a nonprofit corporation under the Missouri Nonprofit Corporation Act.

SITE HOST PARTICIPATION PRICING

There is a one-time participation fee for customers to enroll as Site Hosts in the Ready Charge Pilot Program: for L2 chargers, the fee is $250 per port; for DCFC chargers, the fee is $500 per charger. The participation fee will be waived for qualified site hosts that are either M/WBE certified by the Missouri Office of Equal Opportunity or Non-profit Organizations.

Charging infrastructure deployed under Schedule RCPP will be deployed, owned and operated by the Company, which will pay for the following Schedule RCPP-related costs:

- Front of the meter distribution system upgrades needed to support EV chargers;
- Site design and engineering costs;
- Behind the meter make-ready infrastructure upgrades including trenching, boring, conduit, wiring, service panel upgrades, switchgear, and mounting pads or pedestals;
- Metering upgrades;
- L2 and/or DCFC charging equipment;
- Charging service network and maintenance agreements;
- Easements or other real estate leases; and
- Signage.

Costs that are not necessary to support the installation of L2 or DCFC chargers will not be paid for by the Company pursuant to Schedule RCPP.

PROGRAM ADMINISTRATION

Charges under this Schedule RCPP will be administered and billed through either the Company's third-party vendor on behalf of the Company, or directly by the Company depending on the Billing Option chosen by the Site Host.

BILLING OPTIONS

The charges applicable to a Schedule RCPP-facilitated EV charging station session will include an Energy Charge for each kilowatt-hour ("kWh") provided to charge an EV dependent on the Billing Option chosen by the Site Host.

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READY CHARGE PILOT PROGRAM

SCHEDULE RCPP

A Site Host may choose between one of two Billing Options for all Schedule RCPP-facilitated EV charging stations located upon their premise(s). The Site Host's agreement with the Company will identify the chosen Billing Option. The Schedule RCPP-facilitated EV charging station screen, and third-party vendor's customer web portal, will identify the applicable Energy Charges that will be the responsibility of the user at each EV charging station location.

Billing Option 1: The Site Host pays the kWh Energy Charge plus applicable taxes and fees.
Billing Option 2: The EV charging station user pays the kWh Energy Charge plus applicable taxes and fees.

RATES FOR SERVICE

The RCPP-facilitated EV charging station screen and third-party vendor's customer web portal will identify the per kWh rate as equal to the Energy Charge plus applicable taxes and fees to that charging station.

A. Energy Charge (per kWh)
   a. L2: $0.20000
   b. DCFC: $0.25000

The Energy Charge is defined as a flat rate per kWh, and reflect the inclusion of all energy rate adjustment mechanisms, such as the Fuel Adjustment Clause (FAC).

BILLING

1. All users of the RCPP-facilitated EV charging stations must have an account with the Company's third-party vendor. Information on opening an account will be available through the Company's website.

2. All charges applicable to the Site Host under Billing Option 1 will be billed directly through the Company. All charges applicable to any user of an RCPP-facilitated EV charging station under Billing Option 2, will be billed directly through the Company's third-party vendor.

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READY CHARGE PILOT PROGRAM

SCHEDULE RCPP

WAITING LIST

The Ready Charge Pilot Program is expected to support the deployment of approximately 100 L2 charging ports (or 50 dual-port charging stations) and approximately 15 DCFC chargers. If a customer wishes to enroll after the Company has exhausted program funding, the customer may elect to be placed on a waiting list. The Company will maintain records related to the waiting list.

TERM

Site Hosts must remain in the Ready Charge Pilot Program for a minimum of five years, as measured from the effective date of participation under this Schedule RCPP.

PROGRAM PROVISIONS AND SPECIAL TERMS

1. Customers applying for the Ready Charge Pilot Program must have and maintain an account that is not more than 60 days delinquent or in default at the time of application.

2. Site Hosts waive all rights to any retrospective billing reductions arising from a claim that the Site Host's service would be or would have been at a lower cost had it not participated in the Ready Charge Pilot Program for any period of time.

3. Site Hosts must sign an easement provided by the Company that grants the Company with the right to access the Site Host’s property in order to participate in the program. The easement will allow the Company to install and maintain the RCPP-facilitated chargers on the Site Host’s property.

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COMMERCIAL ELECTRIC VEHICLE PILOT RATE

SCHEDULE CEV

COMMERCIAL ELECTRIC VEHICLE RATE PILOT
Schedule CEV

PURPOSE

The purpose of the Commercial Electric Vehicle Rate Pilot is to encourage customer and third-party investment in Level 2 ("L2") and direct-current fast charger ("DCFC") infrastructure in the service area of The Empire District Electric Company ("Company") by lowering commercial customers' L2 and DCFC operational costs.

PROGRAM DESCRIPTION

The Commercial Electric Vehicle Rate Pilot (Schedule CEV) establishes a reduced billing demand for subscribing customers, calculated as the customer's billing demand under the standard rate schedule, reduced by 75% of the billing demand contribution of the chargers deployed under Schedule CEV.

Eligible customers may subscribe to Schedule CEV by executing the Commercial Electric Vehicle Rate Pilot Participant Agreement. The initial term shall be a minimum of five years after the effective date of the CEV rate.

Level 2 ("L2") charger requirements: L2 chargers deployed under this Schedule CEV must be served by a dedicated meter for electric vehicle ("EV") charging equipment. Chargers must also be capable of delivering at least 6.2 kilowatts ("kW") of power to an EV and be network-enabled.

Direct-current fast charger ("DCFC") requirements: DCFC infrastructure deployed under Schedule CEV must be served by a dedicated meter for EV charging equipment. Chargers must also be capable of delivering at least 50 kW of power to an EV and be network-enabled.

AVAILABILITY

Participation in Schedule CEV is voluntary and available to all existing commercial customers who install separately metered eligible charging infrastructure at their commercial facility.

Charging stations installed under the Ready Charge Pilot Program (Schedule RCPP) are not eligible for participation in the Commercial Electric Vehicle Rate Pilot (Schedule CEV).

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COMMERCIAL ELECTRIC VEHICLE PILOT RATE

SCHEDULE CEV

DEFINITIONS

Participant: A customer of the Company that meets the eligibility criteria established in Schedule CEV for participation and who executes a Participant Agreement.

Participant Agreement: The agreement between the Company and the Participant further describing the terms and conditions governing the Participant's subscription to the Commercial Electric Vehicle Rate Pilot.

PRICING

Billing demand is determined from the highest fifteen-minute integrated kW demand registered during the month by a suitable separate demand meter dedicated solely to EV chargers participating in Schedule CEV. The Commercial Electric Vehicle Rate Pilot (Schedule CEV) establishes a reduced billing demand for subscribing customers, calculated as the customer's total billing demand (kW) under the standard rate schedule, less 75% of the billing demand contribution (kW) of chargers deployed under Schedule CEV.

MONTHLY BILLING

1. The CEV rate will apply a monthly credit equivalent to 75% of the monthly billing demand of chargers deployed under Schedule CEV, will be billed according to the terms of the Participant's standard rate schedule.

2. Metered energy consumption will be billed according to the terms of the Participant's standard rate schedule, including all applicable riders and charges, from a meter dedicated to EV chargers participating in the CEV rate.

3. Other non-energy charges defined by the standard rate schedule are not impacted by the Commercial Electric Vehicle Rate Pilot (Schedule CEV) subscription and will be billed to the Participant.

4. The entire bill amount, inclusive of all standard rate charges and Commercial Electric Vehicle Rate Pilot (Schedule CEV) charges, must be paid according to

the payment terms set forth in the Company's Rules and Regulations.

PROGRAM PROVISIONS AND SPECIAL TERMS

1. Upon subscription to Schedule CEV, customers must provide a certification of the billing demand contribution of participating chargers.

2. Customers applying for service under Schedule CEV must have and maintain an account that is not more than 60 days delinquent or in default at the time of application.

3. Participants waive all rights to any retrospective billing reductions arising from a claim that the Participant's service would be or would have been at a lower cost had it not participated in Schedule CEV for any period of time.

4. Customers that subscribe will continue as Participants until they cancel their subscription, or the Commercial Electric Vehicle Rate Pilot (Schedule CEV) is terminated. New subscriptions and cancellations require 20 calendar day's written notice by the Participant to the Company prior to the end of the Participant's billing cycle and will take effect at the beginning of the next applicable billing cycle.

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COMMERCIAL ELECTRIFICATION PILOT PROGRAM

SCHEDULE CEPP

COMMERCIAL ELECTRIFICATION PILOT PROGRAM
Schedule CEPP

PROGRAM DESCRIPTION

The Commercial Electrification Pilot Program supports the deployment of smart Level 2 ("L2") charging infrastructure for use by electric vehicle ("EV") fleets or located at workplaces. Charging infrastructure deployed pursuant to Schedule CEPP will be installed, owned, and operated by The Empire District Electric Company ("Company").

AVAILABILITY

This Schedule CEPP is available to any non-residential customer currently receiving permanent, metered electric service under the Company's retail rate schedules, that offers private workplace parking for employees or operates a light, medium, or heavy-duty on-road vehicle fleet in the Company's service area. The Company will evaluate customer interest based on multiple factors including but not limited to fleet electrification plans, demand for workplace charging, and suitability of proposed installation sites. Schedule CEPP deployment is capped at 10 L2 chargers per customer site.

DEFINITIONS

Participant: A customer of the Company that meets the eligibility criteria established in Schedule CEPP for participation and who executes a Participant Agreement.

Participant Agreement: The agreement between the Company and the Participant further describing the terms and conditions governing the Participant's participation in the Commercial Electrification Pilot Program.

Minority or Women Business Enterprise ("M/WBE"): Any business certified by the Missouri Office of Equal Opportunity as an M/WBE.

Nonprofit Organization: Any organization established as a nonprofit corporation under the Missouri Nonprofit Corporation Act.

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SCHEDULE CEPP

PRICING

Schedule CEPP-facilitated chargers must be separately metered from the Participant's other site loads. The Participant is responsible for the metered energy consumption and related costs.

There is a $250 per port participation fee for customers to enroll as site hosts in the Commercial Electrification Pilot Program. The participation fee will be waived for qualified site hosts that are either M/WBE certified by the Missouri Office of Equal Opportunity or Non-profit Organizations.

Charging infrastructure deployed under Schedule CEPP will be deployed, owned and operated by the Company, which will pay for the following Schedule CEPP-related costs:

- Front of the meter distribution system upgrades needed to support EV chargers;
- Site design and engineering costs;
- Behind the meter make-ready infrastructure upgrades including trenching, boring, conduit, wiring, service panel upgrades, switchgear, and mounting pads or pedestals;
- Metering upgrades;
- L2 charging equipment;
- Charging service network and maintenance agreements;
- Easements or other real estate leases; and
- Signage.

Costs that are not necessary to support the installation of L2 chargers will not be paid for by the Company pursuant to Schedule CEPP.

The Company will enter into an agreement with at least one qualified vendor to provide charging equipment installed through the program. Schedule CEPP-facilitated charging infrastructure must be new, equipped with a SAE J1772 standard plug, capable of delivering at least 6.2 kilowatts ("kW") of power to an EV, network-enabled, capable of delivering station utilization data to the Company, and capable of receiving a demand response signal. All Schedule CEPP-facilitated chargers must be ENERGY STAR-certified, listed by a nationally recognized testing laboratory (e.g., UL), and must adhere to open communication standards that support interoperability. Schedule CEPP-facilitated chargers must be separately metered from the Participant's other site loads.

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COMMERCIAL ELECTRIFICATION PILOT PROGRAM

SCHEDULE CEPP

MONTHLY BILLING

1. Metered energy consumption will be billed under the customer's standard retail rate, including all applicable riders and charges.

2. The entire bill amount must be paid according to the payment terms set forth in the Company's Rules and Regulations.

WAITING LIST

The Commercial Electrification Pilot Program has an initial cap of 50 participating chargers (up to 25 customers). If a customer wishes to enroll after the Company has allocated all chargers, the customer may elect to be placed on a waiting list. The Company will maintain records related to the waiting list.

TERM

Participants must remain in the Commercial Electrification Pilot Program for a minimum of five years, as measured from the effective date of participation under this Schedule CEPP.

PROGRAM PROVISIONS AND SPECIAL TERMS

1. Customers applying for service under this Commercial Electrification Pilot Program must have and maintain an account that is not more than 60 days delinquent or in default at the time of application.

2. Participants waive all rights to any retrospective billing reductions arising from a claim that the Participant's service would be or would have been at a lower cost had it not participated in the Commercial Electrification Pilot Program for any period of time.

3. Participants must sign an easement provided by the Company that grants the Company with the right to access the Participant's property to participate in the program. The easement will allow the Company to install and maintain

the CEPP-facilitated chargers on the Participant's property.

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ELECTRIC SCHOOL BUS PILOT PROGRAM

SCHEDULE ESBPP

ELECTRIC SCHOOL BUS PILOT PROGRAM
Schedule ESBPP

PROGRAM DESCRIPTION

The Electric School Bus Pilot Program (Schedule ESBPP) provides charging infrastructure to support the operation of electric school buses at school districts. Under Schedule ESBPP, the Company will deploy smart, network-enabled Level 2 ("L2") charging infrastructure, to be installed, owned and maintained by The Empire District Electric Company ("Company"), at participating school districts in the service area of the Company.

AVAILABILITY

This Schedule ESBPP is available to any school district within the service area of the Company.

DEFINITIONS

Participant: A customer of the Company that meets the eligibility criteria established in Schedule ESBPP for participation and who executes a Participant Agreement.

Participant Agreement: The agreement between the Company and the Participant further describing the terms and conditions governing the Participant's enrollment in the Electric School Bus Pilot Program.

PRICING

Schedule ESBPP-facilitated chargers must be separately metered from the Participant's other site loads, whether via a billing meter or the network-capable charging station equipment. The Participant is responsible for the metered energy consumption on the applicable commercial service rate.

There is a one-time participation payment of $250 per port for all L2 ports deployed pursuant to Schedule ESBPP at the Participant's site. This participation may be waived for non-profit organizations providing the necessary documentation.

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ELECTRIC SCHOOL BUS PILOT PROGRAM

SCHEDULE ESBPP

Charging infrastructure deployed under Schedule ESBPP will be deployed, owned and operated by the Company, which will pay for the following Schedule ESBPP-related costs:

- Front of the meter distribution system upgrades needed to support electric bus chargers;
- Site design and engineering costs;
- Behind the meter make-ready infrastructure upgrades including trenching, boring, conduit, wiring, service panel upgrades, switchgear, and mounting pads or pedestals;
- Metering upgrades;
- L2 charging equipment;
- Charging service network and maintenance agreements;
- Easements or other real estate leases; and
- Signage.

Costs that are not necessary to support the installation of L2 chargers will not be paid for by the Company pursuant to Schedule CSBPP.

The Company will enter into an agreement with at least one qualified vendor to provide charging equipment installed through the program. Schedule ESBPP-facilitated charging infrastructure must be new, equipped with a SAE J1772 standard plug, capable of delivering at least 6.2 kilowatts of power to an electric bus, network-enabled, capable of delivering station utilization data to the Company, and capable of receiving a demand response signal. All Schedule ESBPP-facilitated chargers must be ENERGY STAR-certified, listed by a nationally recognized testing laboratory (e.g., UL), and must adhere to open communication standards that support interoperability. Schedule ESBPP-facilitated chargers must be separately metered from the Participant's other site loads.

MONTHLY BILLING

1. Metered energy consumption will be billed under the customer's standard commercial rate, including all applicable riders and charges.

2. The entire bill amount must be paid according to the payment terms set forth in the Company's Rules and Regulations.

WAITING LIST

The Electric School Bus Pilot Program is expected to support the deployment of approximately 20

dual-port L2 chargers. If a customer wishes to enroll after the Company has exhausted program funding, the customer may elect to be placed on a waiting list. The Company will maintain records related to the waiting list.

TERM

Participants must remain in the Electric School Bus Pilot Program for a minimum of five years, as measured from the effective date of participation under this Schedule ESBPP.

PROGRAM PROVISIONS AND SPECIAL TERMS

1. Customers applying for service under this Electric School Bus Pilot Program must have and maintain an account that is not more than 60 days delinquent or in default at the time of application.

2. Participants waive all rights to any retrospective billing reductions arising from a claim that the Participant's service would be or would have been at a lower cost had it not participated in the Electric School Bus Pilot Program for any period of time.

3. Participants must sign an easement provided by the Company that grants the Company with the right to access the Participant’s property in order to participate in the program. The easement will allow the Company to install and maintain the ESBPP-facilitated chargers on the Participant’s property.

4. Participants will notify the Company of any maintenance issues associated with the charging equipment and provide the Company with a reasonable timeframe and access to the Participant’s property to address these maintenance issues. Any issues caused by improper use or mishandling of the equipment will be the Participant’s responsibility to address.

THE EMPIRE DISTRICT ELECTRIC COMPANY

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For ALL TERRITORY

NON-ROAD ELECTRIFICATION PILOT PROGRAM

SCHEDULE NREPP

NON-ROAD ELECTRIFICATION PILOT PROGRAM
Schedule NREPP

PROGRAM DESCRIPTION

The Non-Road Electrification Pilot Program provides incentives to encourage adoption of qualifying electric technologies that would otherwise be powered by gasoline, diesel, or propane fuel, including electric forklifts, electric-standby truck refrigeration units ("TRUs"), truck stop electrification, agricultural well pumps, and custom equipment.

AVAILABILITY

This Schedule NREPP is available to non-residential customers currently receiving permanent, metered electric service under the Empire District Electric Company's ("Company") retail rate schedules, with the application of the following eligibility requirements for prescriptive and custom incentives:

- The **Forklift Equipment** rebate is available to commercial and industrial customers, including customers in the manufacturing, wholesale and retail trade, and warehousing sectors.
- The **Electric-Standby TRU Equipment** rebate is available to commercial and industrial customers, including customers in the trucking, manufacturing, wholesale and retail trade, and warehousing sectors.
- The **Truck Stop Electrification Equipment** rebate is available to commercial trucking customers both at public truck stops and travel centers, as well as in warehouses and shipping depots.
- The **Agricultural Well Conversion Equipment** rebate is available to commercial agricultural customers.
- The **Custom Equipment** rebate is available to commercial and industrial customers and encompasses commercial or industrial electrified equipment not included in the above list of prescriptive equipment measures. Applications for custom equipment rebates will be evaluated on a case-by-case basis.

DEFINITIONS

Participant: A customer of the Company that meets the eligibility criteria established in Schedule NREPP for participation in the Non-Road Electrification Pilot Program and who executes a Participant Agreement.

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SCHEDULE NREPP

Participant Agreement: An agreement between the Company and the Participant further describing the terms and conditions governing the Participant's participation in the Non-Road Electrification Pilot Program.

Minority or Women Business Enterprise ("M/WBE"): Any business certified by the Missouri Office of Equal Opportunity as an M/WBE.

INCENTIVES

Schedule NREPP incentives will be provided by the Company via customer rebates. Eligible customers will be required to provide documentation of the required equipment specifications and evidence of payment.

Maximum rebate amounts are as follows:

- **Forklift Equipment** – up to $2,500
- **Electric-Standby TRU Equipment –** up to $900 (Box); $4,200 (Trailer)
- **Truck Stop Electrification Equipment** – up to $2,300 per pedestal
- **Agricultural Well Conversion Equipment** – up to $5,000
- **Custom Equipment** – Custom equipment and accompanying rebate amounts will be evaluated on a case-by-case basis for cost effectiveness. The incentive amount is $0.10 per kilowatt-hour, based on the anticipated electric equipment's annual load, not to exceed 75% of the total project cost.

M/WBEs certified by the Missouri Office of Equal Opportunity are eligible for a 20% increased incentive amount.

MONTHLY BILLING

1. Metered energy consumption will be billed under the customer's standard retail rate, including all applicable riders and charges.

2. The entire bill amount must be paid according to the payment terms set forth in the Company's Rules and Regulations.

THE EMPIRE DISTRICT ELECTRIC COMPANY

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For ALL TERRITORY

NON-ROAD ELECTRIFICATION PILOT PROGRAM

SCHEDULE NREPP

WAITING LIST

Schedule NREPP rebates will be available on a first come, first served basis with individual accounts limited to $60,000 in Schedule NREPP rebates per program year. If a customer wishes to enroll after the Company has exhausted program funding, the customer may elect to be placed on a waiting list. The Company will maintain records related to the waiting list.

PROGRAM PROVISIONS AND SPECIAL TERMS

1. Customers applying for the Non-Road Electrification Pilot Program must have and maintain an account that is not more than 60 days delinquent or in default at the time of application.

2. Participants waive all rights to any retrospective billing reductions arising from a claim that the Participant's service would be or would have been at a lower cost had it not participated in the Non-Road Electrification Pilot Program for any period of time.

BURNS McDONNELL

Liberty Utilities®

LIBERTY UTILITIES ELECTRIC VEHICLE SURVEY FINDINGS REPORT

SUBMITTED TO
LIBERTY UTILITIES

VERSION 1
AUGUST 31, 2020

Liberty Utilities Electric Vehicle Survey Report

TABLE OF CONTENTS

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
AAM	Alliance of Auto Manufacturers
EVs	electric vehicles
N/A	not applicable
PHEV	plug-in hybrid electric vehicle
ROI	return on investment
Respondents	Survey Respondents
Survey	Electric Vehicles Survey

1.0 SURVEY OVERVIEW

To support Liberty Utilities' upcoming regulatory filings, Burns & McDonnell developed an online Electric Vehicles (EVs) Survey (Survey). The Survey was distributed to Liberty Utilities customers in Missouri, including the former Empire District Electric service territory. In all, there are 155,000 unique customer accounts in the service territories where the Survey was distributed.

Using a standardized approach that sought to measure driving preferences, demographics, and EV perceptions, unique surveys were created for residential, commercial, and key account customers. The Survey, which launched on Monday, June 21 of 2020 and closed 12 days later on Thursday, July 2, received a total of 4,901 unique responses across all customer types.

2.0 POLLING METHODOLOGIES

The Survey was created and deployed using the online survey platform, Survey Monkey. As mentioned in Section 1.0, unique polling methodologies were created for residential, commercial, and key account customer classes. The Survey was communicated to Liberty Utilities customers in the polling area via email. In all, Liberty Utilities has email contact information for 59,000 of the 155,000 customers that comprise the total Survey population. Residential and commercial emails were broadcast via Liberty Utilities' CRM system. Key account customers were contacted individually by Liberty Utilities account representatives via email.

Each Survey utilized Survey Monkey's responsive logic functionality that augments the polling instrument based on the answers provided by Survey Respondents (Respondents). For example, if a Respondent identified themselves as an EV owner, they were advanced to questions that sought feedback on EV satisfaction. Conversely, if a Respondent indicated they had no interest in EVs or EV ownership, they were advanced to questions seeking feedback on their disinterest and general perceptions of the EV market.

Throughout the 12-day Survey period, Survey feedback and individual Respondent comments were monitored. There were no reported issues or interruptions to the Survey. At the end of the Survey period, Burns & McDonnell began its analysis of the survey results.

3.0 STATISTICAL SIGNIFICANCE

Statistical significance is a measurement used to determine whether polling results exhibit a reliable factor of interest or are instead a result of chance. For a public survey, significance can be determined by calculating population size, confidence level, and margin of error.

3.1 Population Size

Population size is a single sum, represented by the total number of entities included in a sample. The Liberty Utilities customer base represented by Survey responses is approximately 155,000 unique account holders. Of those accounts, 131,000 are residential customers, and 24,000 are non-residential; 120 of the non-residential accounts are considered key accounts. Liberty Utilities has email addresses for approximately 59,000 accounts, to whom the surveys were distributed.

3.2 Confidence Level

Confidence level is a probability that calculates whether sample size accurately reflects the mean attitudes of a given population. As a 95-percent confidence level is considered the industry standard within the field of social science, it was applied to the EV Survey. Put simply, this means that 95 percent of the responses received in the EV Survey will fall within the true population.

3.3 Margin of Error

If a statistical measurement uses variable factors, then those results will inevitably differ from a true population value. This difference is accounted for through the calculation of a margin of error. For a survey of public opinion and insight, it is preferable for the margin of error to be as small as possible, thus increasing the likelihood that results fall within the 95-percent confidence level and accurately reflect the population mean.

As Liberty Utilities will incorporate the Survey results and feedback into its understanding of customer preferences, it is important that the margin of error be as small as possible. For development of the Survey, and to calculate the sample size required to achieve statistical significance, the margin of error for the at-large Survey was set at 1.5 percent.

By assuming that the Respondents are indeed Liberty Utilities customers and that they are accurately representing their own opinions, the margin of error can be set at a small percentage. This allows Liberty Utilities to apply a high level of certainty to Survey responses. It also requires a larger response rate to meet the threshold of statistical significance.

3.4 Calculating Sample Size

To calculate sample size, Burns & McDonnell used a version of the Cochran Formula designed for larger population bases:

$$\text{Sample size} = \frac{\frac{z^2 \times p\,(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p\,(1-p)}{e^2 N}\right)}$$

z = z-score, a percentage based off the 95-percent confidence level, which is expressed as 1.96.
e = margin of error in decimal form
N = population size.

3.5 EV Survey Statistical Results

For the overall customer base, where N = 155,000, z = 1.96 and e = 1.5, the calculated sample size is 4,155. The overall polling result, which included residential, commercial, and key account Surveys, was 4,901 responses. As this number exceeds the sample size requirement, we can consider the Survey to be statistically significant and its findings reliable.

Each of the three survey types, residential, commercial, and key account, must also be statistically analyzed independent of one another.

3.5.1 Residential Survey

Liberty Utilities' residential customer base for the Survey was determined to be approximately 131,000 unique accounts. Using the same statistical measurements, formula, and assumptions applied to the overall Survey, sample size was set at 4,134 responses. In all, 4,670 customers responded to the Residential Survey. Having exceeded the sample size threshold, the Residential Survey can be considered statistically significant and its findings reliable.

3.5.2 Commercial Survey

Liberty Utilities' commercial customer base for the Survey was determined to be approximately 24,000 unique accounts. Using the aforementioned statistical model, the sample size was set at 3,625 responses. In all, 186 customers responded to the Commercial Survey. As this response was below the initial sample size threshold, the Commercial Survey cannot be considered statistically significant using the formula applied to the Residential Survey response, comprised of the three unique customer class polls. However, unique factors invite consideration of whether alternative metrics should be applied to both the Commercial and Key Account Surveys.

The first factor to be considered is proportionality. While not linear, larger populations require a smaller response rate in order to be considered statistically accurate. Where the Residential Survey required an overall response rate of 0.031 percent, the Commercial Survey required a response rate of 0.15 percent. Put another way, in order to maintain a 1.5-percent margin of error and a 95-percent confidence level, the Commercial Survey required a response rate 4.8 times greater than the Residential Survey.

It is worth noting, however, that a 1.5-percent margin of error is not mandatory. By altering the calculation to solve the unknown variable, we find that the true margin of error for the Commercial Survey is 7 percent. Using this metric, results from the Commercial Survey can be judged reliable within 7 percentage points of each outcome.

The second set of factors to be considered when evaluating the low response rate for the Commercial Survey are the social and economic impacts of the COVID-19 pandemic. As can be seen in the demographic results, the majority of commercial enterprises that responded to the Survey have 10 or fewer employees. Given the economic stressors brought on by the COVID-19 pandemic, many small businesses likely assessed completion of the Survey as a low priority task. To avoid placing any undue burden on its commercial customers, Liberty Utilities decided against sending additional communication promoting the Survey. Additional polling of commercial accounts may take place in the future.

3.5.3 Key Accounts Survey

The Key Accounts customer base contains 120 unique accounts. Of these, 45 account representatives submitted a Survey response. While this represents a 37.5-percent response rate, the largest among any of the three customer account groups invited to participate in the Survey, the small population size requires an exponentially larger response than the residential or commercial polls. Using a 1.5-percent margin of error and 95-percent confidence level, the threshold for statistical significance would require 117 of the 120 unique accounts to complete the Survey. Put another way, 98-percent of Key Accounts customers would need to complete the Survey.

In addition to the unique factors that impacted the Commercial Survey, practicality should be considered as a complicating issue. The question is one of feasibility; can Liberty Utilities reasonably expect to obtain 115 responses from a group of only 120? It is Burns & McDonnell's opinion that the resources required to extend the polling effort for Key Accounts would be disproportionally expensive and that the volume of outreach required to satisfy this metric would have a negative impact on customer relationships. Using the 45 responses and a 95-percent confidence level, the realized margin of error for the Key Accounts Survey is 11.8 percent.

4.0 APPROACH TO SURVEY ANALYSIS

As set forth in Section 1.0, EV polling was conducted using the online survey platform Survey Monkey. Burns & McDonnell maintains an enterprise account with Survey Monkey and uses the platform for internal and external polling projects. The functionality available at the enterprise subscription level gives users an enhanced ability to design and analyze responsive surveys.

To properly interpret Survey findings, results were reviewed for patterns, filtered across common demographic features, and cross-analyzed using unique response classifications. Though the data could be manipulated for each unique customer response, applicable insight is typically discovered through the examination of Respondent commonalities. All instances where customers entered unique data, whether in an open field or in response to an "other" option within a question, were reviewed. If determined salient, unique responses were noted and included in this report's Survey findings sections.

5.0 RESIDENTIAL SURVEY FINDINGS

In all, 4,670 of Liberty Utilities' residential customers responded to the Survey. Of those, 80 percent completed the Survey. Incomplete Survey responses are still viable; allowing Respondents to skip questions, especially when they are uncertain of how to answer, increases the overall accuracy of polling results.

5.1 Current Vehicle Usage

The initial portion of the Residential Survey asked Respondents to provide feedback about their existing automobile usage.

5.1.1 Vehicles per Household

While the majority, 40.79 percent, of residential Respondents indicated their household owned or leased two cars, the weighted average, or mean, was 3.06 vehicles per household.

When filtered by the number of vehicles per household, slight variations can be seen with regards to EV interest. For those who indicated they owned or leased four or more vehicles, interest in EVs lessened. Interest increased slightly among households with one or two vehicles. However, the greatest interest in EVs could be found in Respondents with three cars per household. Cost was the number one factor indicated across all ownership levels when asked "what are the reasons you're not interested in plug-in EVs?"

While 16.52 percent of all Respondents indicated that they are "interested in EVs and considering owning or leasing in the future," the response rate for three-vehicle households was 27.41 percent. Respondents in this group reported increased monthly gasoline expenses, higher household income, and primarily had two licensed drivers per household. Additionally, Respondents in this group were more likely to be married. As such, it is assumed that three-car Respondents represent nuclear families with children who are likely not of driving age or who no longer live in the household.

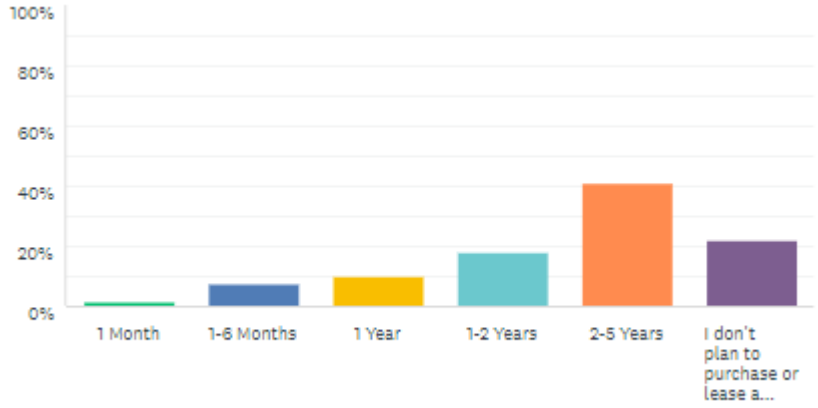
Findings and/or assumptions based on results:

- Increased EV interest in three-car households is likely due to automotive flexibility based on utility and income.

5.1.2 Anticipated Vehicle Purchases

The second question in the residential poll asked, "when do you anticipate purchasing or leasing your next vehicle?" The option selected most frequently, 40.88 percent of the time, was 2-5 years. The second

most frequent response was "I don't plan to purchase or lease a vehicle." For those Respondents who selected this option, a dialogue box was provided for additional clarification. Answers ran a wide spectrum from "I just purchased a vehicle," to "I don't need another car," to "do not know how the economy is going to go."



Interestingly, when poll results were filtered among Respondents who identified their household income as being higher than $150,000, the distribution of responses remained the same, though the percentage of people who selected the 2-5 years option decreased by 10 percentage points.

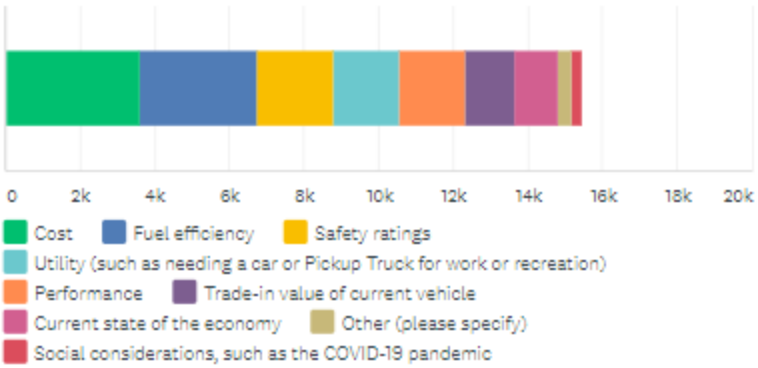
It is worth noting how the COVID-19 pandemic has impacted U.S. consumer sentiment and the impact it is having on the U.S. automobile industry. According to a July 2020 McKinsey & Company polling report, more than 50 percent of Americans believe that the personal and financial impact from COVID-19 will be long lasting. The report also showed that U.S. household income, spending, and savings have continued to decline. Similarly, a June 2020 Cox Automotive report projected new vehicle sales in the U.S. to decrease by 24 percent year-over-year.

Findings and/or assumptions based on results:

- As vehicle costs constitute a major expenditure for most households, it is understandable that Respondents anticipate a multi-year period before the purchase or lease of their next vehicle.

5.1.3 Factors Influencing Vehicle Purchases

The third question in the Survey asked Respondents to select all the factors that would influence their next vehicle purchase. In a similar vein to the previous question, a strong majority of Respondents, 77.61 percent, chose cost as one of the influencing factors.



When responses were filtered for those customers who indicated a household income of $150,000 or greater, cost remained the top factor.

Findings and/or assumptions based on results:

- While cost is a primary consideration for larger scale purchases, it is likely of greater concern across all Respondent types during the COVID-19 pandemic.

5.1.4 Access to EV Charging Stations

The fourth question in the Survey asked Respondents if they had access to EV charging stations, either near their home or work. Across all Respondents, 12.3 percent answered in the affirmative, 64.9 percent answered “no”, and 22.8 percent selected the “unsure” option.

Among Respondents who identified an interest in future EV ownership, access to charging stations rose to 16.6 percent. For those who indicated they had no interest in EVs, access to charging stations fell to 7.8 percent. This suggests a correlation between access to charging stations and interest in EVs.

A second set of filters suggests a correlation between income, education, and access to charging stations. For those in the top household income tiers who also hold a bachelor’s or advanced degree, access to charging stations rose to 25.9 percent. For those who make $50,000 or less and do not hold a college degree, access to EV charging stations fell to 9.7 percent.

Findings and/or assumptions based on findings:

- Increased access and awareness of EV charging stations will drive interest in EVs.

5.1.5 Monthly Gasoline Expenditures

The fifth Survey question asked Respondents to indicate how much they spent on gasoline per month prior to the COVID-19 pandemic. The majority of responses, 40 percent, identified the $51-$100 range. The second and third-ranking responses were $0-$50 and $101-$200, respectively.

Known data suggests multiple interpretations for this question. Information from the U.S. Department of Transportation shows that Missourians drive an average of 1,220 miles per month. Applying an average price of $2.00 per gallon of gasoline to the U.S. Environmental Protection Agency's average fuel economy rating of 24.9 miles-per-gallon for 2017 model year cars, Burns & McDonnell projected average monthly gasoline consumption to be 50 gallons and a total monthly fuel expenditure of $100 per car. This finding matches the Survey results. However, as the average vehicles per household for this Survey is 3.06, the reported monthly gasoline expenditure for households should be estimated at $300 or more.

As high gas prices are known to increase consumer interest in EVs, it is worth noting that among those Respondents who indicated they spend $200 or more a month on gasoline, overall interest in EVs increased by 5.5 percent.

Findings and/or assumptions based on results:

- As the margin of error for residential polling is 1.5 percent, we can reliably assume that individuals in the Survey population who pay in excess of $200 a month for gasoline are more likely to be interested in EVs.
- Interest in EVs can be increased among Liberty Utilities customers who pay less than $200 per month by focusing on non-fuel related benefits.

5.2 Perceptions of EVs

The second portion of the Residential Survey explored attitudes and awareness of EVs.

5.2.1 EV Ownership Among Survey Population

The Survey's sixth question asked if any of the Respondent's owned or leased vehicles were plug-in hybrid (PHEV) or EVs. This was the Survey's first responsive logic question. If Respondents indicated they owned or leased an EV, the Survey advanced them to question nine. If they indicated that they did not own or lease an EV, they were advanced to question seven.

Only 2.4 percent (111 unique responses) of residential Respondents indicated that they own or lease a PHEV or EV. While this seems like a small response, it is important to consider these results against

broader data sets. As consumer behavior reports rely on past data, it is difficult to know how Survey results from June and July of 2020 fare against EV utilization rates from that same time period. However, past reporting allows us to extrapolate an approximation that can be applied to Survey results.

A report from the Alliance of Auto Manufacturers (AAM) found that in 2017, EVs held a 0.42-percent market share across all vehicle types in the State of Missouri. In 2018, the State's EV market share increased to 0.73 percent – a year-over gain of 74 percent. By applying that same metric to 2019, we find an EV utilization rate of 1.3 percent for Missourians. With the COVID-19 pandemic severely deflating auto industry projections and the current decrease in petroleum demand, it seems reasonable to apply 2019 estimates to 2020. As such, our assumption of a 1.3-percent EV market share in Missouri for 2020 is eclipsed by the 2.4-market share within the Survey's population base. When considered with the 1.5 percent margin of error, these assumptions allow us to reliably project an EV utilization rate within the Survey population that is equal to, or greater than, the State average.

It is also important to compare EV ownership findings from this Survey to national data and market trends. Using the mean, or averaged data from the AAM report on EV utilization, we find the rate of increase in EV utilization for the U.S. from 2017 to 2018 is 80.2 percent. However, from 2018 to 2019, a report from Edmunds showed that plug-in passenger vehicles sales declined 6.8 percent. This decline occurred despite a sizeable expansion of the EV and PHEV market; in 2019, 45 new PHEV and EV passenger vehicles were made available for public purchase.

Specific to this Survey, certain demographic factors also have an impact on EV utilization. Among Respondents with a yearly household income of $150,000 or more, 10.7 percent reported that one of their vehicles was a PHEV or EV.

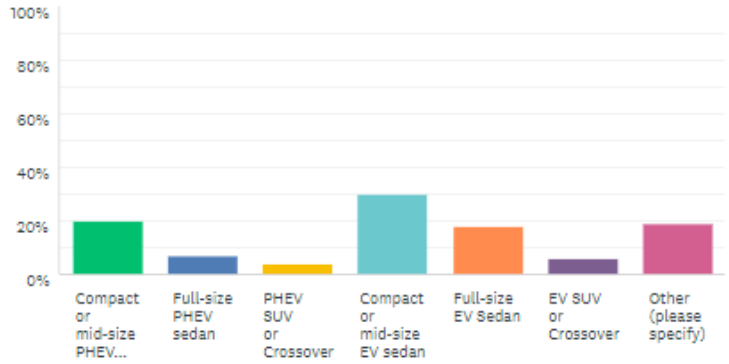
Findings and/or assumptions based on results:

As cost was the primary prohibitive factor for EV utilization, it stands to reason that the following may increase interest in PHEVs and EVs:

- Alleviation of Respondent's monetary concerns
- A perceived increase in EV value relative to customer's household income
- Increased awareness of economically priced EVs
- Increased awareness of existing public charging stations
- Continued EV market expansion

5.2.2 Perceptions of EV owners

Respondents who indicated that they currently own or lease a PHEV or EV were advanced to question nine, "what type of plug-in EV do you own?".

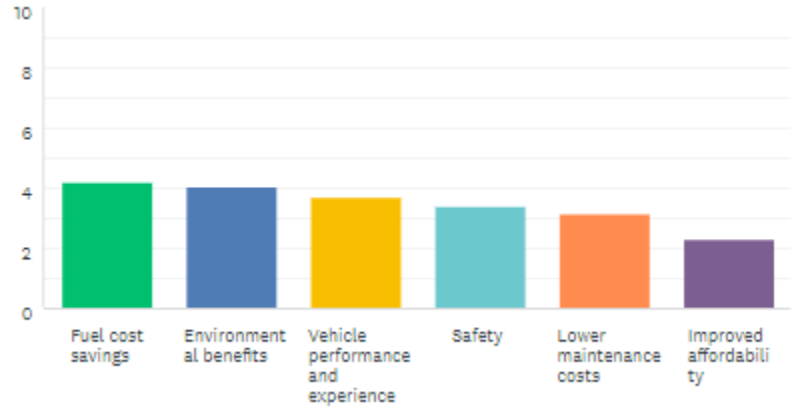


The results to this question mirror U.S. sales figures. According to InsideEVs.com, an industry analysis group, the Tesla Model 3 and Chevrolet Bolt, both mid-size EV sedans, were the only EV models which saw year-over sales increases from 2018 to 2019. The Tesla Model 3 outsold all other EVs by a margin of 750 percent.

Nineteen Respondents used the open field provided with the "other" response option. The majority of responses indicated a specific vehicle by model name.

5.2.3 Benefits of EVs

Among current EV owners, there was consistent distribution of responses to question 10, which asked Respondents to rank EV benefits.



Using weighted rankings, fuel cost savings was the leading factor, with a score of 4.22 out of 5. Environmental benefits ranked second at 4.04. Continuing on, vehicle performance and experience scored a 3.72, safety a 3.4, lower maintenance costs a 3.16, and improved affordability a 2.28.

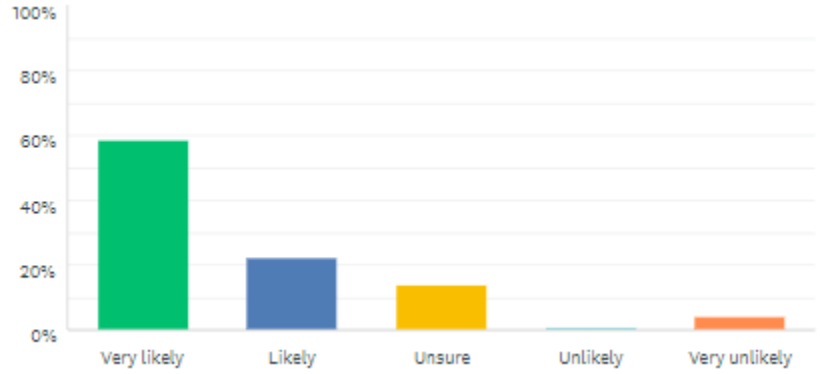
While improved affordability of vehicles was ranked lowest by those polled, the top-scoring fuel cost savings option suggests a unique dialectic where one cost-based consideration may offset the other. The relationship between these two factors also demonstrates a perceptual relationship among EV owners that is further examined in the following questions.

Findings and/or assumptions based on results:

- As awareness of competitively priced EV models increases, the primary barrier to EV ownership listed by Survey Respondents – cost, will be alleviated.

5.2.4 EV Loyalty

A prime indicator of product loyalty is repeat purchasing behaviors. To this end, the survey asked EV owners how likely they were to purchase another EV in the future. The "very likely" option was selected by 58.6 percent of all Respondents. By combining the "very likely" and "likely" answer options, we see that 80.8 percent of those polled believe they are likely to purchase another EV in the future. The undecided response was 14.1 percent, which left only 5 percent for the "unlikely" and "very unlikely" options.

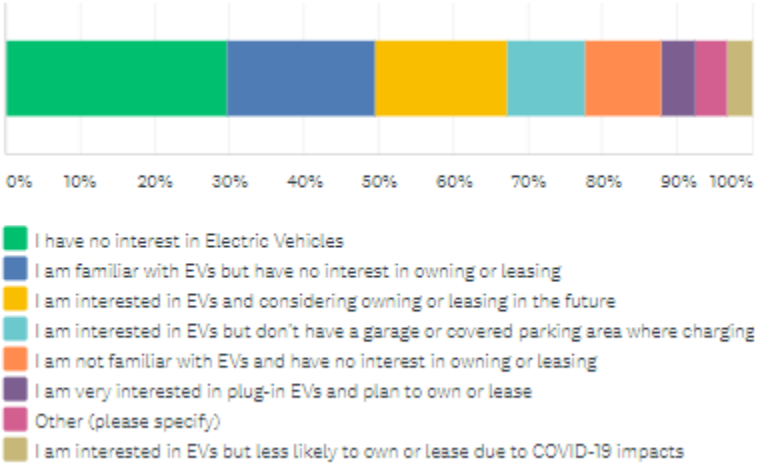


Findings and/or assumptions based on results:

- While the delta between anticipated and actual vehicle purchases is impossible to predict, it is reasonable to assume that EV owners within the Survey population experience high levels of customer satisfaction and are more likely than not to purchase EVs in the future.

5.2.5 Interest in EVs

Those Respondents who indicated in question six that they did not own or lease a PHEV or EV were advanced to question seven, which sought to gauge interest in PHEVs. Respondents who indicated current EV were not provided this question.



Across all Respondents, the two most frequent responses were "I have no interest in Electric Vehicles" and "I am familiar with EVs but have no interest in owning or leasing." These two responses amounted to almost half, or 49.7 percent, of total responses. In all, 60 percent of Respondents indicated no interest in EVs. The percentage of Respondents who expressed interest in EVs but noted a limiting factor, such as absence of a garage or COVID-19 impacts, was 13.6 percent. Those who indicated familiarity with EVs and an interest in future possession was 22.2 percent.

These findings are not out of line with broader studies on EV awareness and adoption. An American Automobile Association survey conducted in 2019 found that only 16 percent of Americans planned to purchase an EV as their next vehicle.

Select comments from the "other" option:

- "I'm interested in EVs and if cost wasn't an issue, I might consider buying one, but I really don't need another car."
- "I have not seen an electric that is affordable or capable of driving the number of miles I cover. In a day or week."
- "Waiting for greatly improved battery."
- "Interested but unsure of availability of charging stations wherever I go."

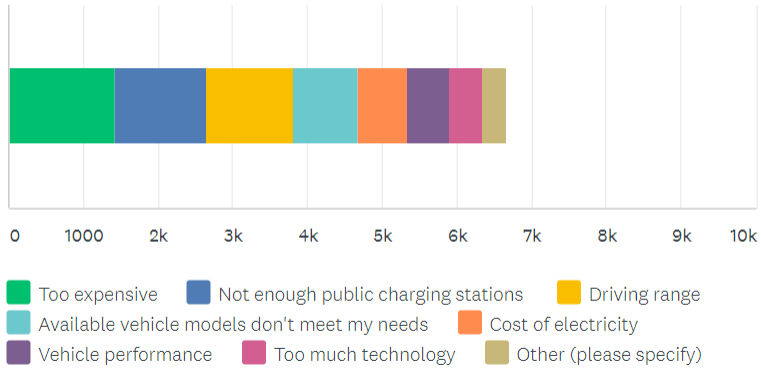
Interestingly, when the Survey was filtered by selection of cost as a factor that would influence future vehicle purchases, the percentage of individuals who selected the "I have no interest in EVs" option decreased by 4 percent. As this exceeds the margin of error, it is reasonable to suggest that while cost may be prohibitive, it also drives interest in EVs.

Findings and/or assumptions based on results:

- As awareness and interest in EVs continue to grow, so will the aspirational appeal of these vehicles.
- Marketing campaigns focused on moderately priced or entry-level PHEV and EV models may help expand the market.

5.2.6 Factors Inhibiting EV Interest

Respondents who noted a lack of interest in EVs were advanced to question eight, "What are the reasons you're not interested in plug-in EVs? (Select all that apply)."



Similar to question three, which asked Respondents to identify the factors that would likely influence their next vehicle purchase, the cost associated with EVs was the primary factor noted by residential customers. "Not enough public charging stations," and "driving range" were the second and third responses, respectively.

When the Survey was filtered by those who selected the "too expensive" option, there was a predictable alignment with responses to question three; 81.5 percent of those who noted cost to be a prohibitive factor also indicated that cost would influence their next vehicle purchase; 66 percent indicated that fuel efficiency would influence the selection of a future vehicle.

"Not enough public charging stations" was selected by almost half, 45.3 percent, of Respondents. Using question four as a pivot for analysis, we find that lack of interest in EVs increased by 4.2 percent among those who noted access to EV charging stations.

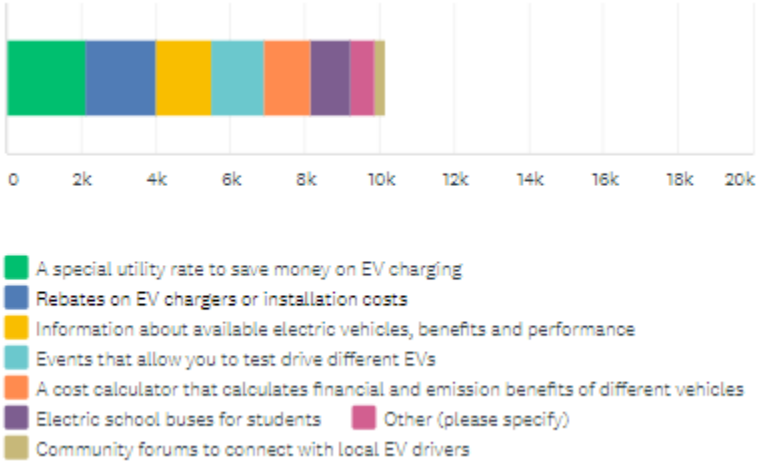
The frequency at which Respondents selected "driving range" was only slightly behind "not enough public charging stations." When Survey results for only those Respondents who selected driving range were analyzed, the result was a greater fluctuation in EV disinterest than any other factor – an increase of 40 percent. More than any of the other factors provided as answers to this question, driving range influences interest in EVs among this population.

Findings and/or assumptions based on results:

- Beyond the vehicle cost and access to charging stations, both of which represent significant barriers to entry, awareness of increased driving range will bolster EV market share within the population base.

5.2.7 EV Support Initiatives

All Respondents were directed to question 12, which asked "would you find value in any of the following EV support initiatives? (select all that apply)".



In all, 52.8 percent of Respondents indicated that a special utility rate to save money on EV charging would be of value, and 47.4 percent responded that rebates on EV chargers and installation costs would be beneficial. Given the consistency with which Respondents noted their concern with EV cost, this result was anticipated and supports broader Survey outcomes.

The response option, "Information about available electric vehicles, benefits and performance" suggests that a fair number of individuals who participated in the Survey are doing so without a fully formed understanding of EV features and associated costs. Of note, when the Survey results were filtered for Respondents who selected the "information on EVs" option, general interest in EVs increased by a substantial amount - 13.9 percent. And, among those who indicated they would find value in EV information, only 27.5 percent indicated that available EV models don't meet their needs. This same cohort indicated that EV cost (59.8 percent), lack of charging stations (55.27 percent), and driving range (47 percent) were the primary prohibitive factors.

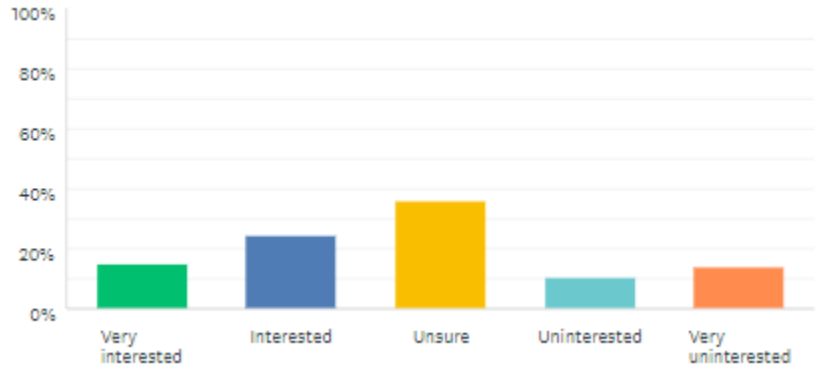
While 53 percent of Respondents indicated that a cost calculator to help them understand the financial and environmental impacts of different vehicles would be of benefit, only 14.9 percent selected the "community forums to connect with local EV drivers" option. While this response rate may have been impacted by social distancing guidelines resulting from the COVID-19 pandemic, it conforms to data on how U.S. consumers shop for vehicles. Results from the 2019 Cox Automotive report showed that while 61 percent of car buyers research upcoming vehicle purchases online, only 3 percent preferred to speak with other car owners before making a purchase.

Findings and/or assumptions based on results:

- More than vehicle cost and associated expenses, which are determined by manufacturers and retailers and outside Liberty Utilities' purview, education may increase public interest in EVs.

5.2.8 EV Equipment Subscription

Question 13 of the Survey asked all participants to respond to the following question: "If you own or were to purchase an EV, how interested would you be in a monthly subscription service that would include the installation of a smart EV charger and electricity costs to charge your EV at home?" The five-point Likert scale offered response options from "very uninterested" to "very interested."



More than any other response option, polled customers indicated they were unsure if they would be interested or not.

Findings and/or assumptions based on results:

- The uncertainty indicated by Respondents supports the need for education on existing or potential EV programs.

5.3 Demographic Analysis

Demographic indicators provide multiple avenues through Survey results can be filtered. Filters may be single factor, such as a Respondent's indicated gender, or they can be generated through the combination of multiple factors such as age, gender, income, and total household size.

Self-reported demographic feedback is assumed to be highly accurate, as that information is easily referenced by Respondents.

5.3.1 Gender

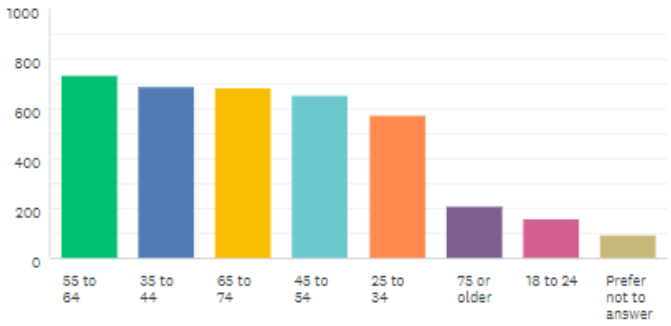
The polled Survey population responded to the gender question as follows: 51.6 percent female; 45.6 percent male; 2.8 percent preferred not to answer.

Findings and/or assumptions based on results:

- There is no substantial change to EV interest levels or associated factors when filtered by gender.

5.3.2 Age

Survey participation was evenly distributed across age groups. Individuals younger than 24 and older than 75 participated in the Survey at lower rates. This result is in-line with expectations.



When applied as a filter, age produces varying results within the EV preference Survey questions. For instance, younger Respondents, those between 18 and 34 years of age, were almost twice as likely as the general population to indicate they were "very interested" and planned to own an EV in the future. The "no interest" response fell from 29.7 percent to 20.8 percent, and those who stated they were interested in EVs but did not have a garage or covered parking area increased by 6.85 percent. When the 18 to 34 age range was combined with data from Respondents who indicated a household income of $150,000 or more, interest in EVs increased by 12 percent. As younger adults tend to adopt modern technologies at a faster rate, this result is not surprising. It does however provide evidence that a cost benefit relationship exists for EVs, especially among younger Respondents.

Among older Respondents, there is a diminishing rate of return in EV interest that increases with age. Among those in the 35 to 44 age bracket, interest in EVs was 3.5 percent greater than the general results; among those 45 to 54 years old, interest was within the margin of error; among those 55 to 64 years old, interest decreased by 2 percentage points; among those who identified as being 65 years of age or older, interest in EVs fell by 4 percent, and overall disinterest increased by 5.2 percent. Interest in EVs among all age groupings increased alongside income; although, the return diminished in the oldest age groupings.

Findings and/or assumptions based on results:

- As younger consumers increase their household incomes, they will adopt EVs at a greater rate than older cohorts whose total yearly earnings increase.

5.3.3 Education

Educational levels are known to have a strong relationship to income and opportunity. As such, they serve as a necessary filter for Survey results. In all, 88.97 percent of those who completed the survey reported graduating high school. Within that subset, 17.09 percent continued on to acquire an associate degree; 24.65 percent indicated they had obtained a bachelor's degree; 11.5 percent received a master's degree; and 4.67 percent reported holding a doctoral or professional degree.

When filtered by undergraduate or graduate college degrees, the percentage of Respondents who reported an income of $75,000 or more increased by 14 percent. Similarly, those who attained at least an undergraduate degree reported greater awareness of EVs, and interest in future ownership grew by 10.75 percent. Though occurring at lesser rates, awareness and interest in future ownership fell among those whose education did not proceed beyond the attainment of a high school diploma.

Findings and/or assumptions based on results:

- Higher education drives interest in EVs, while lower education levels have minimal impacts.

5.3.4 Household Income

Income is also a key metric for analysis of the Survey, especially as a filter for considering vehicle purchases and interest in EVs. Based on responses to the question "what is your total yearly household income?", we determined the median income group for the Survey falls within the $50,000 to $75,000 range. This conforms with 2018 U.S. Census Bureau data that placed the median household income for Missourians at $53,560. The median result notwithstanding, the income grouping selected most often by Survey participants was $25,000 to $50,000.

As vehicle purchase price and associated costs were listed as the foremost prohibitive factors, Respondents in the lower income groups expressed less awareness and interest in EVs. While 53.2 percent of all Respondents indicated that EVs were too expensive, the result increased by 4.5 percent within the lowest two income groupings. Similarly, selection of "cost of electricity" increased by 5.8 percent.

Respondents in the upper income groupings, those making $150,000 or more, were far more likely to be interested in EVs. Individuals in this cohort expressed an overall increase of 23.2 percent in EV interest and future ownership. More specifically, individuals who indicated they were "very interested and plan to own or lease" increased by 8.5 percent. Interestingly, those individuals in the upper income groupings identified saving money on EV charging and rebates on EV chargers or installation as the highest value EV support initiatives.

Findings and/or assumptions based on results:

- Discounts and alleviation of cost impacts have the potential to drive EV adoption across all income levels.

5.3.5 Home Ownership and Type

When examining Respondent's interest in EVs and EV charging equipment, home ownership provides an important filter for analysis. Individuals who own their home are more likely to have the ability to install charging equipment necessary for at-home EV charging. Of those Respondents who answered the home ownership question, 70.5 percent indicated they owned their home; 27.8 percent responded that they rent; and 1.6 percent selected "other." Selected responses from the "other" category include:

- "Occupy as a trust beneficiary"
- "Rent while selling our home"
- "Church parsonage"
- "Currently live in parents' house and help by paying the mortgage"

When Survey responses were filtered for home ownership, there was a minimal increase of 3 percent in overall EV interest. When filtered for renters, EV disinterest grew at a substantial rate. However, that same approach resulted in a 9.2 percent increase for the response option of "I am interested in EVs but don't have a garage or covered parking area where charging equipment could be installed." In general, 10.35 percent of Respondents selected this response.

The overwhelming majority of survey Respondents, 63 percent, indicated that they live in a single-family home with a garage. For individuals who may be interested in EVs, an attached, enclosed garage allows for the installation of charging equipment. When filtered by single-family houses with garages, the median household income increases substantially.

Among Respondents who indicated they resided in a single-family house with a garage, there was a 4 percent decrease in "I have no interest in Electric Vehicles" and a 6.7 percent increase in the "I am interested in EVs and considering owning or leasing in the future" response option. Conversely, there was a 2.9 percent increase in the "I am familiar with EVs but have no interest in owning or leasing" response option.

Without the application of analysis filters, 17.7 percent of Respondents indicated that they are "very interested in EVs and plan to own in the future." When filtered by individuals who self-reported living in a single-family home with a garage, interest in EVs increased to 24.36 percent. When Respondents selected either "Apartment or Condo" or "Single-family home without a garage," interest in EVs decreased to 9.86 percent.

Findings and/or assumptions based on results:

- Unsurprisingly, having a garage increases the likelihood of EV interest.
- In addition to the EV benefits afforded by a garage, there is a relationship between single-family homes with garages and increased income.
- As can be seen in the preferences section of the Survey, cost is the primary obstacle for EV ownership among all Respondent types.
- Home ownership does not cause a substantial rise in EV interest, but among renters who lack garage space for charging equipment, interest grows – further supporting the aspirational appeal of owning or leasing an EV.
- Marketing campaigns which extoll the benefits of EVs will be more effective when received by homeowners.

5.3.6 Marital Status

Approximately 58 percent of Respondents indicated they were married. This is approximately 10 percent higher than the U.S. average.

5.3.7 Licensed Drivers

While 55.5 percent of Respondents indicated that there were two licensed drivers in their household, the mean score was 1.9 licensed drivers per household. This result is closely aligned with the national average for drivers per U.S. household.

Those households with only one driver tended to be older women who did not identify as being married. Single-driver households in this population reported a higher income than the Survey average and less interest in EVs.

Respondents from households with two licensed drivers were 3.5 percent more likely to be male with a fairly even distribution among the age groupings. Interest in EVs among households with two licensed drivers was lower than the general population.

Surveys from households with 3-4 licensed drivers were submitted by men and women on an almost proportional basis. Unlike the other cohorts, Respondents with 3-4 licensed drivers were more likely to have completed college, were solidly within the 35 to 44 and 45 to 54 age groupings, more affluent, 3 percent more likely to have access to charging stations, 2 percent more likely to already own a PHEV or EV, and approximately 7 percent more interested in EVs than the general population.

Though representing only 0.01 percent of the general Survey population, there was an interesting shift in response metrics for households with more than 5 licensed drivers. This cohort was represented by 13.9 percent more women than men. The largest age group within this cohort, at 33.3 percent, was 45 to 54 years of age. These customers were 2.7 times more likely to have a high school diploma than a college degree, and 80.5 percent of the Respondents within this cohort are married and overwhelmingly own single-family houses with garages. This group is more likely to purchase or lease a new vehicle sooner than other cohorts and two times more likely to drive only 10-25 miles per day than any other mileage grouping. While they indicated that cost is the primary factor that will influence their next vehicle purchase, driving range and lack of charging stations were the top two reasons, respectively, driving disinterest in EVs among these Respondents. Interest in EVs among this cohort aligned closely to feedback from the general population.

Findings and/or assumptions based on results:

- Beyond the aspirational appeal of EVs, utility remains a primary factor in the purchase or lease of a new automobile.
- Mid-size families, where 3 to 4 individuals within the household are licensed drivers, see more benefit in EVs. This may be due to increased fuel costs, vehicle maintenance, and concerns regarding accumulated impacts to the environment.

6.0 COMMERCIAL CUSTOMER FINDINGS

While unique survey collectors were distributed to Liberty Utilities' commercial and key account customers, the polling methodologies were identical. In all, 186 of Liberty Utilities' commercial customers responded to the Survey at a completion rate of 48 percent*. The survey was distributed to commercial Respondents via email on June 22, 2020, with a reminder email sent on June 25. A final reminder email was sent to these customers on July 2, and the Survey was closed on July 3. Unlike the residential Survey, a raffle was not used to incentivize participation.

As there are 24,000 commercial customer accounts within Liberty Utilities EV study area, the 186 Survey responses resulted in a seven-tenths of one percent response rate. One key factor that likely depreciated the commercial Survey response is the COVID-19 pandemic. While the response from residential customers was likely enhanced by quarantine conditions, the commercial Survey sample size was conversely minimized by the unique challenges the pandemic imposed, and continues to impose, upon businesses.

On July 28, the National Academy of Sciences published an article titled, The Impact of COVID-19 on Small Business Outcomes and Expectations. The article's authors surveyed 5,800 small businesses in the United States to better understand how the pandemic was disrupting these organizations. The survey was conducted from March 28 to April 4, 2020, and though the pandemic's impact on the U.S. at that time was only a month old, it found that 43 percent of businesses had already closed due to COVID-19. The survey also found that the median company with monthly expenses over $10,000 had only enough cash on hand to last roughly 2 weeks.

As noted in Section 6.1.1, most commercial Respondents who took the Survey reported their organization employs five or fewer people. Given the financial and personnel impacts of COVID-19 on small businesses, it is understandable that the Survey was not prioritized by commercial customers and the overall response was suppressed by the pandemic.

From launch to close, the Liberty Utilities EV Study Team kept a close eye on each Survey's response rate. This allowed the team to maintain quality control and make necessary adjustments to Survey mechanisms and promotions as needed. While the Survey team anticipated that the commercial response might be hampered by COVID-19, the actual results were lower than expected. Following the second reminder email, the Survey team opted not to increase the number of customer notifications for concern it might negatively impact the utilities' relationship with its commercial customers. Additional EV polling mechanisms will be evaluated in the future.

Despite the lower-than-anticipated response, the commercial Survey results contain actionable data. As outlined in Section 3.5.2, the realized margin of error for the commercial Survey is 7 percent. Using this margin as an evaluative factor, we can determine if polling results are representative of the larger Liberty Utilities commercial customer base.

*As noted in Section 5.0, incomplete surveys are viable.

6.1 Company Profiles

In order to properly regard the data provided by commercial Respondents, it is important to first understand the types of organizations that participated in the Survey.

6.1.1 Commercial Organization Size

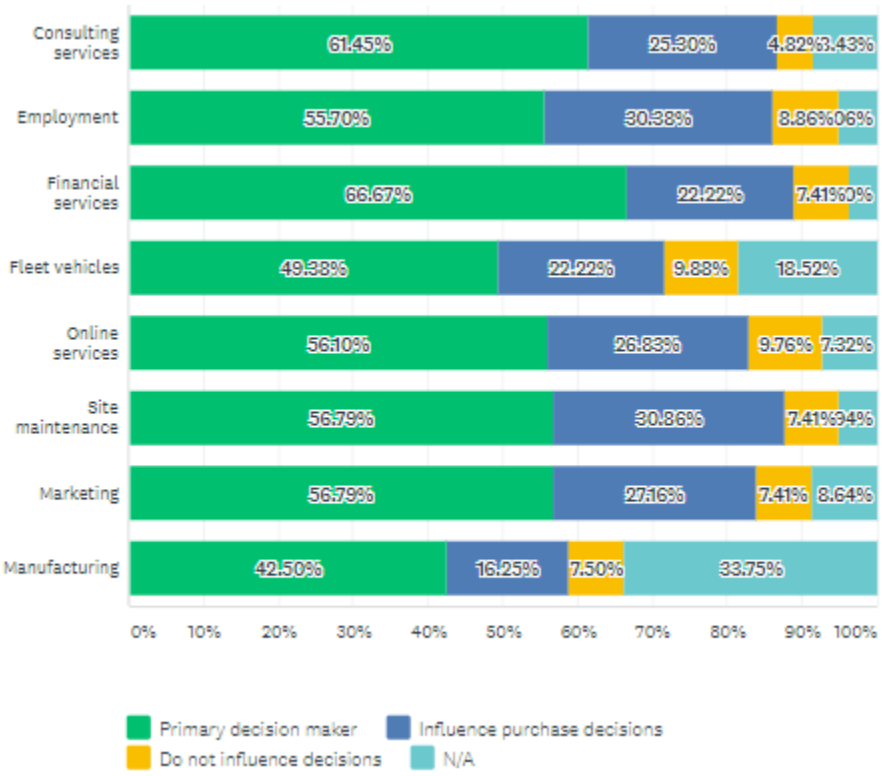
To a substantial degree, commercial Respondents represented small organizations. While less than half of those who took the Survey answered the question on organization size, 61.4 percent signaled that the company they represent has only 1 to 5 employees. The median score for commercial organizations was 8.1 employees. Across all Respondents, only 5.7 percent identified their organization as having 50 to 100 employees and 2.8 percent as having 251 to 1,000 employees.

6.1.2 Commercial Organization Type

While only 47 percent of Respondents completed this question, the majority, 73 percent, identified their company as being in the private sector. Public companies comprised 7.9 percent of responses, franchises 1.1 percent, and “other” 18 percent. Of those who entered unique data in the “other” field, six Respondents identified as non-profit, five as private business, and two as public government organizations.

6.1.3 Influence over Purchasing

With few exceptions, the majority of commercial Respondents indicated that they were the primary influencer of purchasing decisions across organizational processes. Notably, the fleet vehicle category returned higher “not applicable” (N/A) and lower primary influencers rates. As the majority of commercial Respondents indicated, their organization does not use fleet vehicles. This is to be expected.



The low response from Respondents who indicated they have no influence over purchasing decisions is perhaps the most crucial factor for consideration. Unlike residential Respondents, who have direct insight into their opinions and behaviors, organizations, especially large organizations, use a hierarchical structure where unilateral decisions must be weighed against competing and complimentary factors. Receiving input from Respondents with influence over purchasing decisions helps to ensure that the views and findings reflected in the Survey are accurate. To this end, a primary filter applied to Survey results will be the elimination of feedback from those who indicated they had no influence over organizational decision making.

6.2 Fleet Vehicles

One of the primary factors that will influence organizational perceptions of EVs is the need for, and utilization of, fleet vehicles. Fleet vehicles have traditionally represented a sizable portion of new automobile sales in the North American market. From 2017 to 2019, fleet vehicle sales grew to represent approximately one-fifth of all light-vehicle sales in the U.S. The primary factor contributing to fleet growth was the 2017 tax reform overhaul, which allows businesses to depreciate up to the full cost of a new vehicle in the first year after purchase. According to Cox Automotive, fleet sales grew 4.1 percent from 2017 to 2018, and 9.2 percent in 2019.

Even before the economic impacts of the COVID-19 pandemic, new-vehicle sales for 2020 were expected to be moderate. Cox Automotive reported that retail sales of new vehicles were up 1.0 percent in January 2020. However, that metric experienced a sharp correction as the year progressed. In May 2020, The Detroit Bureau, an automotive news organization, reported that new vehicle sales were experiencing a 32-percent year-over decline. Fleet sales are expected to drop by as much as 21 percent in 2020.

6.2.1 Fleet Vehicle Utilization

Beyond need, the economics of a fleet can create an untenable burden on small-to-mid-size organizations. Providing employees with company vehicles for business use results in variable, fixed, and indirect costs. Variable costs include fuel, parts, maintenance, accidents, and tolls and fines; fixed costs include vehicle financing, automobile depreciation, insurance, and taxes; and indirect costs include staff, facilities, hardware, and software.

Approximately one-fifth of Commercial Respondents, 20.4 percent, indicated that they provide fleet vehicles for employee use. A high degree of variability was found among commercial Respondents with higher employee counts. While only 13 commercial Respondents (0.07 percent of the sample size) indicated their organization had 20 or more employees, 53.9 percent responded that they provided fleet vehicles. When filtered for the 7 commercial organizations with 50 or more employees, 71.4 percent indicated they provide fleet vehicles for employee use. In terms of operations, these findings are similar to those of larger organizations.

Findings and/or assumptions based on results:

- Ultimately, small organizations that see a potential benefit from implementing fleet vehicles may find the financial obligations prohibitive and choose instead to compensate employees directly for miles driven.

- Operational necessity and expanded revenue increase the likelihood of large organizations offering fleet vehicles for employee use.

6.2.2 Expansion of Fleet Programs

All commercial Respondents who indicated their organization does not currently provide fleet vehicles for employee use were directed to question two, which asked, “is your organization considering adding fleet vehicles?” The majority of commercial Respondents, 83 percent, indicated their organization was not planning to add fleet vehicles, with an uncertain response of 10.2 percent. In other words, while the

"yes" response falls just within the Commercial Survey's 7-percent margin of error, the "uncertain" quotient exceeds it.

Filtering the Survey for only those Respondents who indicated they influence fleet vehicle purchase decision yields a 3.8-percent increase in the likelihood that organizations are considering the addition of fleet vehicles. As this increase does not exceed the margin of error, we cannot find a correlation between decision influencers and fleet growth.

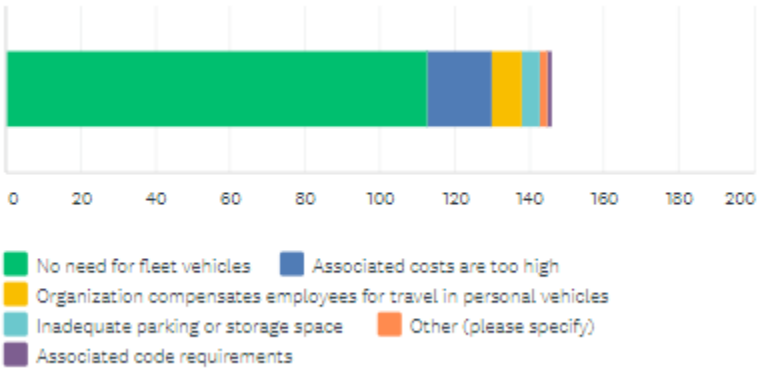
When filtered for commercial Respondents with 20 or more employees, the "no" response increased to 100 percent.

Findings and/or assumptions based on results:

- Commercial organizations that would benefit are likely to have already incorporated fleet vehicles into their operations.
- Growth in smaller organizations creates a need and opportunity for the development of a fleet vehicle program. Those organizations may benefit from additional information and fleet program business case analysis.

6.2.3 Barriers to Fleet Adoption

If Respondents indicated they were not considering the addition of fleet vehicles, or were uncertain, they were directed to question three – "what factors do you believe prevent your organization from utilizing fleet vehicles? (Select all that apply)"



The majority of commercial Respondents, 87.6 percent, indicated their organization had no need for fleet vehicles. The response, "associated costs are too high," was selected by 13.2 percent of Respondents and

"organization compensates employees for travel in personal vehicles" was selected by 6.2 percent of respondents. Only 3.9 percent of Respondents selected the "inadequate parking or storage space" option.

When responses were filtered for Respondents who indicated a level of influence over fleet vehicles, there was a significant shift in the results. The response for "no need for fleet vehicles" decreased by more than 10 percent, and "associated costs are too high" returned a 15.3-percent increase. "Organization compensates employees for travel in personal vehicles" also increased by 13.8 percent. As these shifts exceed the 7-percent margin of error, they can be considered significant.

For commercial Respondents with 20 or more employees, the associated cost barrier increased to 33.3 percent. The results for smaller organizations, those with 20 or fewer employees, were within the margin of error for the general commercial results. This is to be expected, as smaller organizations comprise 85 percent of commercial Respondents.

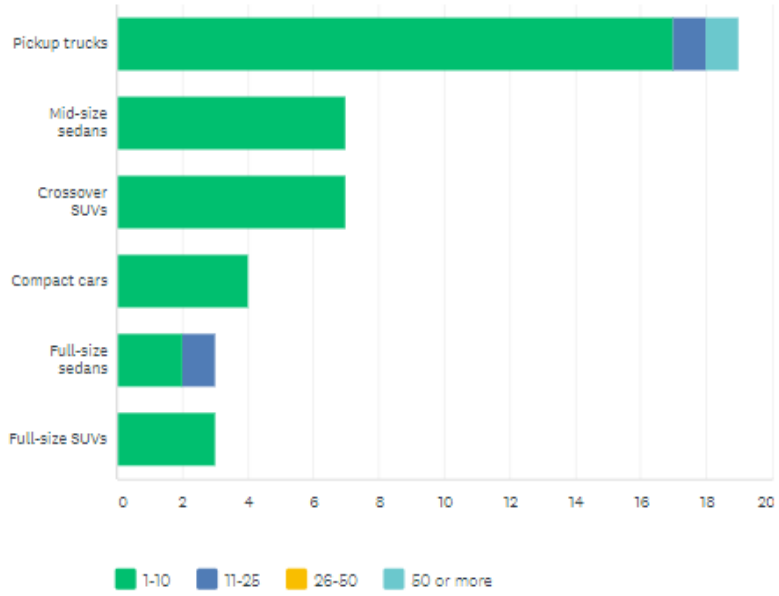
Findings and/or assumptions based on results:

- Similar to larger organizations, mid-and-small-sized commercial customers invest in, and incorporate, fleet services only when it proves operationally beneficial.
- While need is the primary prohibitive factor, those Respondents who influence decisions may see more opportunity for fleet vehicle integration and be receptive to programs that assist with fleet evaluations.

6.2.4 Commercial Fleet Structure

Of the 38 commercial Respondents who indicated their organization provides fleet vehicles for employee use, 10 (26.3 percent) skipped question four, which asked "what types of vehicles are offered in your organization's fleet? (Select all that apply)". Given the higher N/A return provided by Respondents, this bounce rate can likely be attributed to Respondents' lack of familiarity with relative fleet structures or a disinterest in collecting the requested information. However, when results were filtered for only those Respondents who indicated influence over fleet decisions, the total response to question four decreased by 46 percent. As such, the larger response will be used for polling analysis.

Only two Respondents indicated they offered more than 1-10 vehicles within any automotive category.

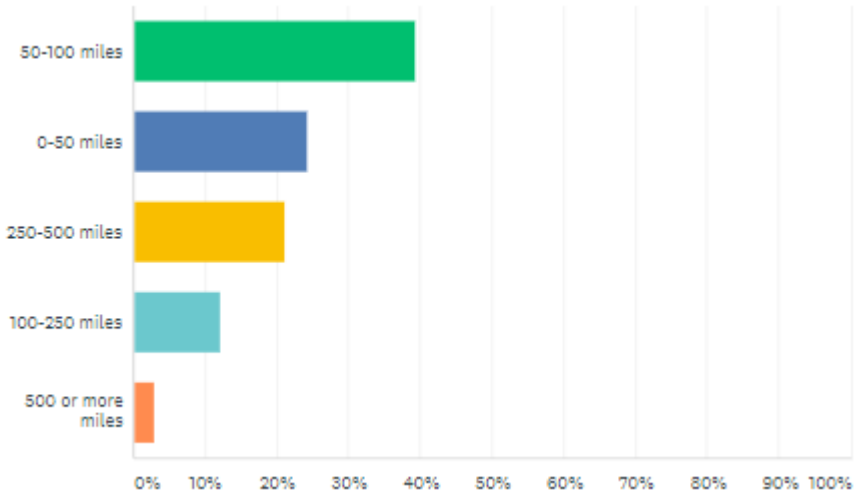


Pickup trucks were selected by 19 of the 28 Respondents who answered this question. This is similar to industry data which shows that trucks outsell sedans by an almost ten-to-one margin. According to Automotive Fleet Magazine, auto manufacturers sold 75,897 sedans and 722,937 trucks within the commercial fleet segment in 2019.

In all, 17 Respondents indicated their organization offered 1-10 pickup trucks, 1 organization selected the "11-25" option, and 1 organization selected the "50 or more option." Respondents who indicated their organization provided more than 10 fleet pickup trucks for employee use did not provide contact information. None of these organizations have PHEVs or EVs as part of their fleets; 5.6 percent of these organizations offer plug-in EV charging stations; and 12.5 percent of these organizations are planning to add EV charging stations in the future.

6.2.5 Commercial Fleet Mileage

The largest response to question five, "On average, how many miles are driven per day in your fleet vehicles? (all vehicles combined)," was 50-100 miles. Over 39 percent (39.4) of commercial Respondents chose this option, followed by 24.2 percent who chose 0-50 miles. Over 21 percent (21.2) chose 250-500 miles; 12.1 percent of Respondents chose 100-250 miles; and only 3 percent chose 500 or more miles. These results were largely unchanged when filtered for Respondents who indicated influence over fleet decisions.



6.2.6 PHEVs or EVs as Fleet Vehicles

Of the 33 commercial Respondents who were advanced to question six, only two (6 percent) indicated that PHEVs or EVs are included in their organization's fleet. Contrasted against all commercial Respondents, only 0.01 percent offer PHEVs or EVs in their fleet.

The two commercial Respondents who indicated that their organizations utilize PHEVs or EVs provided varied responses to other questions. While neither organization logs more than 100 miles per day in fleet vehicles or includes trucks in their fleet, only one of the organizations indicated that they were "very likely" to increase the number of PHEVs or EVs within its fleet. The other Respondent selected "unlikely."

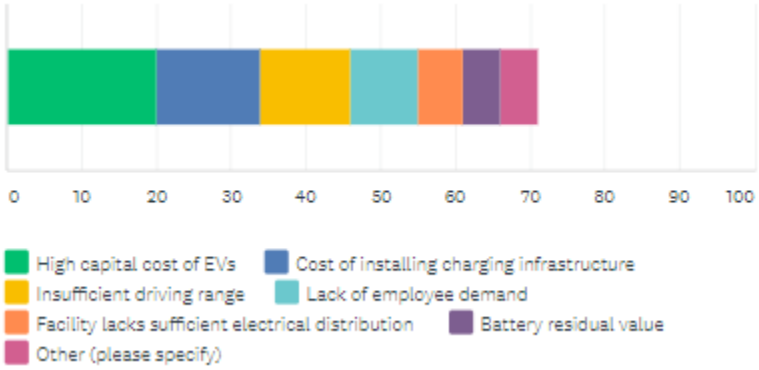
The Respondent who selected "unlikely" identified as a private organization with 6-14 employees. "High capital cost of EVs," and "insufficient driving range" were the options they selected as barriers to PHEV/EV fleet integration. With regards to fleet vehicle purchases, the Respondent identified themselves as the primary decision maker. The Respondent who indicated they were "very likely" to increase the number of PHEVs or EVs within their fleet did not provide any demographic information.

Findings and/or assumptions based on results:

- Company size is a base factor for the utilization of fleet vehicles among commercial customers. By placing a focus on EV-specific outreach to organizations that have, or are likely to soon have, more than 20 or more employees, Liberty Utilities can promote knowledge and future adoption of charging stations.

6.2.7 Barriers to PHEVs or EVs as Fleet Vehicles

All commercial Respondents who indicated that their organization's fleet did not include EVs or PHEVs were directed to question nine, "what are the barriers you see to your company adopting EVs/PHEVs (select all that apply)."



The breakdown for commercial Respondents is as follows: 71.4 percent selected "high capital cost of EVs;" half selected "cost of installing charging infrastructure, 42.9 percent selected "insufficient driving range," 32.1 percent identified "lack of employee demand," 21.4 percent selected "facility lacks sufficient electrical distribution," 17.9 percent selected "battery residual value," and 17.9 percent selected "other."

When filtered for Respondents who identified themselves as fleet influencers, the results for question nine did not change beyond the margin of error.

Select answers from the "other" field include:

- Heavy duty pickup trucks not an option
- Type of vehicle not available on our bid method
- Electric vehicles don't provide enough power

6.2.8 Potential Fleet Evaluation Program

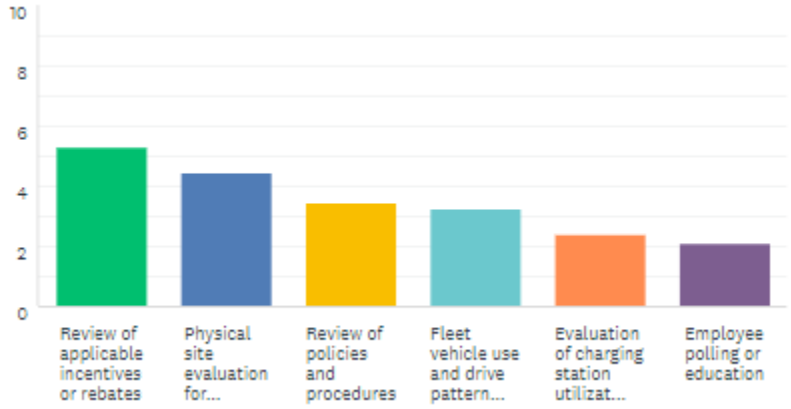
All Respondents were directed to question 10, which asked, "would it be beneficial to you or your company if Liberty Utilities offered a program to help evaluate PHEVs or EVs for your fleet?" A large majority of commercial Respondents, 73.4 percent, indicated they would not find it beneficial. While less than 10 percent responded in the affirmative, 16.8 percent selected the "uncertain" option. When filtered for Respondents who indicated a level of influence over fleet decisions, there was a significant change in

results. While the "yes" response only increased by 4.2 percent, there was a 7.8 percent increase in the "uncertain" response, and a 12 percent decrease in the "no" response.

When filtered for those Respondents who indicated an evaluation would not be helpful, the return for miles driven per day in fleet vehicles conforms to the baseline results, with "0-50 miles" garnering the greatest response. Those Respondents who responded that an evaluation would be helpful also indicated that their fleet vehicles were driving 50-100 miles on a daily basis. For those Respondents who indicated they were uncertain if an evaluation would be helpful, fleet miles increased substantially, with 60 percent selecting the "250-500 miles" option.

It is also worth noting that the fleet vehicle composition for Respondents who selected the "uncertain" option includes only pickup trucks and crossover SUVs. While 68.2 percent of Respondents who indicated there would be no benefit to an evaluation, they also indicated there would be no benefit in converting their fleet to PHEVs or EVs. The majority (81 percent) of Respondents who were uncertain about an evaluation responded that the benefit of converting their fleet would be fuel cost savings.

Upon completion of question 10, all Respondents were asked, "what components of an EV evaluation program do you feel would be most beneficial? Question 11 was designed so that Respondents ranked the following response options: review of applicable incentives or rebates, physical site evaluation for construction needs and electrical availability, review of policies and procedures, fleet vehicle use and drive pattern evaluation, evaluation of charging station utilization and/or needs, and employee polling or education.



The priority assignment given "review of applicable incentives or rebates" aligns with the response to question nine, where collected data showed that Respondents perceived high capital costs as the most

significant barrier preventing their organization from integrating hybrid and plug-in vehicles into their respective fleet.

When polling data is filtered for those Respondents who ranked "physical site evaluation…" or "review of policies and procedures" as either the first or second most important benefit of an evaluation program, it identified 59 unique users. This seems somewhat antithetical when compared to the preceding question, where 36 of those Respondents responded that they would not find a PHEV or EV evaluation program beneficial.

Findings and/or assumptions based on results:

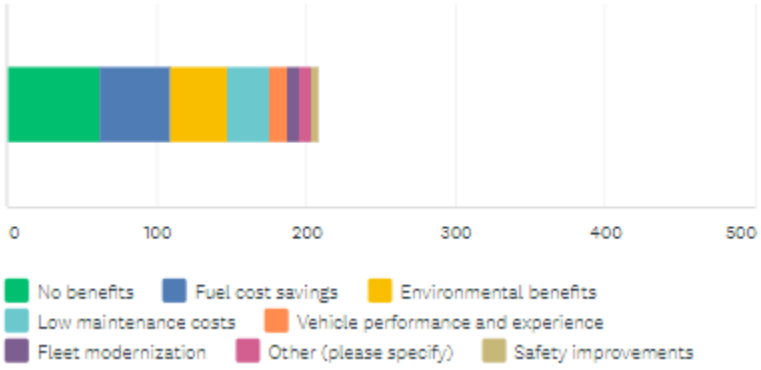
- While commercial customers who accumulate fewer daily fleet miles may believe that conversion to PHEVs and EVs will return nominal fuel savings, additional information on maintenance cost deferrals, safety improvements and environmental benefits may increase interest in an evaluation program. This is further supported by Respondents' interest in reviews of EV/PHEV policies and physical site parameters.

- Organizations that accumulate higher daily fleet mileage, those Respondents who selected the "250-500 miles" option, are likely looking for ways to realize fuel cost savings. While pickup truck options within the PHEV and EV market remain nascent, these Respondents may be able to realize savings by converting their traditional crossover SUVs to comparable PHEV or EV models.

- As the PHEV and EV markets expand to include hybrid and plug-in pickup truck options, Respondents' concerns will shift from model viability to economic and logistical considerations.

6.2.9 Perceived Benefits of Fleet Conversion

Following the poll on Liberty Utilities' proposed PHEV/EV evaluation program, Respondents were asked, "what do you feel are the benefits of converting your fleet to PHEVs or EVs? (select all that apply)."



While half, 50.8 percent, of Respondents selected "no benefit," their interest in policy and site evaluations, as outlined in Section 6.2.13, suggests a potential gap between user's perceptions of EVs and PHEVs and their applicable knowledge of how hybrid and plug-in vehicles could benefit their organization.

When filtered for only those Respondents who selected "fuel cost savings," we see a significant change in the response to whether a PHEV or EV evaluation program would be beneficial. Over 24 percent (24.4) of these Respondents indicated an evaluation program would be beneficial, 37.8 percent responded "no," and 37.8 percent selected "uncertain."

When filtered for the safety improvement, vehicle performance and experience, and fleet modernization response options, interest in an evaluation program increases substantially: 36.8 percent said they would be interested in an PHEV or EV evaluation program, 47.4 percent selected "uncertain," and only 15.8 percent selected "no." When filtered by the "environmental benefits" response option, interest in an evaluation program was the top result, with exactly 32.4 percent of Respondents selecting "no" or "uncertain."

Interestingly, when the question was filtered to isolate those Respondents who indicated there would be no benefit to converting their fleet to PHEVs or EVs, the resulting cohort's weighted average for distance driven per day in fleet vehicles was 46.4 miles. It is also important to note that Respondents within this cohort indicated they already use vehicles within their fleets for which there are comparable PHEV and EV market options.

The final filter for consideration of this question is influence over fleet decisions. Where the general Respondent cohort indicated that "no benefits" was the most meaningful response, those with influence over fleet decisions deemed "fuel cost savings" to be the greatest benefit, with 57.1 percent selecting the option. Additional changes among this subsection include the following: the "environmental benefits"

option was elevated by 10.9 percent, "low maintenance costs" rose by 10.9 percentage points, and though it falls short of the margin of error, "vehicle performance and experience" gained 6.2 percentage points.

Findings and/or assumptions based on results:

- Organizations which indicated there would be no benefit to integrating PHEVs and EVs into their fleets may be unaware of cost savings opportunities that might offset the capital costs of hybrid and plug-in automobiles.

- Non-cost factors that benefit commercial customers, such as fleet modernization and vehicle performance, are strong motivators among individuals who influence fleet vehicle purchases.

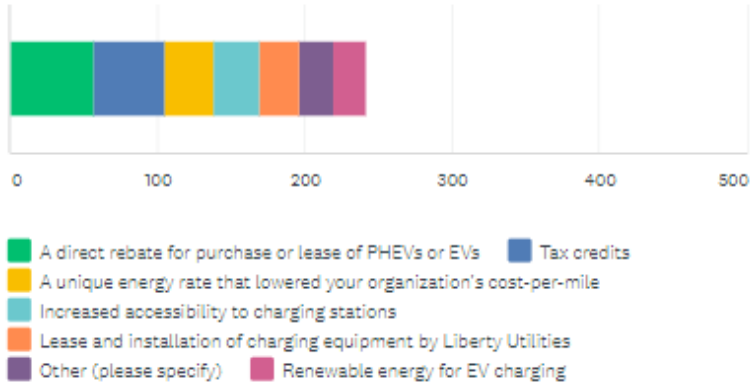
- Respondent's positive inclination to the driving experience associated with PHEVs and EVs suggests an inherent interest in these vehicles. This interest may increase the effectiveness of customer communication which outlines the potential cost savings associated with hybrid and plug-in fleet additions. It's also likely that, despite the perceived lack of interest in PHEVs or EVs among employees, these vehicles would generate interest and provide fleet vehicle managers the opportunity for direct engagement and marketing initiatives across their organization.

- Commercial customers who drive fewer daily miles in fleet vehicles may perceive a lack of PHEV or EV benefits, but increased awareness of vehicle performance metrics, associated costs and purchase outcomes may drive an increase in future adoption.

- Individuals who influence fleet decisions are more likely to recognize the benefits of PHEVs and EVs and will be more receptive to future outreach and program offerings.

6.2.10 Areas of Potential PHEV or EV Interest

Question 13 asked Respondents "would any of the following increase your interest in including or increasing the number of PHEVs or EVs in your fleet? (select all that apply)."



While there was a broad distribution in Respondents' selection of multiple polling answers, 64 percent of customers who answered this question selected "a direct rebate for purchase or lease of PHEVs or EVs." The second-most popular selection, at 59.3 percent, was "tax credits." Approximately 38 percent of Respondents included the unique energy rate option as one of their choices. A slightly smaller percentage of Respondents, 34.8, identified increased access to charging stations as a factor that would increase their interest in incorporating PHEVs or EVs into their fleet. The "lease and installation of charging equipment by Liberty Utilities" option was selected by 30.3 percent of those who answered this poll. The "other" response option, from which select entries are included below, was selected 25.8 percent of the time. The response option, which was selected the least often, was "renewable energy for EV charging."

Select responses from the "other" category:

- Battery life is an issue.
- Our bidding system prevents us from purchasing these types of vehicles.

When filtered by those Respondents who indicated a level of influence over fleet decisions, selection of the "a direct rebate for purchase or lease of PHEVs or EVs" option increased by 19.3 percent. Additional findings of note: selection of "tax credits" increased by 8.6 percent; identification of "a unique energy rate that lowered your organization's cost-per-mile" as an option that could potentially increase the number of PHEVs or EVs in respective fleets gained 16 percentage points; "increased accessibility to charging stations" rose by 9 percentage points; "lease and installation of charging equipment by Liberty Utilities" gained 11.3 percent; and support for "renewable energy for EV charging" increased by 10.7 percent.

Findings and/or assumptions based on results:

- While cost savings will remain the primary consideration when organizations evaluate the purchase and utilization of PHEVs and EVs, there are a number of additional factors which can drive interest in hybrid and plug-in vehicles.

- Though "renewable energy for EV charging" was the lowest frequency option, the multi-faceted nature of this response option positions it as an outlier within this polling mechanism. Also, the potential for cost savings was not made explicit within the response option. As such, the development of programmatic marketing which pairs the benefits of onsite solar generation and fleet modernization may appeal to larger commercial customers with fleet vehicle programs and larger-than-average electrical consumption.

- Individuals with influence over fleet decisions will be more likely to consider and accept potential PHEV or EV benefits. As Liberty Utilities develops future PHEV and EV programs aimed at helping commercial customers modernize their vehicle fleet, it would be well served by creating a Sustainable Fleet Advisory Committee comprised of select influencers.

6.3 Sustainability Goals

As organizations which strive to meet sustainability goals may use PHEVs and EVs as a qualifying resource, a greater understanding of these programs will provide Liberty Utilities with additional insight into how they can support commercial customer base.

6.3.1 Awareness of Sustainability Programs

Respondents were asked if they were aware of sustainability goals or initiatives at their company. Approximately half of Respondents indicated they were not aware of organizational sustainability initiatives, 37.6 percent responded that there are sustainability programs at their organization, and 12 percent indicated they were unsure.

When Survey results were filtered to show data for only those organizations with sustainability initiatives, Respondents still identified "no benefits" when asked what would be the benefits of converting their fleets to PHEVs or EVs. High capital vehicle costs and the cost of installing charging infrastructure were identified as the top barriers, respectively, when Respondents were asked to identify the barriers that would prevent their company from adopting PHEVs or EVs.

When results were filtered by organization size, the response to this question changed. Respondents at larger organizations, those with 20 or more employees, were more likely to be aware of sustainability

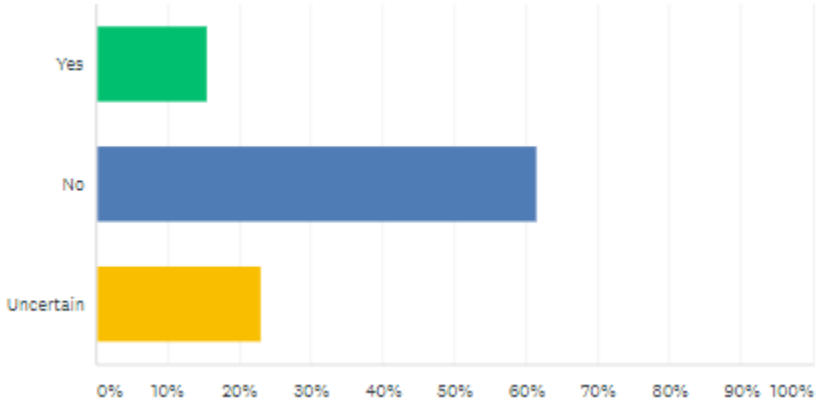
goals at their company. In all, 69.2 percent of Respondents at larger organizations responded "yes" to the question. These larger organizations were also more likely to have fleet vehicles for employee use.

Findings and/or assumptions based on results:

- Sustainability initiatives may be localized and exist away from the Respondents' sphere of awareness or influence. Accordingly, there may be a greater proliferation of sustainability initiatives across commercial customers than the Survey indicates.

6.3.2 Impact of EVs on Sustainability Goals

The affirmative response to question 15, which asked, "would EVs advance your organization's sustainability goals?" was 13.7 percent among all Respondents.



Interestingly, among organizations with 20 or more employees where sustainability initiatives are more common than not, there was only a 1.8-percent increase in the affirmative response to question of whether EVs would advance these goals. Fleet influencers increased the "yes" response by 7 percent and decreased the "no" response by 10.7 percent.

Findings and/or assumptions based on results:

- As plug-in charging stations become more ubiquitous, especially among commercial organizations, it will become easier for EVs to satisfy sustainability initiatives.

- As knowledge of PHEVs and EVs increases among those who influence fleet decisions, specifically the ways that hybrid and plug-in vehicles can reduce emissions, operating expenses and energy costs, organizations will realize additional avenues through which sustainability goals can be met.

6.3.3 Additional Insight on EV Adoption

Question 16 of the survey was open-ended and asked Respondents to provide input to the inquiry, "in your opinion, what would most help you or your organization adopt EVs?" In all, 75.9 percent of all Respondents chose to skip this question.

Select responses to the question include:

- Cost of electricity needs to be reduced.
- Rebates and charging stations.
- We need incentives to purchase EVs, which normally cost more than gas vehicles to purchase.
- Vehicle towing capacity. We tow equipment and would need larger trucks vs. cars.
- Improvements in range and capabilities.
- Payment assistance in the form of grants or sponsorships as we are a non-profit organization with no budget for something like this.

6.4 Charging Stations

A critical component for EV proliferation, public and private charging stations have become more common in recent years, especially among commercial organizations that are seeking to accommodate employees who drive plug-in vehicles. For organizations that are interested in modernizing their fleet, charging stations will be a necessary component.

Feedback gathered in the following sections provides insight into how commercial Respondents use, or plan to use, EV charging stations and the ways Liberty Utilities can accommodate customer growth.

6.4.1 Prevalence of Charging Stations

Question 17 asked, "does your organization offer plug-in EV charging stations at the worksite for employee use?" Close to 97 percent (96.6) of Respondents indicated that their organization does not offer onsite charging stations for employee use. Within this cohort, 37.1 percent indicated their organization seeks to meet sustainability goals, and 13.3 percent determined that EVs would help them advance their organization's sustainability goals.

While only four Respondents (two percent of the whole) indicated that their organization offers charging stations, filtering Survey results for their feedback provides insight into the types of organizations that find value in plug-in infrastructure:

- All four Respondents represent private organizations.
- Only half of these organization use fleet vehicles and only one is considering the addition of fleet vehicles.
- One of the organizations offers compact or mid-size EV sedans within its fleet.
- Only one of the four organizations use PHEVs or EVs to advance sustainability goals.
- Each of the Respondent's organizations are smaller than 15 employees, with 3 of the 4 employing 5 or fewer individuals.
- Only one of the four organizations that have onsite charging stations pass along usage costs to employees.

Respondents who indicated their organization offered EV charging stations were advanced to question 20. Those who indicated their organization did not offer charging stations were advanced to question 18.

6.4.2 Anticipated Integration of Charging Stations

Survey users who indicated their organization did not offer charging stations were asked, "are you planning to add EV charging stations for employee use in the future?" While 76.5 percent of Respondents replied "no," 20 percent indicated they were uncertain if their organization would be adding charging stations in the future.

Filtering Survey results for the four Respondents (two percent of the whole) who indicated they plan to add charging stations in the future revealed the following:

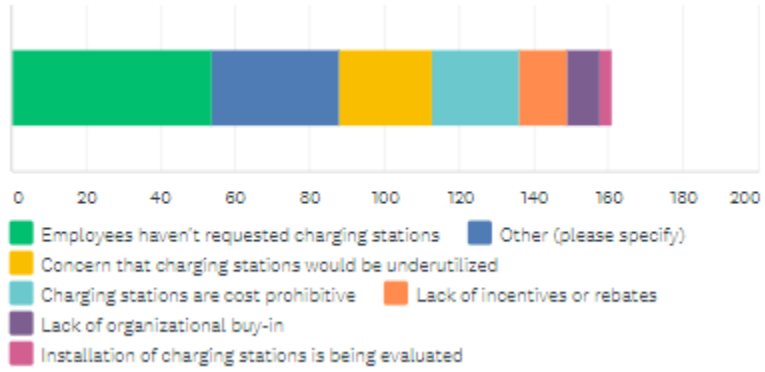
- Half these organizations offer fleet vehicles for employee use. Those that do not selected either "no need for fleet vehicles" or "associated costs are too high."
- These organizations use only pickup trucks or full-size SUVs as fleet vehicles.
- These organizations log a high number of miles in their fleet vehicles, with all those Respondents who answered question five selecting the "250-500 miles" option.
- Two of these Respondents indicated that a Liberty Utilities EV evaluation program would be helpful; none of the Respondents replied that an evaluation program would not be welcome.
- All of these Respondents chose "environmental benefits" when asked what advantages would result from converting a fleet to PHEVs or EVs.

- Unsurprisingly, "lease and installation of charging equipment by Liberty Utilities" was a unanimous selection for question 13, where Respondents were asked what would increase their interest in including or increasing the number of fleet PHEVs or EVs.
- Half of these Respondents indicated that their organization seeks to satisfy sustainability goals or initiatives. None of the Respondents replied that EVs would not advance their organization's sustainability goals.
- Only one of the four Respondents indicated that there would be a cost to employees for use of EV charging stations.

Respondents who indicated they were planning to add EV charging stations in the future were advanced to question 20, while those who selected "no" or "uncertain" were advanced to question 19.

6.4.3 Factors Preventing Onsite EV Charging Stations

Respondents who indicated that their organization did not offer, or plan to offer, EV charging stations for employee use were then asked, "what are the reasons your company currently does not provide plug-in EV charging stations for employee use? (select all that apply)."



The primary reason, "employees haven't requested charging stations," was selected by slightly more than half (56.3 percent) of Respondents. The reason with the second-highest selection rate, 35.4 percent, was "other." Selected responses include:

- We are a park campground.
- We currently have a six people on staff. None of us have electric vehicles at this time but we are all interested in EV options for light farm operations in the future.
- No parking lot.

- Placement of [charging stations] would be complicated.

"Concern that charging stations would be underutilized" was selected by 34.5 percent of Respondents and "charging stations are cost prohibitive" followed with 25.4 percent. Using factor analysis, we can further examine the relationship between these two answer options – the need to see a return on investment (ROI). In other words, organizations want to spend capital wisely. When it comes to investments in facilities, fiscally conscious organizations endeavor to make strategic decisions that enhance their operations or increase employee satisfaction. For organizations with employees who do not drive EVs and have not requested charging stations, the cost may seem extraneous. However, not all cost concerns are created equal.

Among Respondents who have influence over fleet decisions, there was a shift in response metrics. The leading response, "employees haven't requested charging stations," increased by 15.4 percent. Additionally, "concern that charging stations would be underutilized" increased by 9.8 percent; "charging stations are cost prohibitive" increased by 8.1 percent; "lack of incentives or rebates" and "lack of organizational buy-in" increased by 5.3 and 5.7 percent, respectively; though, neither return is statistically significant; and, "other" decreased as a response option by 12.8 percent.

Findings and/or assumptions based on feedback:

- While organizations that plan to install charging have stations signaled that usage costs would be passed on to employees, the inverse is true of organizations that have already installed charging stations. This suggests that as organizations install EV infrastructure, they realize the costs associated with charging are either smaller anticipated, find alternative funding methods, or realize savings through incentives or rebates.

- By elevating the concern for utilization and ROI over the strict cost burden, Respondents are signaling three things: that charging stations, and by association, EVs, are viable market options; that charging stations represent a potential future need for their organization; and that if employees were to request and use the charging stations, the benefit to the organization would likely justify the associated capital costs required for the purchase, installation and operation of charging infrastructure.

- Further evidence of the perceived benefit of charging stations can be drawn from Respondents' inclination not to pass usage costs to employees; only 25 percent of Respondents that offer charging stations require payment from employees. For those organizations that plan to offer

charging stations in the future, a contrapositive is revealed; 75 percent of Respondents who anticipate the integration of EV plug-in stations will charge employees for their use.

7.0 KEY ACCOUNT CUSTOMER FINDINGS

As key accounts customers represent organizations with substantial electrical load demands, their feedback is highly impactful as Liberty Utilities considers new offerings within their rate, program, and incentive portfolio. Of the 120 key account customers to whom the Survey was provided, 45 responded. The completion rate for the Key Account Survey was 76 percent. The Survey was distributed to key account customers via email on June 22, 2020, with a reminder email sent on June 25. A final reminder email was sent to these customers on July 2, and the Survey was closed on July 3. Similar to the Commercial Survey, a raffle was not used to incentivize participation.

In comparison to their commercial counterparts, key account customers were much more receptive of the Survey. The key difference between the two was the methodology used to convey the Survey; while links to both the Commercial and Key Account Surveys were transmitted via email, key account customers received personalized communication from a Liberty Utilities account representative.

One additional dissimilarity between the Key Account and Commercial Surveys is degree of variance. Whereas Survey results for commercial customers varied greatly when filtered for demographics such as company size, there were fewer discrepancies among key account Respondents when similar factors were manipulated. As shown in the subsequent results sections, there is greater alignment among key account Respondents with regards to primary Survey variables, such as use of fleet vehicles. While this curtails data extrapolation, many of the broader assumptions put forth in Section 6.0 can also be applied to key account customers.

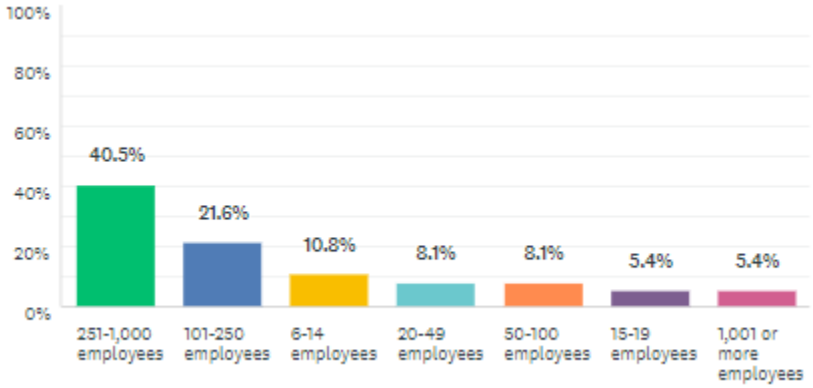
7.1 Company Profiles

In order to properly regard the data provided by key account Respondents, it is important to first understand the types of organizations that participated in the Survey.

7.1.1 Key Account Organization Size

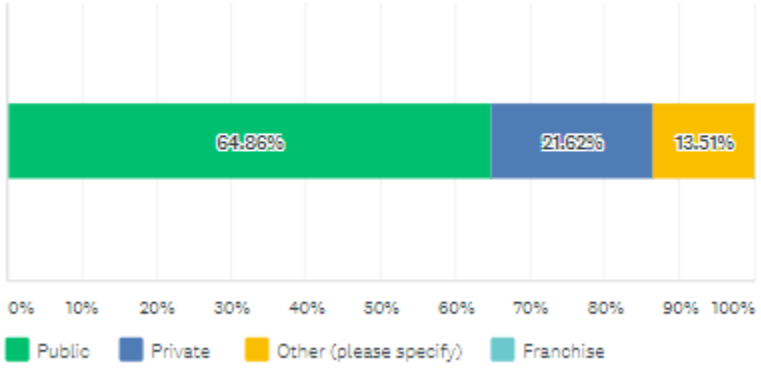
Unlike the commercial organizations which participated in the Survey, key account Respondents primarily represent larger organizations. Additionally, 82 percent of the Respondents who participated in the Survey completed the question regarding organization size.

The greatest proportion of Respondents, 40.5 percent, identified their organization to be between 251 and 1,000 employees. While only 21.6 percent represent organizations with 101 to 250 employees, the combined response placed the median within this grouping.



7.1.2 Key Account Organization Type

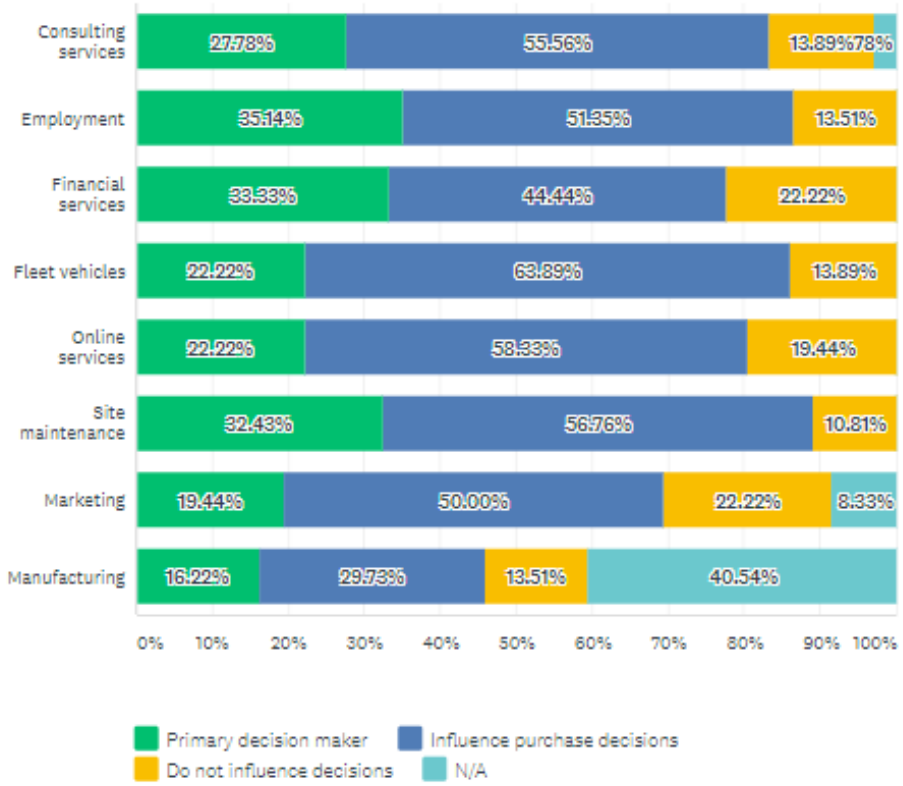
Key account Respondents overwhelmingly represented public organizations.



Of the organizations that entered unique information in the “other” field, three identified as public government entities, one as a public college and one as a foreign-owned private company.

7.1.3 Influence Over Purchasing

Unlike their commercial counterparts, a higher percentage of key account Respondents noted they influence purchase decisions but are not the primary decision maker.



The low response from Respondents who indicated they have no influence over purchasing decisions is perhaps the most crucial factor for consideration. Unlike residential Respondents, who have direct insight into their opinions and behaviors, organizations, especially large organizations, utilize a hierarchical structure where purchase decisions are weighed against competing and complimentary factors. Receiving input from Respondents with influence over purchasing decisions helps to ensure that the views and findings reflected in the Survey are accurate. To this end, a primary filter applied to Key Account Survey results will be the elimination of feedback from those who indicated they had no influence over organizational decision making.

7.2 Fleet Vehicles

As key account customers represent larger and more dynamic organizations, fleet vehicles play a larger role in their day-to-day operations. Similar to the Commercial Survey results, organizations with larger employee counts have more use for fleet vehicles. It is also worth noting that, while key account organizations may be better able to withstand the economic impacts of the COVID-19 pandemic, they are not immune.

7.2.1 Fleet Vehicle Utilization

Over 84 percent (84.4) of key account Respondents indicated that they provide fleet vehicles for employee use. When filtered by Respondents who indicated their organization had more than 50 employees, utilization of fleet vehicles rose to 89.3 percent. Fleet utilization declined slightly to 77.8 percent when filtered for key account organizations with fewer than 50 employees.

Findings and assumptions based on results:

- Whether due to size or success, Liberty Utilities' key account customers are more likely to need and support fleet operations.

7.2.2 Expansion of Fleet Programs

All commercial Respondents who indicated their organization does not currently provide fleet vehicles for employee use were directed to question two, which asked, "is your organization considering adding fleet vehicles?" While 6.8-percent of commercial account holders answered "yes," there was no affirmative response from key account Respondents. Of the seven key account Respondents who were directed to the question, six answered "no" and only one customer indicated they were uncertain if fleet vehicles would be procured in the future.

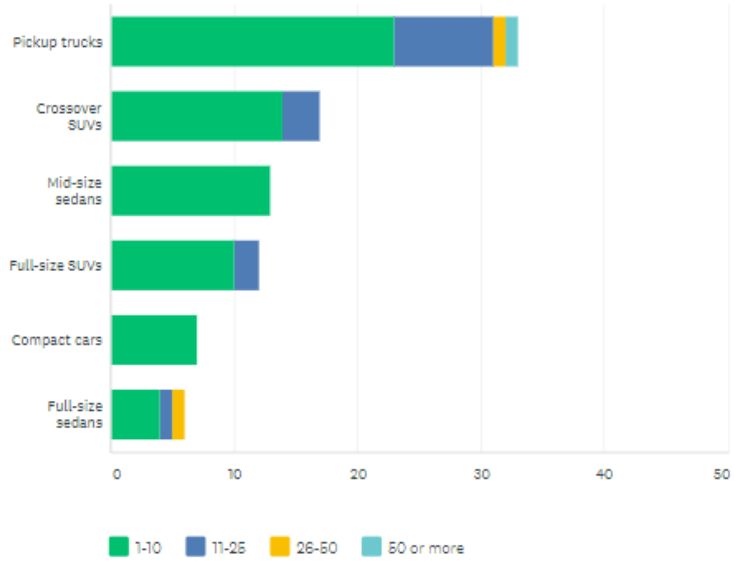
7.2.3 Barriers to Fleet Adoption Among Key Account Respondents

Given the high utilization of fleet vehicles within this customer segment, only seven key account Respondents were directed to question three, which asked, "what factors do you believe prevent your organization from utilizing fleet vehicles? (select all that apply)."

An equal response, 71.4 percent, was received for both "no need for fleet vehicles" and "organization compensates employees for travel in personal vehicles." Only two of the seven Respondents who were directed to this question selected the "associated costs are too high" response option. This data further supports the findings outlined in Section 6.2.2.

7.2.4 Key Account Fleet Structure

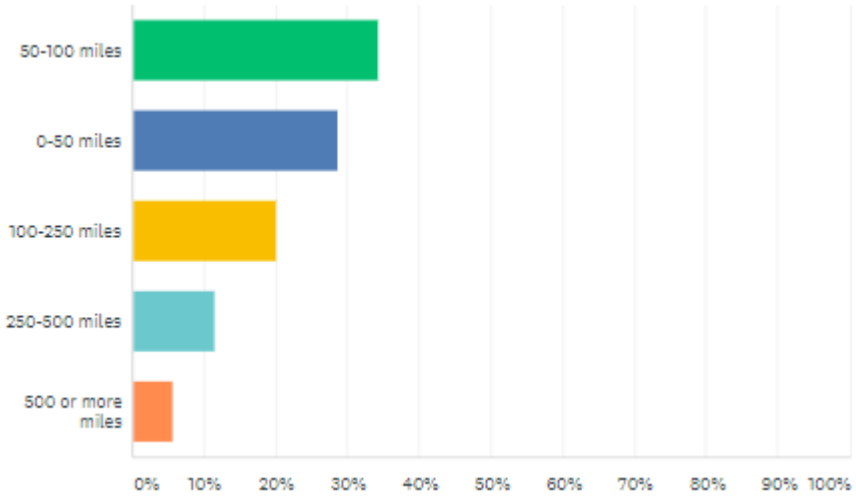
Similar to their commercial contemporaries, key account Respondents utilize pickup trucks more than any other vehicle type.



Within the sample size, 33 of the 45 Respondents indicated that their organization utilizes pickup trucks. A review of individual responses reveals that many of organizations are public entities, such as municipalities or schools. As such, their use of trucks likely supports facilities, maintenance, or construction activities.

7.2.5 Key Account Fleet Mileage

Similar to the Commercial Survey, the "50-100 miles" option garnered the highest response, with 34.3 percent of key account Respondents selecting this option.



When feedback was filtered for those Respondents who indicated influence over fleet purchase decisions, the "0-50 miles" option supplanted "50-100 miles" as the answer option chosen most frequently. The weighted average also decreased, from 150 miles per day to 145 miles.

7.2.6 PHEVs or EVs as Fleet Vehicles

Only those Respondents who indicated their organizations had fleet vehicles were directed to question six, which asked, "Are PHEVs or EVs available in your organization's fleet?"

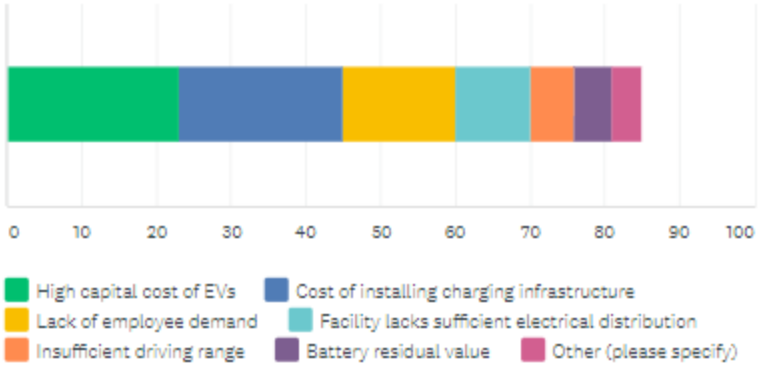
While the key account organizations had a much higher fleet vehicle utilization rate than their commercial counterparts – 84.4 percent to 20.4 percent, none utilize PHEVs or EVs for organizational business purposes. In addition, the lack of response to the "uncertain" option indicates an extremely reliable response.

Findings and assumption based on results:

- While subsequent sections outline customer's specific disinclinations toward PHEVs and EVs, the operational feedback received in the demographic and fleet operation sections portends opportunities for hybrid and plug-in vehicle integration by key account customers.

7.2.7 Barriers to PHEVs or EVs as Fleet Vehicles, Key Account Customers

Key account Respondents who indicated that their organization's fleet did not include PHEVs or EVs were directed to question nine, which asked, "what are the barriers you see to your company adopting EVs/PHEVs/ (select all that apply)." The data in the chart below reveals key account Respondent's perceived barriers are similar to their commercial counterparts.



The breakdown for key account Respondents is as follows: 65.7 percent selected "high capital cost of EVs;" 62.9 percent incorporated "cost of installing charging infrastructure" as a barrier; 42.9 percent selected "lack of employee demand;" 28.6 percent selected "facility lacks sufficient electrical distribution;" 17.1 percent selected "insufficient driving range;" 15 percent selected "battery residual value;" and, 11.4 percent selected "other." Select answer from the "other" field include:

- "Most are not built for the demanding environment our vehicles operate in"
- Lack of funds to purchase
- We utilize trucks for work sites

Filtering the data for Respondents who indicated influence over fleet decisions resulted in no significant change in ranking hierarchy or the rate at which possible answers were selected.

7.2.8 Fleet Evaluation

Question 10 asked "would it be beneficial to you or your company if Liberty Utilities offered a program to help evaluate PHEVs or EVs for your fleet?" Across all key account Respondents, 26.8 percent indicated that a program to help their organization evaluate PHEVs or EVs would be helpful; 43.9 percent selected "no,"; and 29.3 percent selected "uncertain." All Respondents who expressed interest in an evaluation program currently provide fleet vehicles for employee use. The majority of these organizations drive 50-100 miles a day in their fleet vehicles; although, there were multiple entries for all but the "500 or more miles" option.

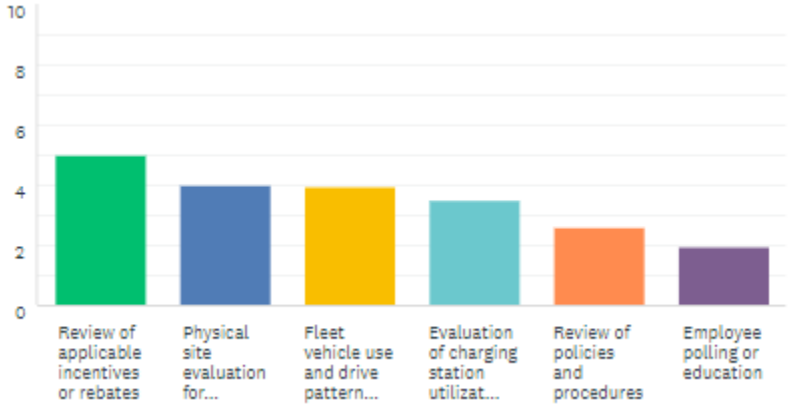
Filtering the question by Respondents who indicated influence over fleet decisions results in a decrease in the "no" response. While the "yes" response rose only 5.5 percent, which is less than the margin of error, the "no" response fell by 14.9 percent. The "uncertain" response also increased by 9.4 percent.

Findings and assumptions based on results:

- A PHEV/EV evaluation program for all non-residential customers will be best received by fleet influencers. As such, marketing and education materials should be aimed, at least in part, at this cohort.

7.2.9 Areas of Potential Interest, Fleet Evaluation

All Respondents were advanced to question 11, which asked "what components of an EV evaluation program do you feel would be most beneficial? (please rank the following options)."



In accordance with Respondent's answers to question nine, which sought feedback on perceived barriers to organizational adoption of EVs and PHEVs, cost concerns were the primary factor for consideration. The highest ranked answer option, "review of applicable incentives or rebates," was deemed most important by 64.5 percent of Respondents. Selection of the second- and third-place answers, which pertained to physical site evaluations and vehicle use and drive pattern evaluations, respectively, took place at an almost equal rate. The weighted average for site evaluations was 4.00, while vehicle use and drive pattern evaluations scored a 3.97. Rounding out the top four choices was "evaluation of charging station utilization and/or needs," which scored a 3.50. "Review of policies and procedures" scored a 2.61 weighted average, and the lowest ranked choice, "employee polling or education", scored a 1.97.

Among fleet influencers, there was a 10.5-percent increase in the rate at which the top ranked choice, "review of applicable incentives or rebates," was chosen.

Findings and assumptions based on results:

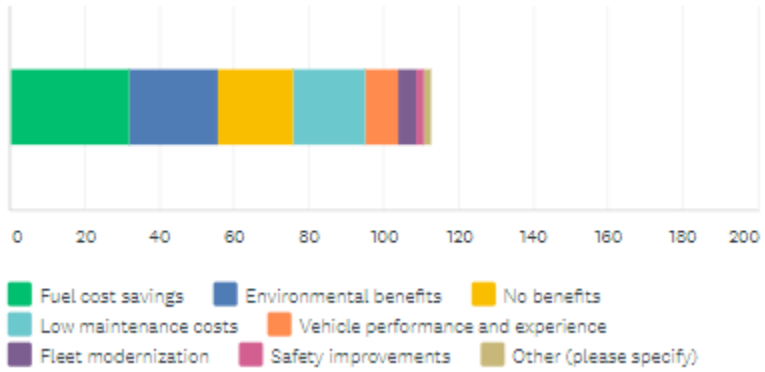
- Although it was not the primary barrier to adoption identified by Respondents, the elevation of "lack of employee demand" in question nine seems somewhat contradictory when compared to last-place ranking given to "employee polling or education." If organizations are not polling their

employees to better understand what site features would be deemed beneficial, then perceptions of employee demand may be underinformed.

- Beyond cost implications, the above average returns for "physical site evaluation for construction needs and electrical availability" and "fleet vehicle use and drive pattern evaluation" suggest a gap in Respondent's knowledge and presents an opportunity for outreach.

7.2.10 Perceived Benefits of Fleet Conversion

All Respondents were advanced to question 12, which asked "what do you feel are the benefits of converting your fleet to PHEVs or EVs? (select all that apply)."



The "fuel cost savings" response option was selected by 57.1 percent of Respondents; "environmental benefits" was selected by 42.9 percent; "no benefits" was selected by 35.7 percent; "low maintenance costs" was selected by 33.9 percent; "vehicle performance and experience" was selected by 16.1 percent; and "fleet modernization" was selected by 8.93 percent. "Safety improvements" and "other" were both selected by 3.6 percent of Respondents, which is less than the margin of error.

Among Respondents who influence fleet decisions, "fuel cost savings" earned a 67.7-percent selection rate, a 10.6-percent increase from the general cohort response. A greater selection increase can be found for "environmental benefits," which gained 18.4 percentage points among fleet influencers. The selection rate for "no benefits" decreased by 12.8 percent and was supplanted by "low maintenance costs," which rose to third place with 41.9 percent of fleet influencers deeming it a benefit. "Fleet modernization" experienced the greatest selection rate increase, with a 23.7-percent selection increase. Among the influencer cohort, the "other" selection was not chosen.

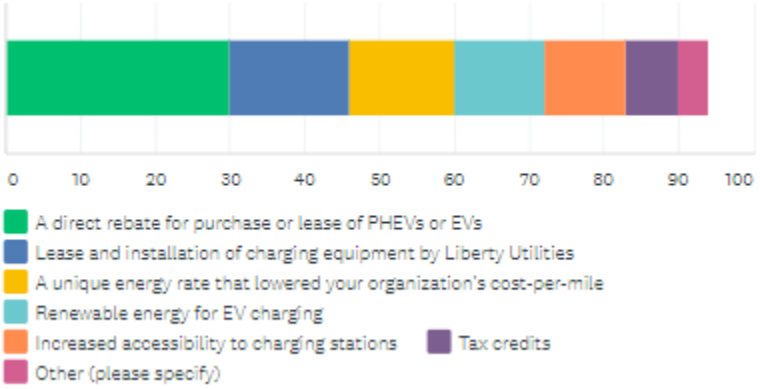
Findings and assumptions based on results:

- The increase in selection of "environmental benefits, low maintenance costs," and "fleet modernization" by fleet decision influencers suggests that PHEV and EV benefits are known and that incentive information on hybrid and plug-in vehicles will drive behavior among this cohort.

- Additional polling on fleet vehicle refresh rates may give Liberty Utilities insight into when PHEV and EV outreach and marketing materials may be best received by non-residential customers.

7.2.11 Areas of Potential PHEV or EV Interest

All Respondents were directed to question 13, which asked, "would any of the following increase your interest in including or increasing the number of PHEVs or EVs in your fleet? (select all that apply)."



Consistent with perceived barriers to PHEV and EV fleet incorporation, "a direct rebate for purchase or lease of PHEVs or EVs" was the most selected response at 88.2 percent. The frequency (47.1 percent) at which the second-place option, "lease and installation of charging equipment by Liberty Utilities," was selected was nearly half its predecessor. "A unique energy rate…" was selected by 41.2 percent of Respondents; "renewable energy for EV charging" was selected by 35.3 percent; "increased accessibility to charging stations" was selected by 32.4 percent; "tax credits" was selected by 20.6 percent; and "other" was selected by 11.8 percent.

Filtering response data for fleet influencers did not result in a change to option ordering or significant changes to the rates of selection.

7.3 Sustainability Goals

As organizations which strive to meet sustainability goals may use PHEVs and EVs as a qualifying resource, a greater understanding of these programs will provide Liberty Utilities with additional insight into how they can support commercial customer base.

7.3.1 Awareness of Sustainability Programs

Key account Respondents were asked if they were aware of sustainability goals or initiatives at their company. Just under half, 46.3 percent, of Respondents indicated they were not aware of organizational initiatives. A slightly smaller percentage, 41.5 percent, of Respondents replied that there are sustainability programs at their organization. Finally, 12.2 percent of Respondents selected "uncertain."

When Survey results were filtered to show data for only those organizations with sustainability initiatives, there was little change to the perceived benefits of fleet conversion to PHEVs or EVs. "Fuel cost savings, environmental benefits" and "low maintenance costs" remained the top three selections, respectively. Unlike the commercial Survey, where the option became the top response among this subgroup, the selection of "no benefits" decreased by 3.25 percent.

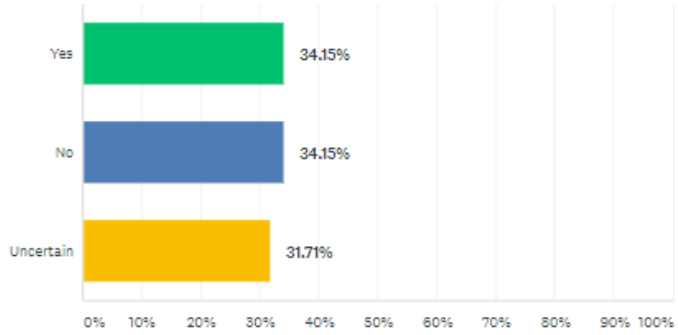
There was no significant change in results when the question was filtered for larger organizations.

Findings and assumptions based on results:

- The small shift in awareness of sustainability goals when filtered for influencers or company size indicates that the Respondents to the Survey are well-versed in how "green" opportunities match up with their organizational practices.

7.3.2 Impact of EVs on Sustainability Goals

The affirmative and negative responses to question 15, which asked, "would EVs advance your organization's sustainability goals?" were equal at 34.15 percent. The "uncertain" return among all Respondents was 31.7 percent.



Among fleet influencers, there was a nominal increase of 1.3 percent in the affirmative return to the question. When filtered for larger organizations, the affirmative and negative return increased at the same rate to 35.7 percent, while the "uncertain" quotient fell 2.8 percent.

Findings and assumptions based on results:

- The reliable level of insight, elucidated by the insignificant shift in response data as a result of cross-analysis, shows that there is an opportunity for key account customers to use PHEVs and EVs to meet sustainability goals.

7.3.3 Additional Insight on EV Adoption

Question 16 of the Survey was open-ended and asked Respondents to provide input to the question of, "in your opinion, what would most help you or your organization adopt EVs?" In all, 23 of the 45 key account respondents chose to skip this question.

Select responses to the question included:

- A 100% funded grant
- Lower implementation costs than current Gas vehicles
- As EV truck platforms become more common, we will likely re-evaluate.
- Incentives for us, as a nonprofit, to move in this direction.
- An affordable leasing program and the ability for our employees to test [PHEVs/EVs] out for use.
- Cost savings over current fleet vehicles while maintaining vehicle performance.

7.4 Charging Stations

Feedback gathered via the following polling mechanisms provide insight into how key account Respondents utilize, or plan to utilize, EV charging stations and the ways Liberty Utilities can accommodate their growth.

7.4.1 Prevalence of Charging Stations

Question 17 asked, "does your organization offer plug-in EV charging stations at the worksite for employee use?" Only 4.9 percent of Respondents indicated that their organization provided charging stations. Both of these organizations indicated they have 251-1,000 employees, and both indicated that fuel cost savings would be a benefit of converting their fleet to PHEVs or EVs. At present, one of the Respondents indicated that the charging stations were free for employee use, and one indicated they were unsure if charging station fees were passed through to users.

Respondents who indicated their organization offered EV charging stations were advanced to question 20. Those who indicated their organization did not offer charging stations were advanced to question 18.

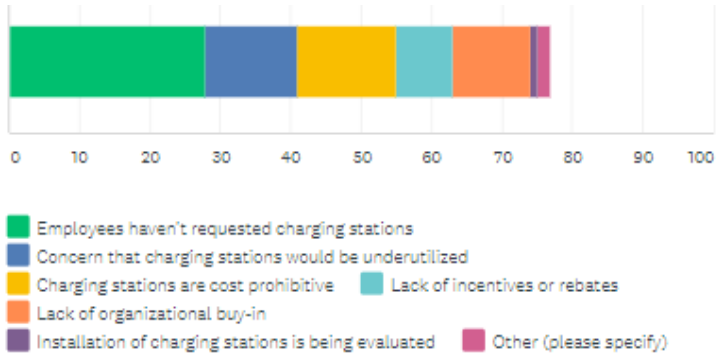
7.4.2 Anticipated Integration of Charging Stations

Survey users who indicated their organization did not offer charging stations were asked, "are you planning to add EV charging stations for employee use in the future?" While the return for "yes" was 2.6 percent and the "no" response came back at 59 percent, the "uncertain" response, at 38.5 percent, was significant.

Respondents who selected "uncertain" were more likely to work at organizations that have sustainability goals or initiatives and overwhelmingly (60 percent) indicated that EVs would advance those goals. These Respondents were also clearly in favor of a program that helped evaluate the integration of PHEVs or EVs into fleets. Their response to the evaluation program question was 46.7 percent in favor, 33.3 percent undecided, and only 20 percent opposed. When asked what components of an EV evaluation program would be most beneficial, 90 percent of Respondents within this cohort indicated that "review of applicable incentives or rebates" was the most beneficial option.

7.4.3 Factors Preventing Onsite EV Charging Stations

Respondents who indicated that their organization did not offer, or plan to offer, EV charging stations for employee use were then asked, "what are the reasons your company currently does not provide plug-in EV charging stations for employee use? (select all that apply)"



The primary response option, which was selected by 80 percent of Respondents, was "employees haven't requested charging stations." At 40 percent, "charging stations are cost prohibitive" received half the response of its predecessor. "Concern that charging stations would be underutilized" was selected by 37.1 percent of Respondents; "lack of organizational buy-in" was selected by 31.4 percent; and "lack of

incentives or rebates" was selected by 22.9 percent of Respondents. "Other" and "installation of charging stations is being evaluated" were selected by 5.7 and 2.9 percent of Respondents, respectively.

The two responses from the "other" field were:

- A need for charging stations has not been demonstrated.
- Cost-need

Filtering the polling data for Respondents who indicated they influence fleet decisions did not result in a hierarchical change or shift in statistical response.

7.4.4 Charging Station Cost Burden

Respondents who indicated they were considering the installation of EV charging stations were advanced to question 20, which asked "are or will there be a cost to employees to use the EV charging stations?" Only three Respondents were advanced to the question, which results in a statistically insignificant polling sample. Nevertheless, two of the three Respondents who answered the question indicated their employees would not be charged for station usage.

APPENDIX A - RESIDENTIAL SURVEY DATA

Q1 How many vehicles does your household own or lease?

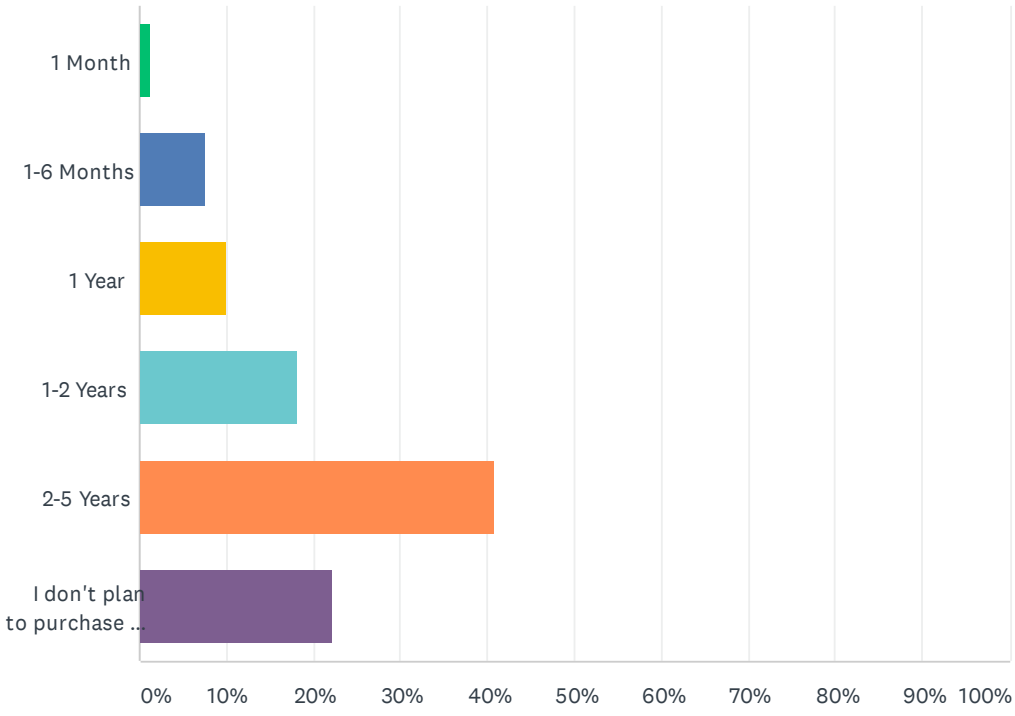
Answered: 4,663 Skipped: 7

ANSWER CHOICES	RESPONSES	
0 (1)	3.69%	172
1 (2)	28.61%	1,334
2 (3)	40.79%	1,902
3 (4)	16.23%	757
4 (5)	6.67%	311
5 or more (6)	4.01%	187
TOTAL		4,663

BASIC STATISTICS				
Minimum	Maximum	Median	Mean	Standard Deviation
1.00	6.00	3.00	3.06	1.10

Q2 When do you anticipate purchasing or leasing your next vehicle?

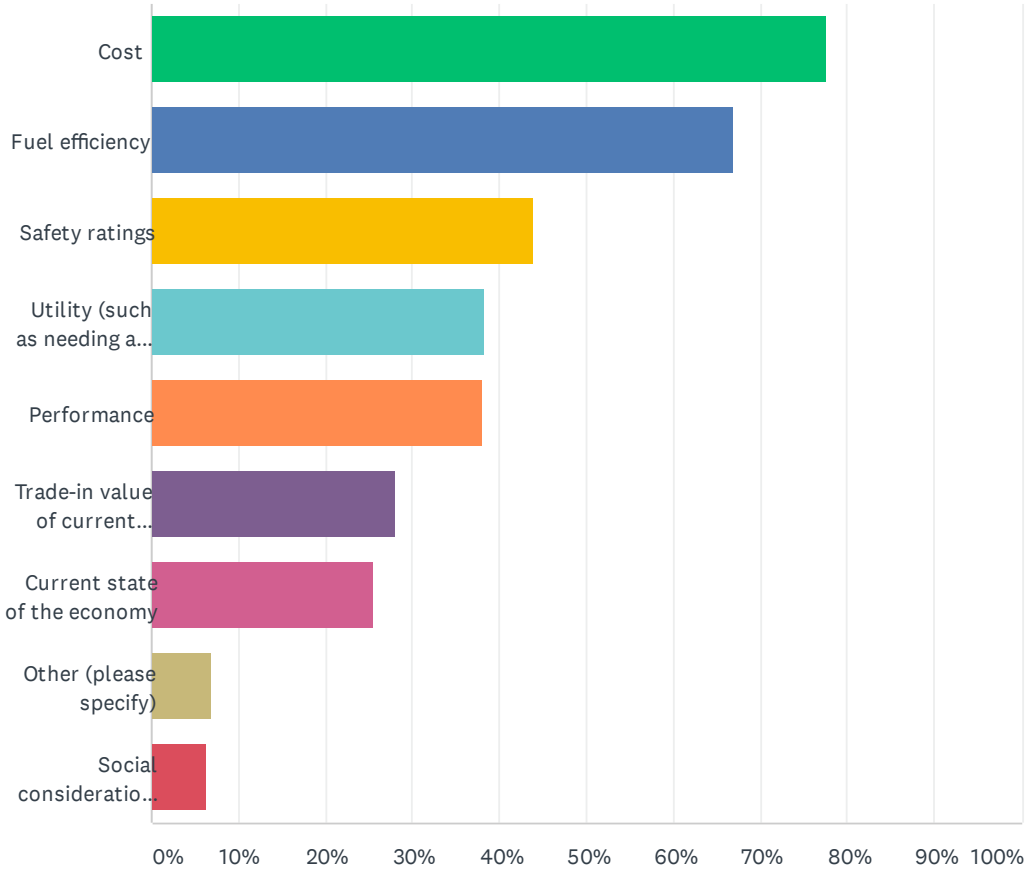
Answered: 4,662 Skipped: 8



ANSWER CHOICES	RESPONSES	
1 Month	1.29%	60
1-6 Months	7.49%	349
1 Year	10.02%	467
1-2 Years	18.10%	844
2-5 Years	40.88%	1,906
I don't plan to purchase or lease a vehicle (briefly explain below)	22.22%	1,036
TOTAL		4,662

Q3 Which of the following factors will influence your next vehicle purchase? (Select all that apply)

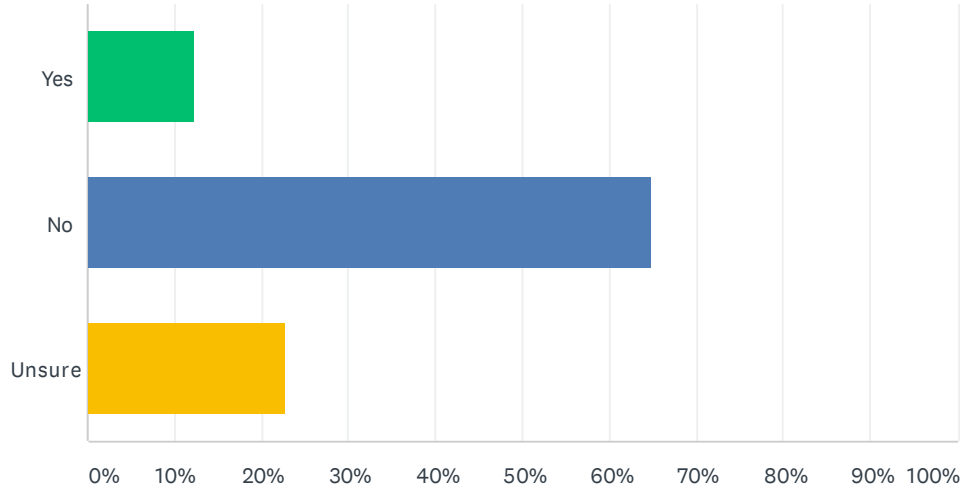
Answered: 4,659 Skipped: 11



ANSWER CHOICES	RESPONSES	
Cost	77.61%	3,616
Fuel efficiency	66.88%	3,116
Safety ratings	43.98%	2,049
Utility (such as needing a car or Pickup Truck for work or recreation)	38.29%	1,784
Performance	38.12%	1,776
Trade-in value of current vehicle	28.12%	1,310
Current state of the economy	25.50%	1,188
Other (please specify)	6.95%	324
Social considerations, such as the COVID-19 pandemic	6.29%	293
Total Respondents: 4,659		

Q4 Do you have access to Electric Vehicle charging stations, either near your home or at work?

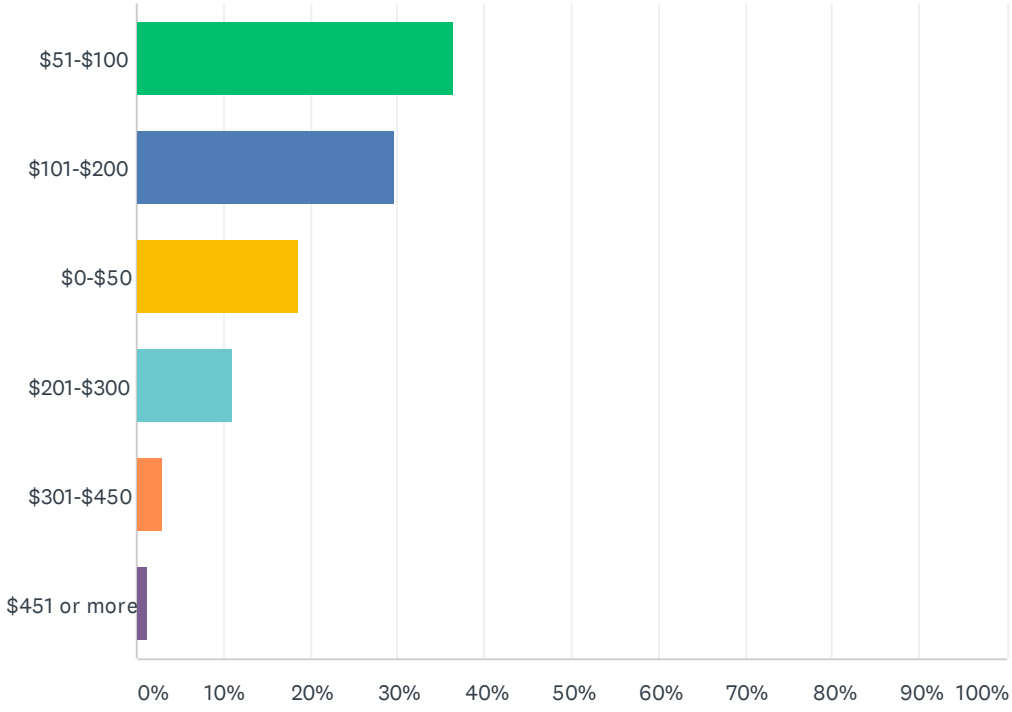
Answered: 4,661 Skipped: 9



ANSWER CHOICES	RESPONSES	
Yes	12.31%	574
No	64.86%	3,023
Unsure	22.83%	1,064
TOTAL		4,661

Q5 On average, how much do you spend on gasoline per month? (prior to the COVID-19 pandemic)

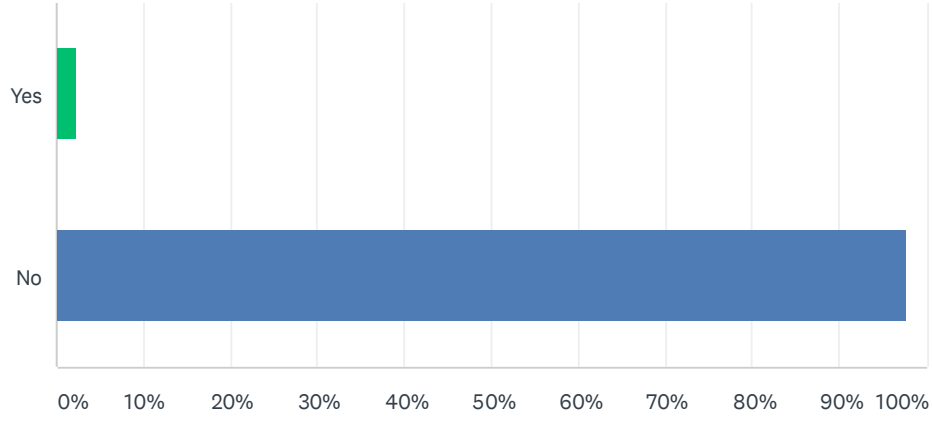
Answered: 4,666 Skipped: 4



ANSWER CHOICES	RESPONSES	
$51-$100	36.48%	1,702
$101-$200	29.77%	1,389
$0-$50	18.65%	870
$201-$300	11.02%	514
$301-$450	2.89%	135
$451 or more	1.20%	56
TOTAL		4,666

Q6 Are any of your vehicles a plug-in hybrid (PHEV) or Electric Vehicle (EV)?

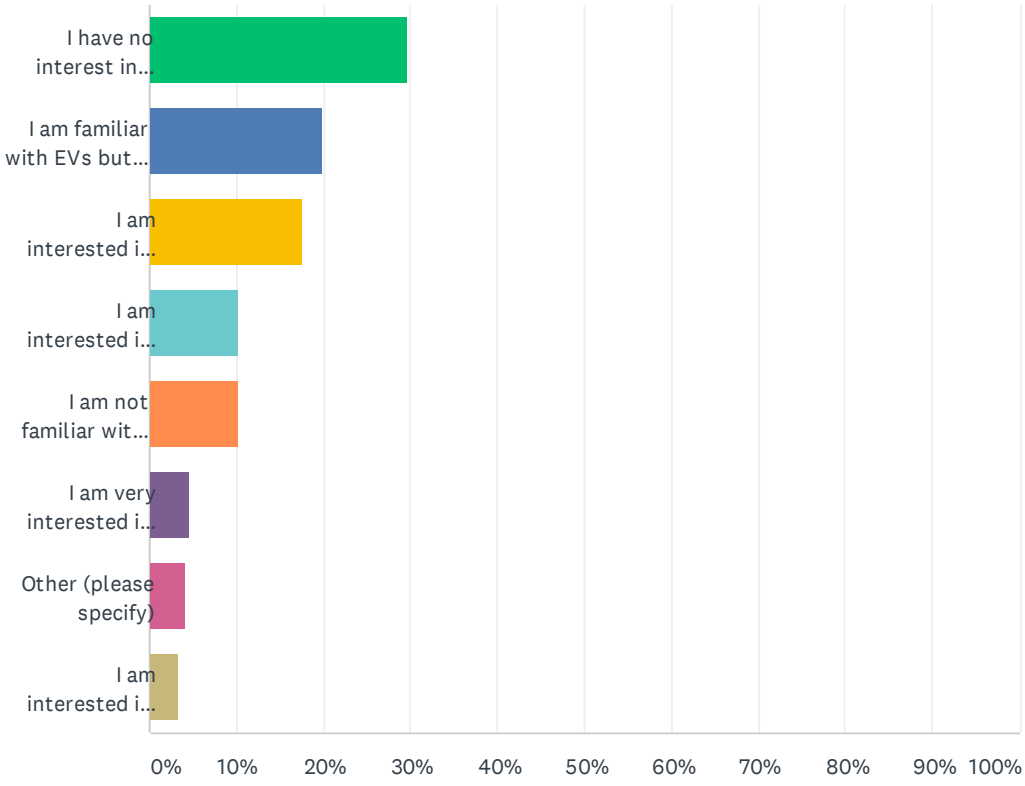
Answered: 4,655 Skipped: 15



ANSWER CHOICES	RESPONSES	
Yes	2.38%	111
No	97.62%	4,544
TOTAL		4,655

Q7 Which of the following best describes your interest in plug-in EVs?

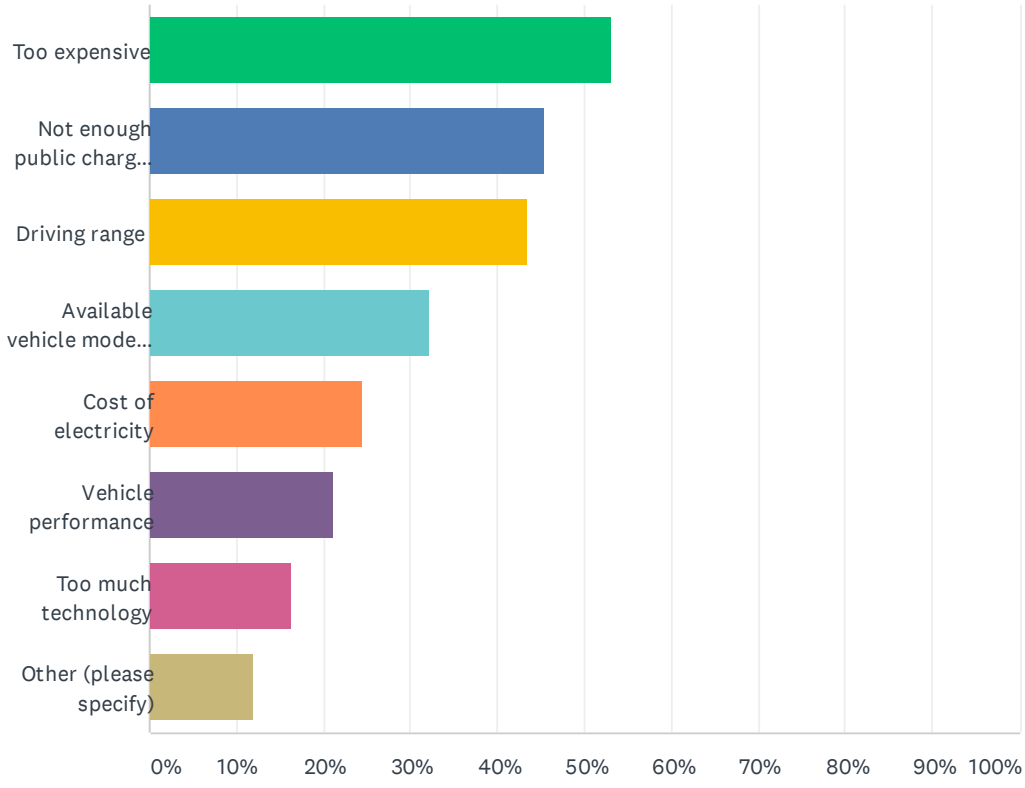
Answered: 4,522 Skipped: 148



ANSWER CHOICES	RESPONSES	
I have no interest in Electric Vehicles	29.74%	1,345
I am familiar with EVs but have no interest in owning or leasing	19.92%	901
I am interested in EVs and considering owning or leasing in the future	17.65%	798
I am interested in EVs but don't have a garage or covered parking area where charging equipment could be installed	10.35%	468
I am not familiar with EVs and have no interest in owning or leasing	10.28%	465
I am very interested in plug-in EVs and plan to own or lease	4.58%	207
Other (please specify)	4.22%	191
I am interested in EVs but less likely to own or lease due to COVID-19 impacts	3.25%	147
TOTAL		4,522

Q8 What are the reasons you're not interested in plug-in EVs? (Select all that apply)

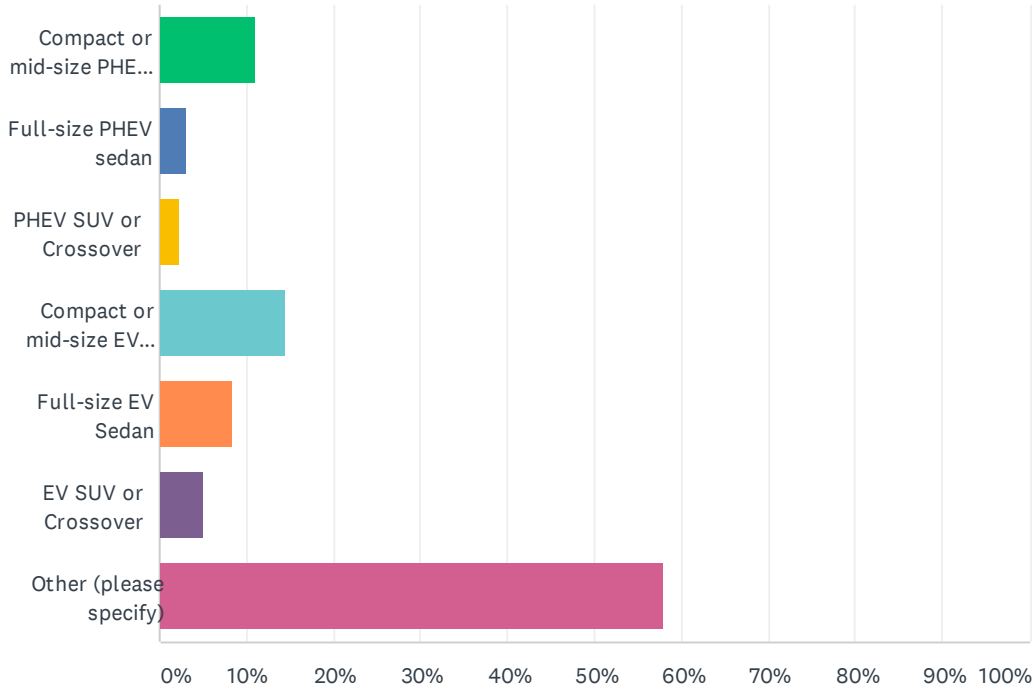
Answered: 2,687 Skipped: 1,983



ANSWER CHOICES	RESPONSES	
Too expensive	53.18%	1,429
Not enough public charging stations	45.33%	1,218
Driving range	43.43%	1,167
Available vehicle models don't meet my needs	32.27%	867
Cost of electricity	24.56%	660
Vehicle performance	21.06%	566
Too much technology	16.34%	439
Other (please specify)	12.02%	323
Total Respondents: 2,687		

Q9 What type of plug-in EV do you own? (Select all that apply)

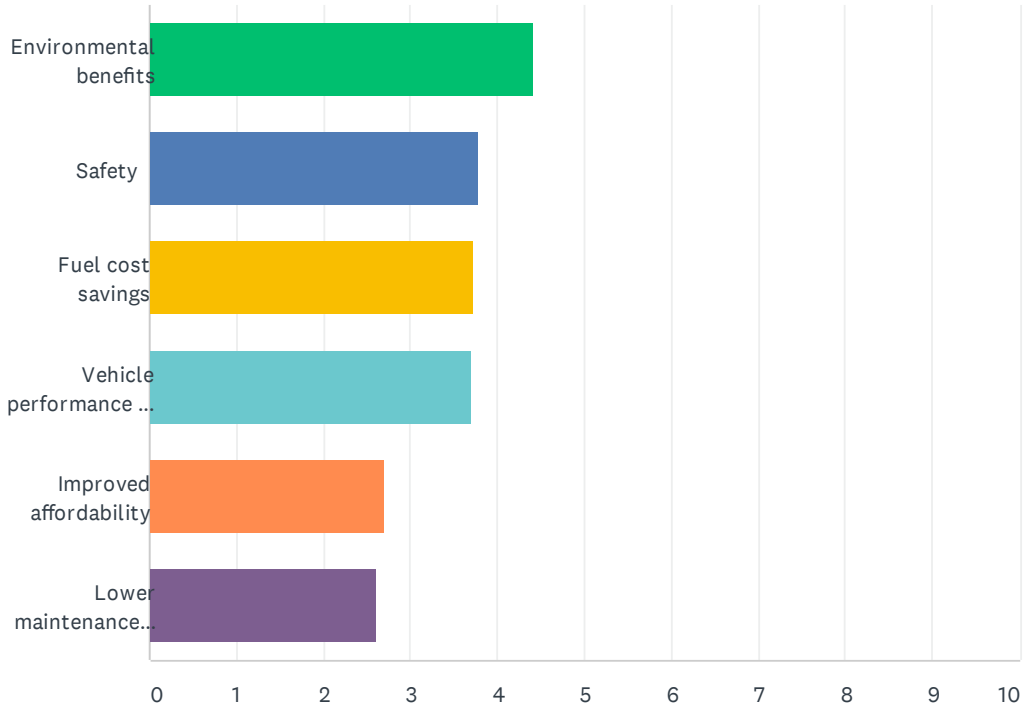
Answered: 216 Skipped: 4,454



ANSWER CHOICES	RESPONSES	
Compact or mid-size PHEV sedan	11.11%	24
Full-size PHEV sedan	3.24%	7
PHEV SUV or Crossover	2.31%	5
Compact or mid-size EV sedan	14.35%	31
Full-size EV Sedan	8.33%	18
EV SUV or Crossover	5.09%	11
Other (please specify)	57.87%	125
Total Respondents: 216		

Q10 Please rank the following benefits of plug-in EVs. .

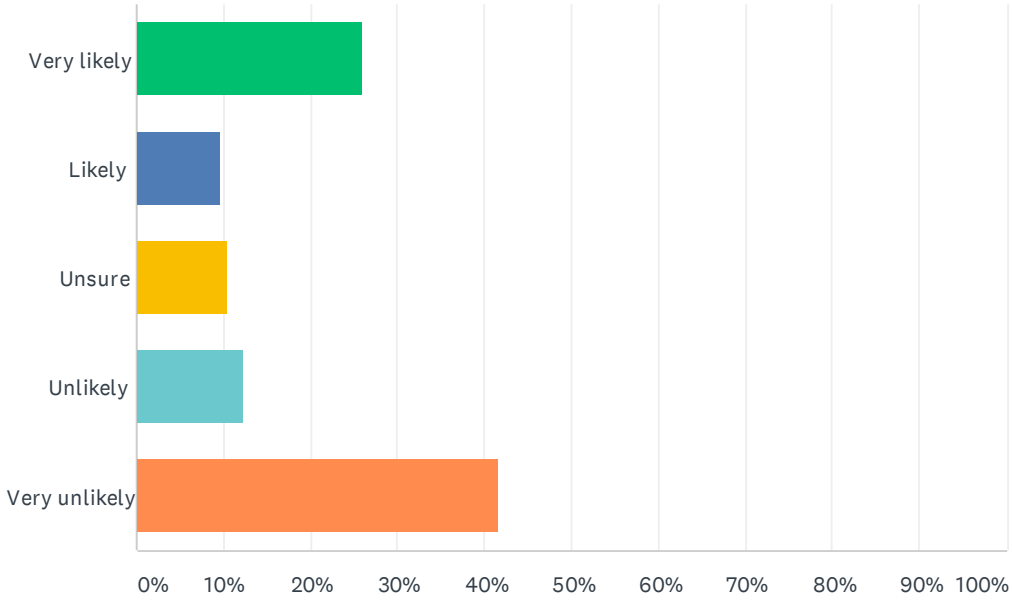
Answered: 216 Skipped: 4,454



	1	2	3	4	5	6	TOTAL	SCORE
Environmental benefits	43.09% 81	19.15% 36	10.11% 19	5.32% 10	9.04% 17	13.30% 25	188	4.42
Safety	12.50% 24	29.17% 56	19.27% 37	14.58% 28	13.02% 25	11.46% 22	192	3.79
Fuel cost savings	24.62% 48	16.92% 33	8.72% 17	14.87% 29	26.67% 52	8.21% 16	195	3.73
Vehicle performance and experience	13.68% 26	12.11% 23	33.16% 63	20.53% 39	13.68% 26	6.84% 13	190	3.71
Improved affordability	4.26% 8	5.32% 10	15.43% 29	30.85% 58	19.68% 37	24.47% 46	188	2.70
Lower maintenance costs	4.08% 8	12.76% 25	14.80% 29	13.78% 27	17.35% 34	37.24% 73	196	2.61

Q11 How likely are you to purchase another plug-in EV in the future?

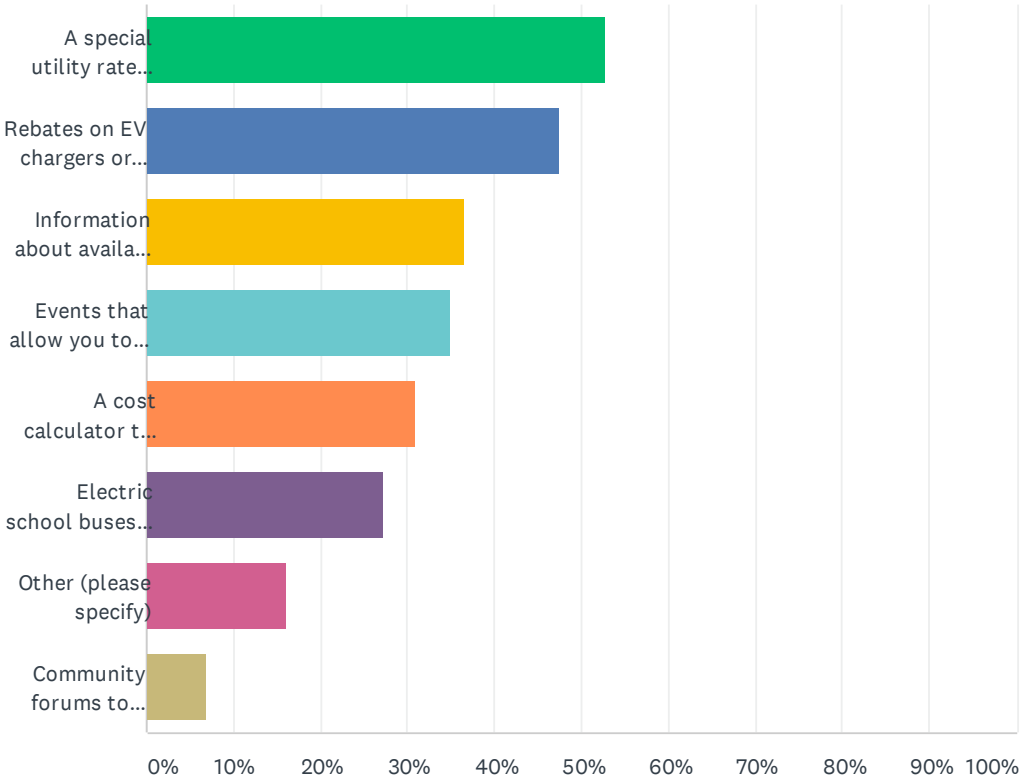
Answered: 228 Skipped: 4,442



ANSWER CHOICES	RESPONSES	
Very likely	25.88%	59
Likely	9.65%	22
Unsure	10.53%	24
Unlikely	12.28%	28
Very unlikely	41.67%	95
TOTAL		228

Q12 Would you find value in any of the following EV support initiatives? (Select all that apply)

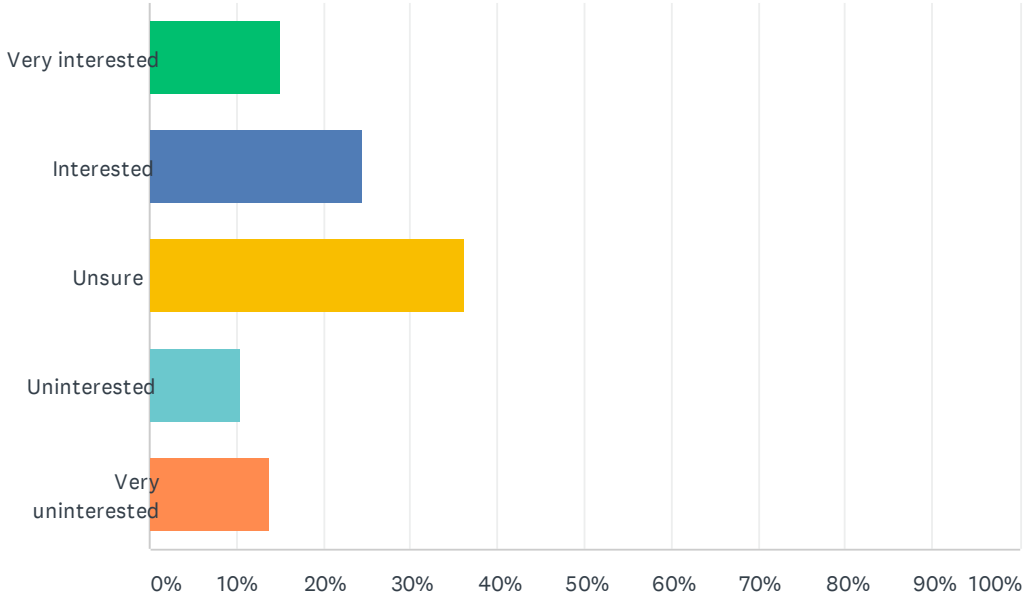
Answered: 4,014 Skipped: 656



ANSWER CHOICES	RESPONSES	
A special utility rate to save money on EV charging	52.82%	2,120
Rebates on EV chargers or installation costs	47.43%	1,904
Information about available electric vehicles, benefits and performance	36.52%	1,466
Events that allow you to test drive different EVs	35.00%	1,405
A cost calculator that calculates financial and emission benefits of different vehicles	30.92%	1,241
Electric school buses for students	27.20%	1,092
Other (please specify)	16.07%	645
Community forums to connect with local EV drivers	6.93%	278
Total Respondents: 4,014		

Q13 If you own or were to purchase an EV, how interested would you be in a monthly subscription service that would include the installation of a smart EV charger and electricity costs to charge your EV at home?

Answered: 4,307 Skipped: 363



ANSWER CHOICES	RESPONSES	
Very interested	15.09%	650
Interested	24.52%	1,056
Unsure	36.17%	1,558
Uninterested	10.38%	447
Very uninterested	13.84%	596
TOTAL		4,307

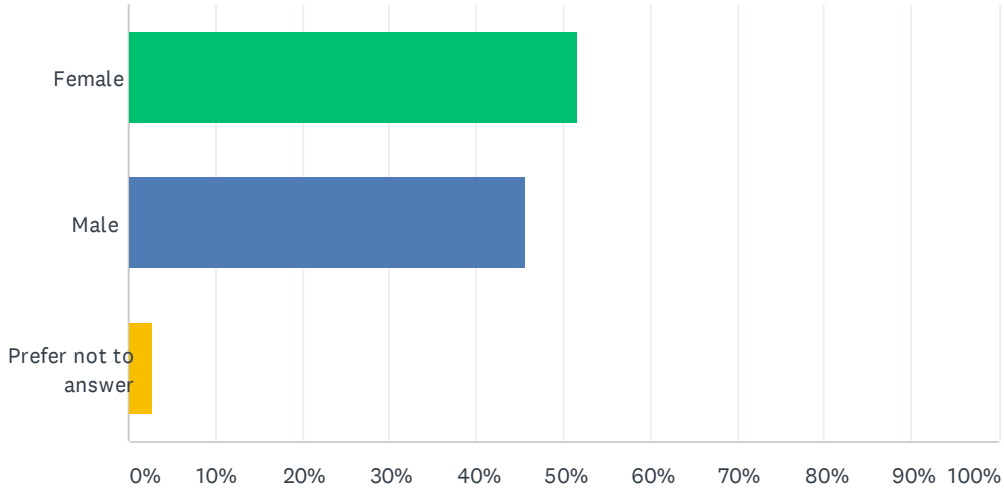
Q14 Contact Information (Name, email and ZIP code must be provided to qualify for prize drawing)

Answered: 3,439 Skipped: 1,231

ANSWER CHOICES	RESPONSES	
Name	99.21%	3,412
Company	0.00%	0
Address	96.74%	3,327
Address 2	10.24%	352
City/Town	97.59%	3,356
State/Province	97.50%	3,353
ZIP/Postal Code	99.27%	3,414
Country	0.00%	0
Email Address	95.84%	3,296
Phone Number	0.00%	0

Q15 What is your gender?

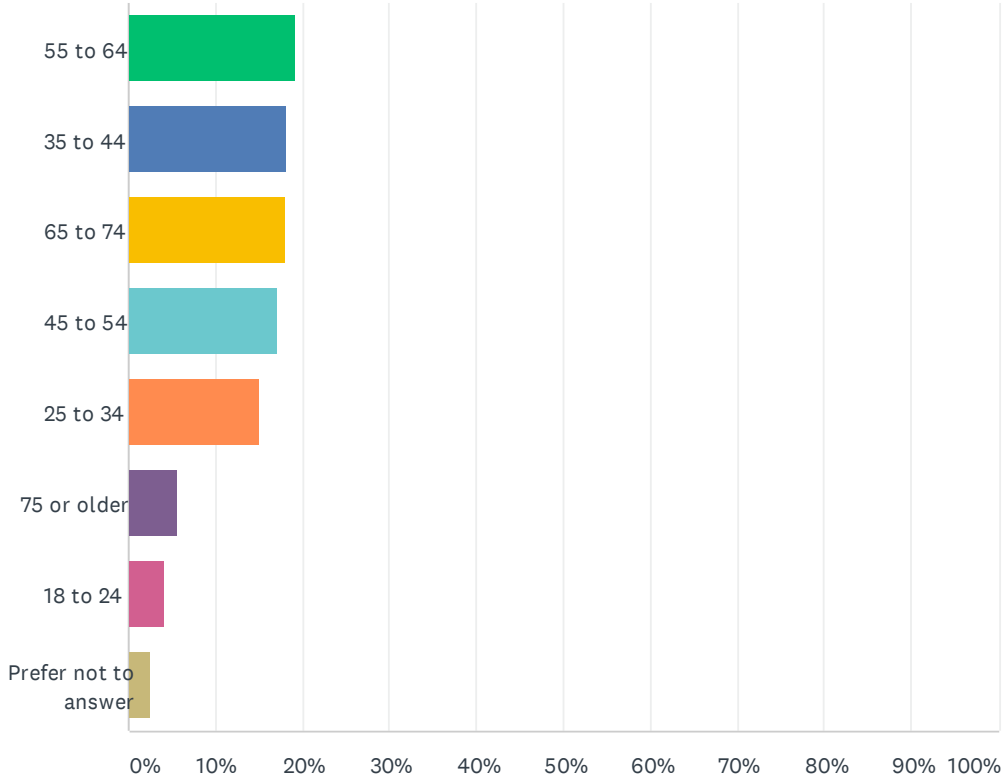
Answered: 3,778 Skipped: 892



ANSWER CHOICES	RESPONSES	
Female	51.59%	1,949
Male	45.63%	1,724
Prefer not to answer	2.78%	105
TOTAL		3,778

Q16 What is your age?

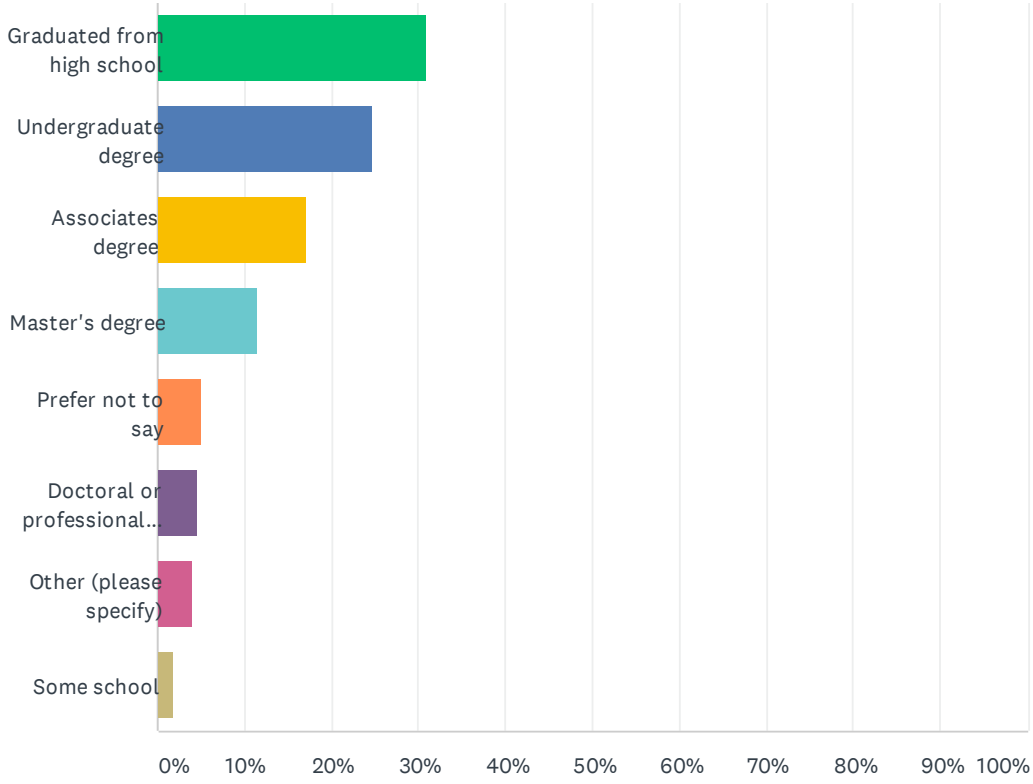
Answered: 3,808 Skipped: 862



ANSWER CHOICES	RESPONSES	
55 to 64	19.33%	736
35 to 44	18.12%	690
65 to 74	17.99%	685
45 to 54	17.17%	654
25 to 34	15.07%	574
75 or older	5.57%	212
18 to 24	4.25%	162
Prefer not to answer	2.49%	95
TOTAL		3,808

Q17 What is the highest level of education you have completed?

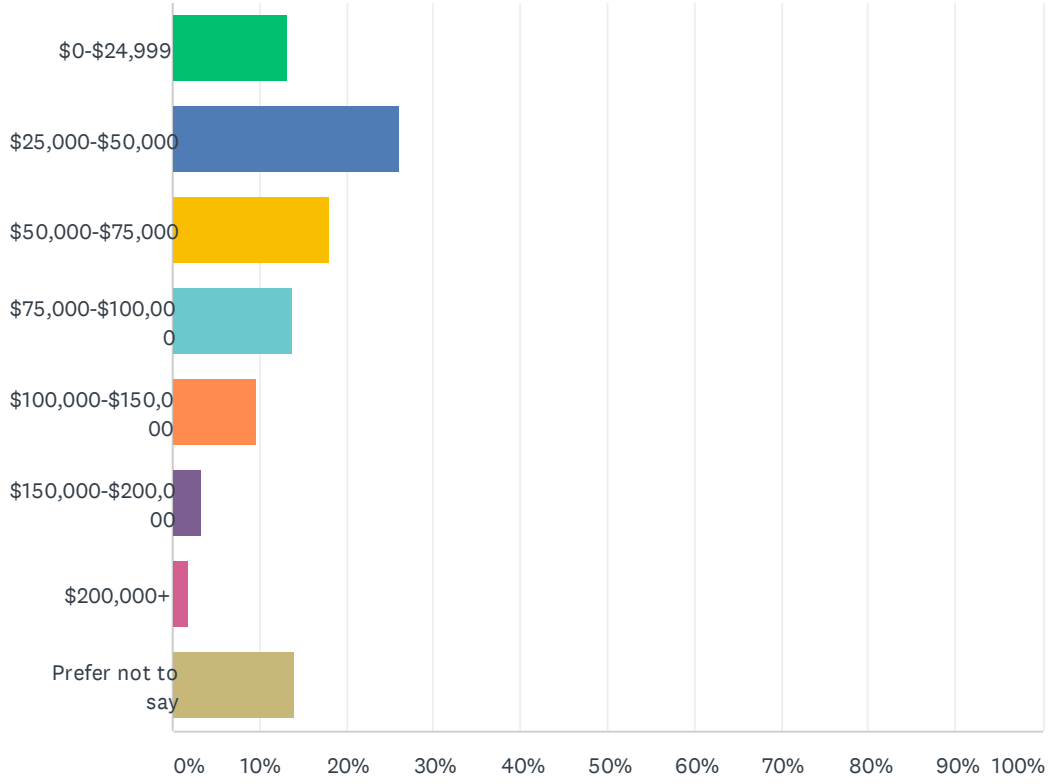
Answered: 3,809 Skipped: 861



ANSWER CHOICES	RESPONSES	
Graduated from high school	31.06%	1,183
Undergraduate degree	24.65%	939
Associates degree	17.09%	651
Master's degree	11.50%	438
Prefer not to say	5.01%	191
Doctoral or professional degree	4.67%	178
Other (please specify)	4.07%	155
Some school	1.94%	74
TOTAL		3,809

Q18 What is your total yearly household income?

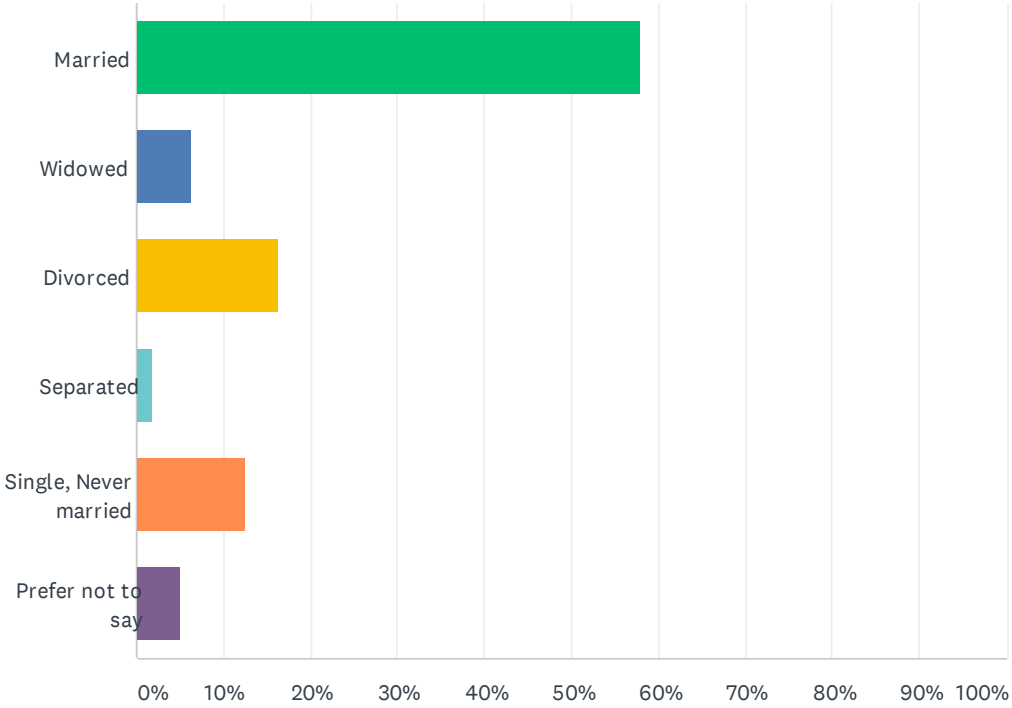
Answered: 3,814 Skipped: 856



ANSWER CHOICES	RESPONSES	
$0-$24,999	13.08%	499
$25,000-$50,000	26.22%	1,000
$50,000-$75,000	18.04%	688
$75,000-$100,000	13.79%	526
$100,000-$150,000	9.60%	366
$150,000-$200,000	3.25%	124
$200,000+	1.91%	73
Prefer not to say	14.11%	538
TOTAL		3,814

Q19 What is your marital status?

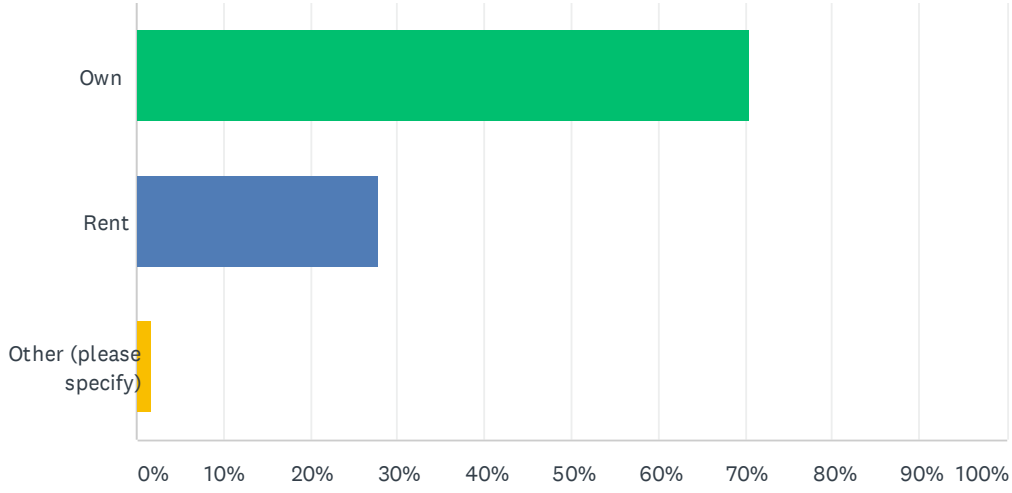
Answered: 3,811 Skipped: 859



ANSWER CHOICES	RESPONSES	
Married	57.96%	2,209
Widowed	6.32%	241
Divorced	16.22%	618
Separated	1.86%	71
Single, Never married	12.62%	481
Prefer not to say	5.01%	191
TOTAL		3,811

Q20 Do you own or rent your residence?

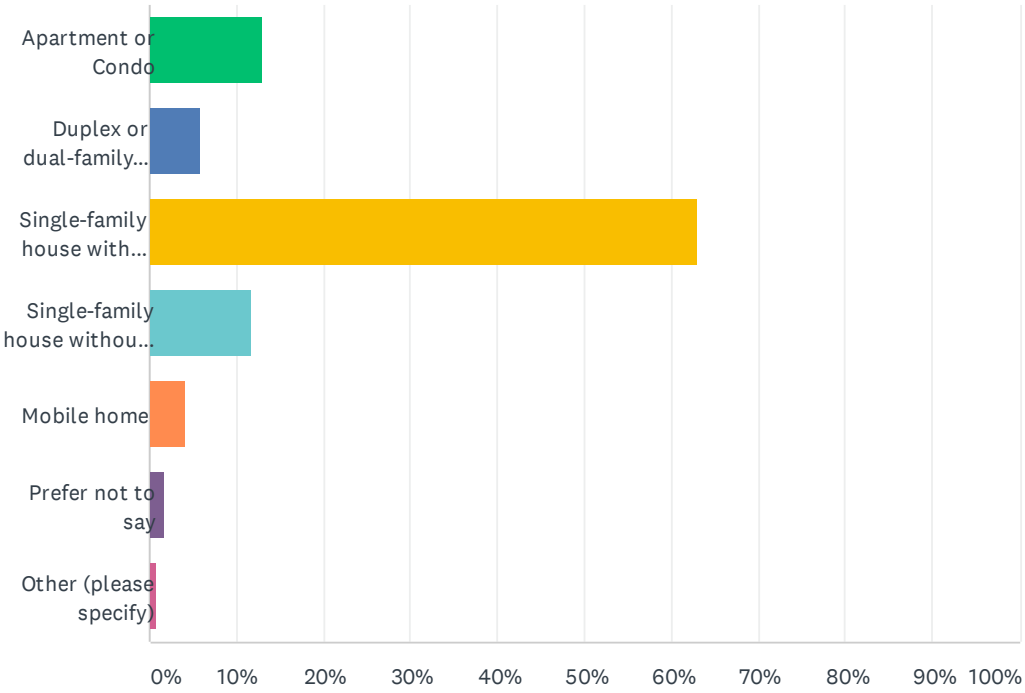
Answered: 3,812 Skipped: 858



ANSWER CHOICES	RESPONSES	
Own	70.54%	2,689
Rent	27.83%	1,061
Other (please specify)	1.63%	62
TOTAL		3,812

Q21 What type of home do you reside in?

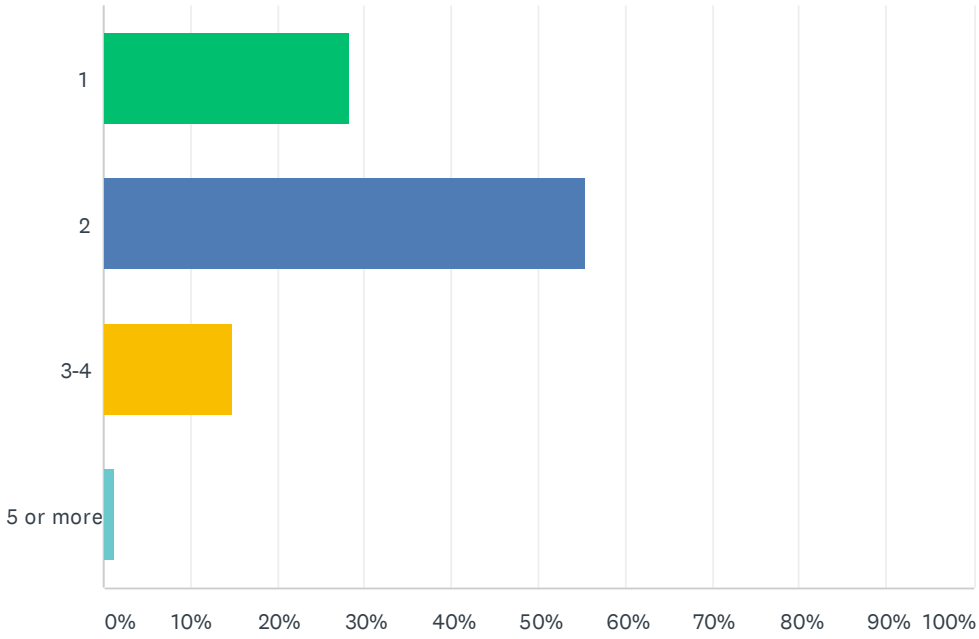
Answered: 3,818 Skipped: 852



ANSWER CHOICES	RESPONSES	
Apartment or Condo	12.96%	495
Duplex or dual-family house	5.76%	220
Single-family house with garage	63.04%	2,407
Single-family house without garage	11.63%	444
Mobile home	4.09%	156
Prefer not to say	1.75%	67
Other (please specify)	0.76%	29
TOTAL		3,818

Q22 Including yourself, how many licensed drivers live in your household?

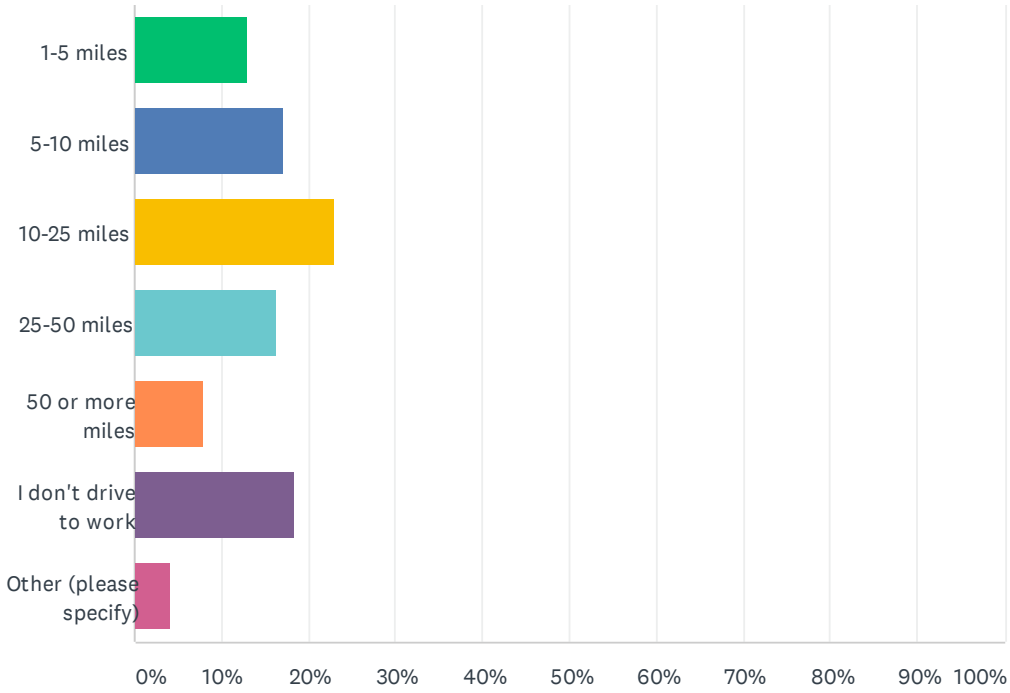
Answered: 3,805 Skipped: 865



ANSWER CHOICES	RESPONSES	
1	28.30%	1,077
2	55.48%	2,111
3-4	14.95%	569
5 or more	1.26%	48
TOTAL		3,805

Q23 On average, how many miles do you drive each workday?

Answered: 3,816 Skipped: 854

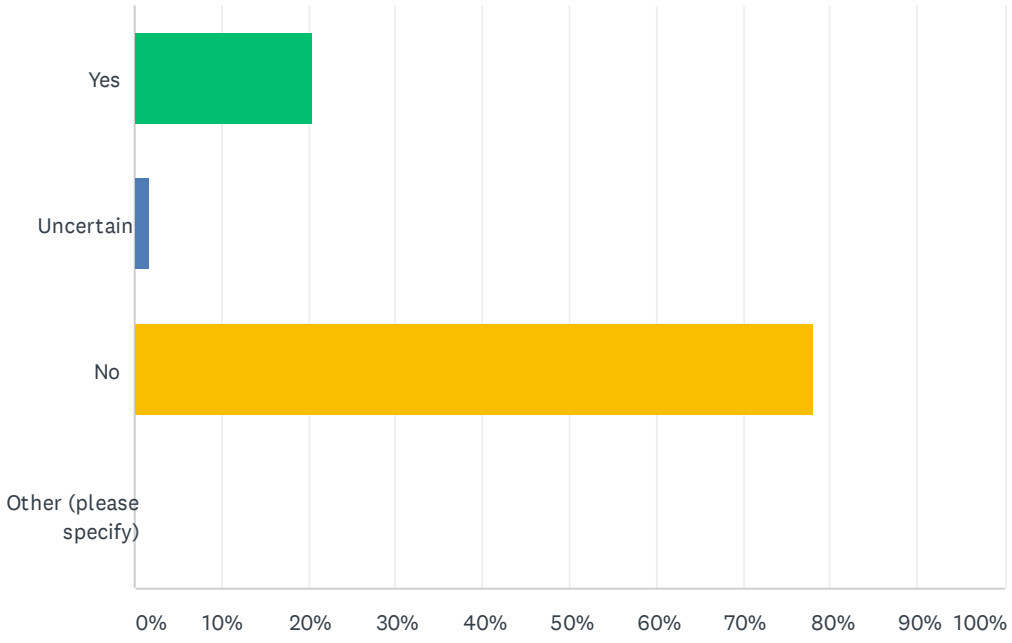


ANSWER CHOICES	RESPONSES	
1-5 miles	13.00%	496
5-10 miles	17.09%	652
10-25 miles	23.11%	882
25-50 miles	16.38%	625
50 or more miles	7.97%	304
I don't drive to work	18.34%	700
Other (please specify)	4.11%	157
TOTAL		3,816

APPENDIX B - COMMERCIAL SURVEY DATA

Q1 Does your organization currently provide fleet vehicles for employee use?

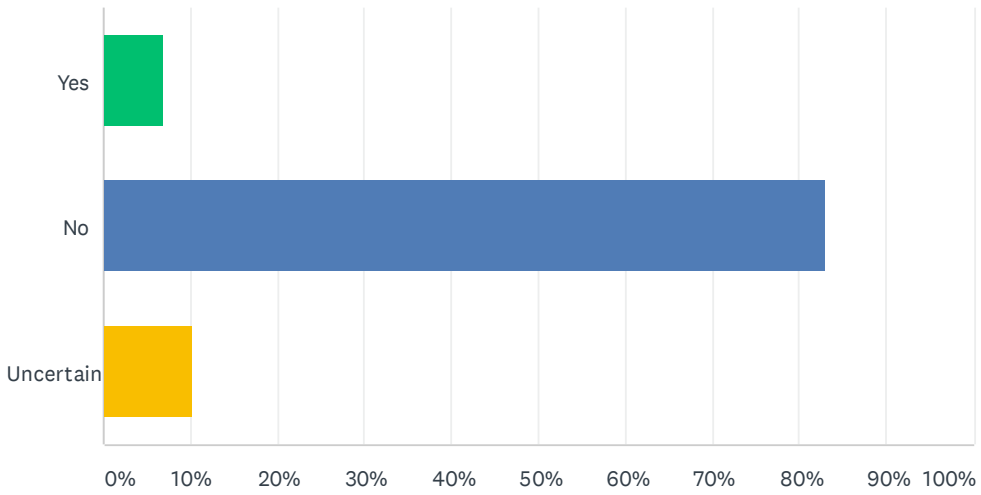
Answered: 186 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	20.43%	38
Uncertain	1.61%	3
No	77.96%	145
Other (please specify)	0.00%	0
TOTAL		186

Q2 Is your organization considering adding fleet vehicles?

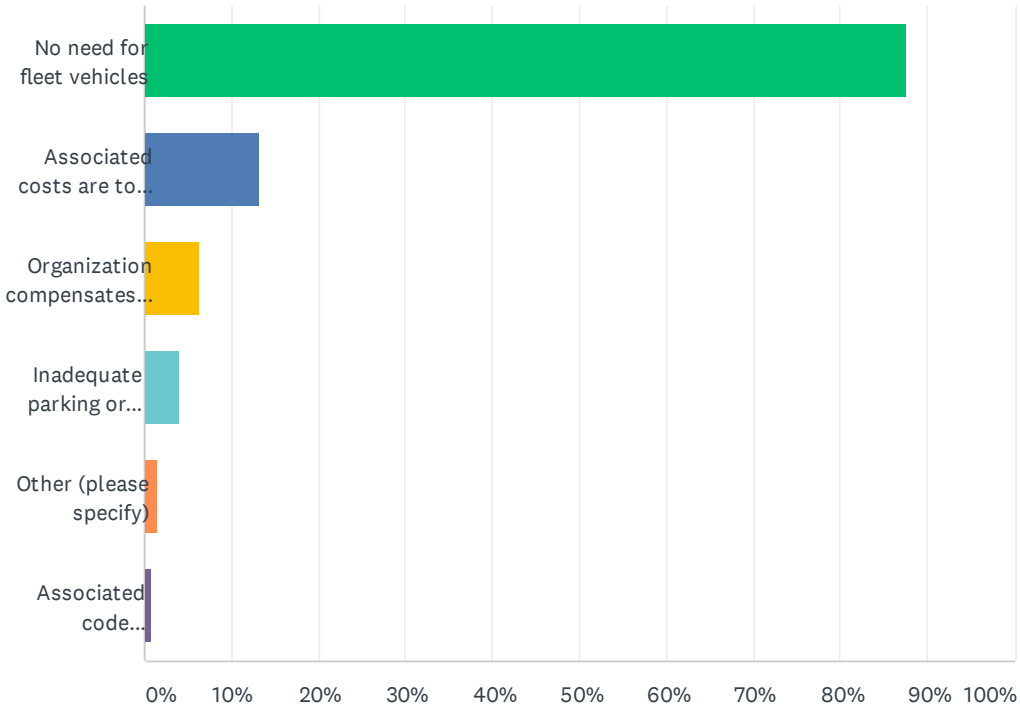
Answered: 147 Skipped: 39



ANSWER CHOICES	RESPONSES	
Yes	6.80%	10
No	82.99%	122
Uncertain	10.20%	15
TOTAL		147

Q3 What factors do you believe prevent your organization from utilizing fleet vehicles? (Select all that apply)

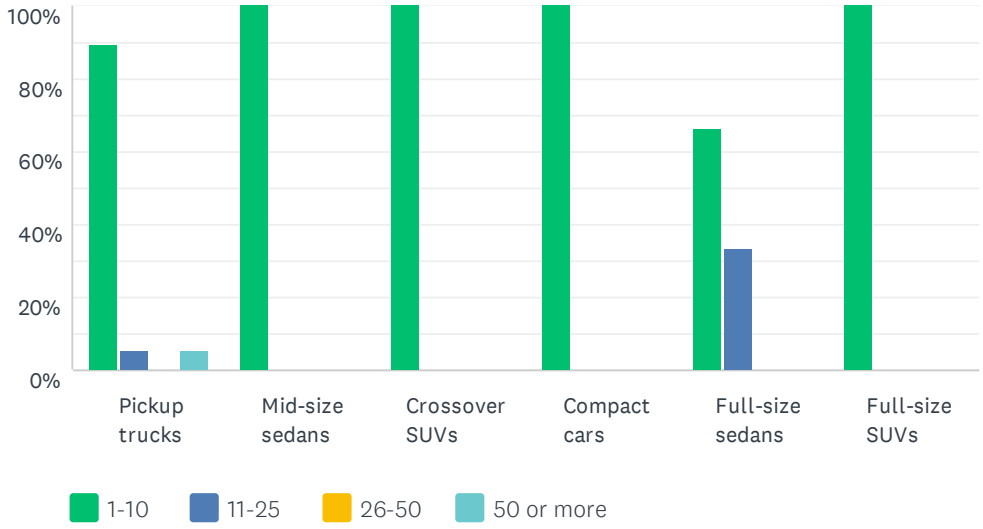
Answered: 129 Skipped: 57



ANSWER CHOICES	RESPONSES	
No need for fleet vehicles	87.60%	113
Associated costs are too high	13.18%	17
Organization compensates employees for travel in personal vehicles	6.20%	8
Inadequate parking or storage space	3.88%	5
Other (please specify)	1.55%	2
Associated code requirements	0.78%	1
Total Respondents: 129		

Q4 What types of vehicles are offered in your organization's fleet? (Select all that apply)

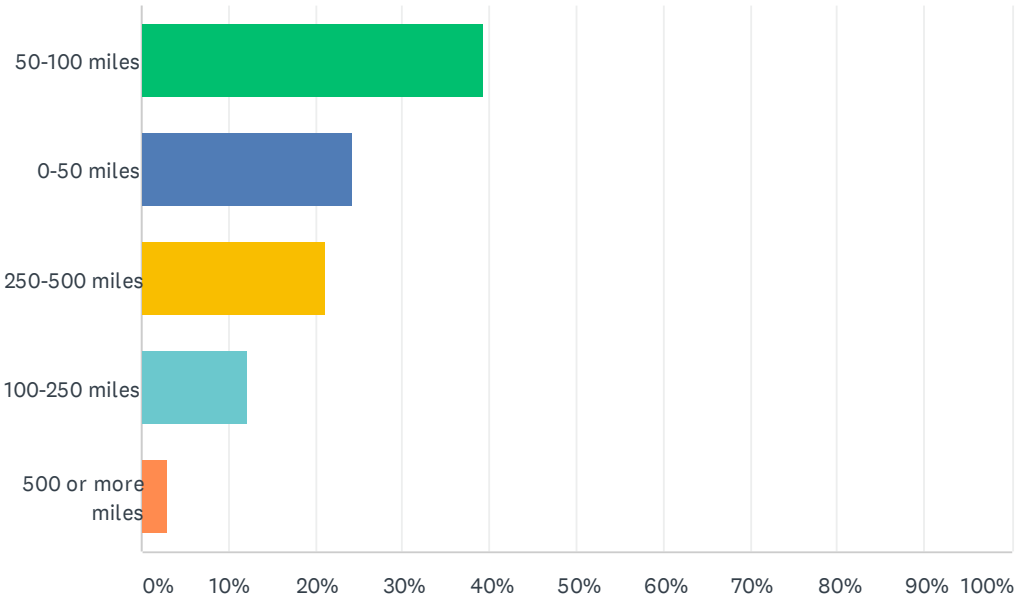
Answered: 28 Skipped: 158



	1-10	11-25	26-50	50 OR MORE	TOTAL
Pickup trucks	89.47% 17	5.26% 1	0.00% 0	5.26% 1	19
Mid-size sedans	100.00% 7	0.00% 0	0.00% 0	0.00% 0	7
Crossover SUVs	100.00% 7	0.00% 0	0.00% 0	0.00% 0	7
Compact cars	100.00% 4	0.00% 0	0.00% 0	0.00% 0	4
Full-size sedans	66.67% 2	33.33% 1	0.00% 0	0.00% 0	3
Full-size SUVs	100.00% 3	0.00% 0	0.00% 0	0.00% 0	3

Q5 On average, how many miles are driven per day in your fleet vehicles? (all vehicles combined)

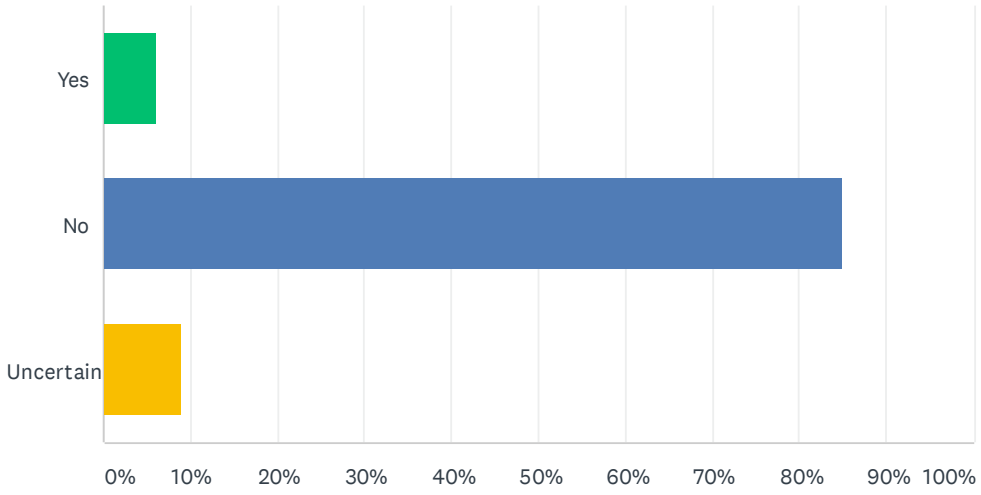
Answered: 33 Skipped: 153



ANSWER CHOICES	RESPONSES	
50-100 miles	39.39%	13
0-50 miles	24.24%	8
250-500 miles	21.21%	7
100-250 miles	12.12%	4
500 or more miles	3.03%	1
TOTAL		33

Q6 Are plug-in hybrid (PHEV) or plug-in Electric Vehicles (EVs) available in your organization's fleet?

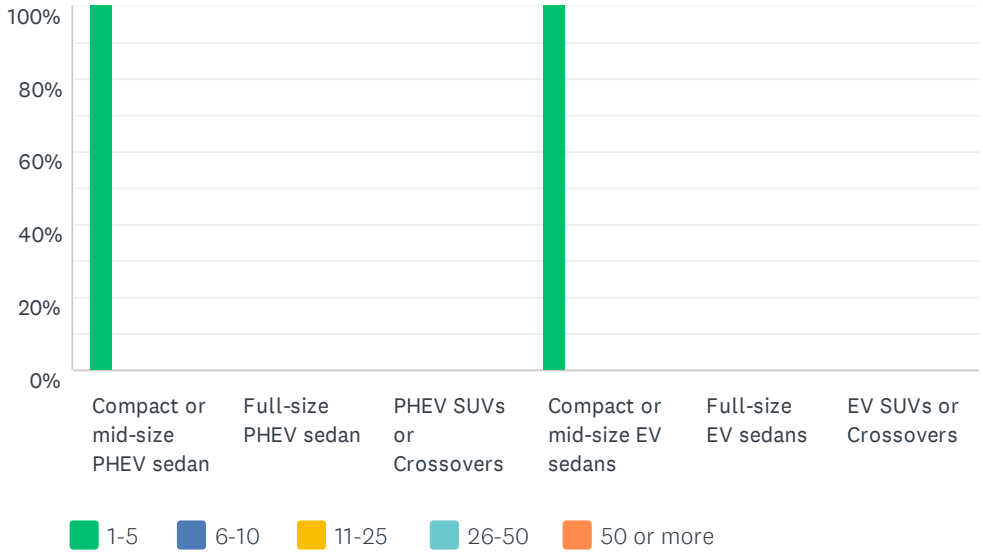
Answered: 33 Skipped: 153



ANSWER CHOICES	RESPONSES	
Yes	6.06%	2
No	84.85%	28
Uncertain	9.09%	3
TOTAL		33

Q7 What types and numbers of PHEVs or EVs are available in your fleet? (Select all that apply)

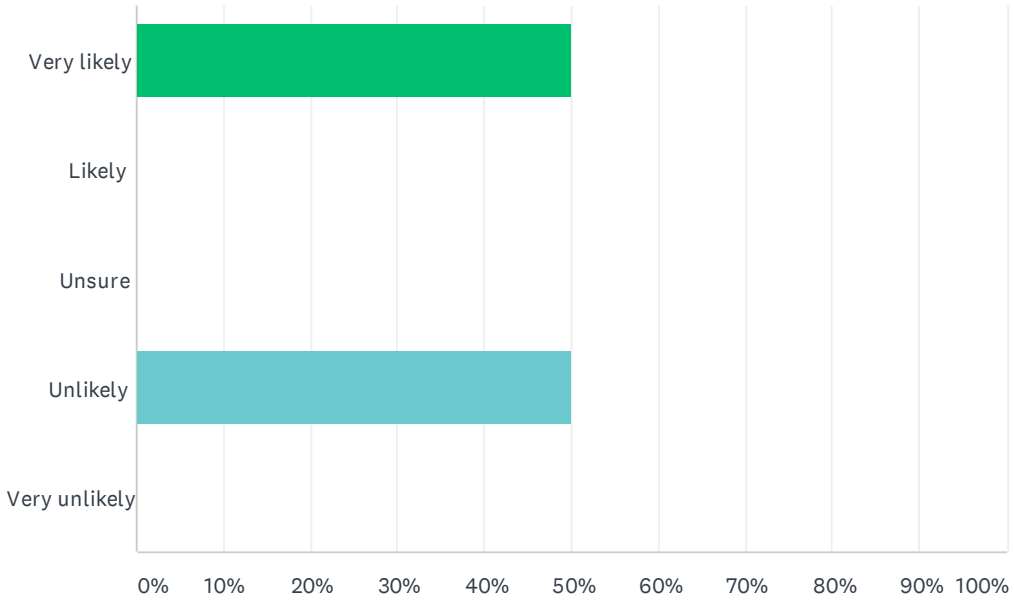
Answered: 2 Skipped: 184



	1-5	6-10	11-25	26-50	50 OR MORE	TOTAL
Compact or mid-size PHEV sedan	100.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	1
Full-size PHEV sedan	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
PHEV SUVs or Crossovers	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
Compact or mid-size EV sedans	100.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	1
Full-size EV sedans	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
EV SUVs or Crossovers	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0

Q8 How likely is your organization to increase the number of PHEVs or EVs within its fleet?

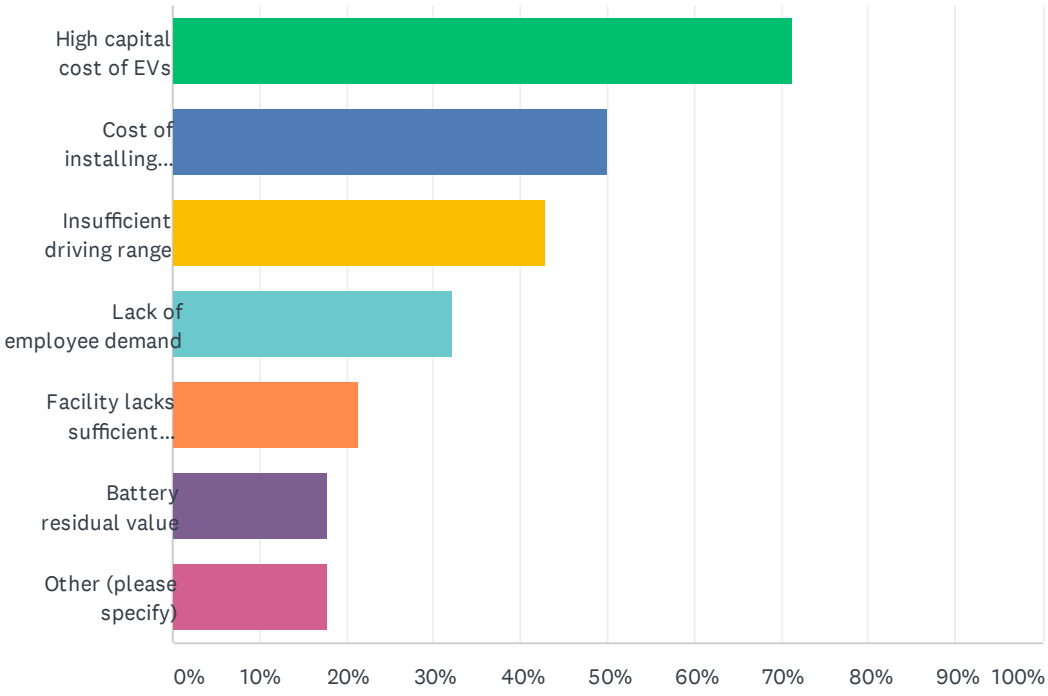
Answered: 2 Skipped: 184



ANSWER CHOICES	RESPONSES	
Very likely	50.00%	1
Likely	0.00%	0
Unsure	0.00%	0
Unlikely	50.00%	1
Very unlikely	0.00%	0
TOTAL		2

Q9 What are the barriers you see to your company adopting EVs/PHEVs? (Select all that apply)

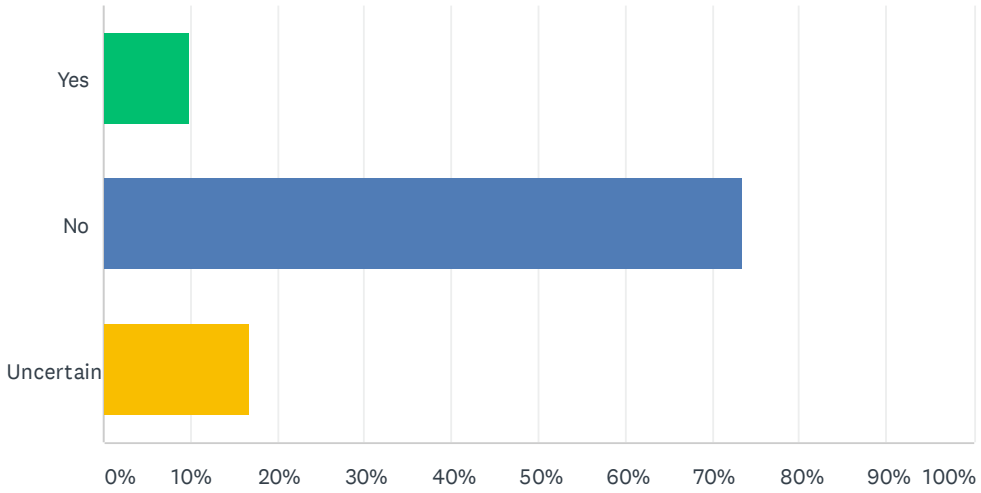
Answered: 28 Skipped: 158



ANSWER CHOICES	RESPONSES	
High capital cost of EVs	71.43%	20
Cost of installing charging infrastructure	50.00%	14
Insufficient driving range	42.86%	12
Lack of employee demand	32.14%	9
Facility lacks sufficient electrical distribution	21.43%	6
Battery residual value	17.86%	5
Other (please specify)	17.86%	5
Total Respondents: 28		

Q10 Would it be beneficial to you or your company if Liberty Utilities offered a program to help evaluate PHEVs or EVs for your fleet?

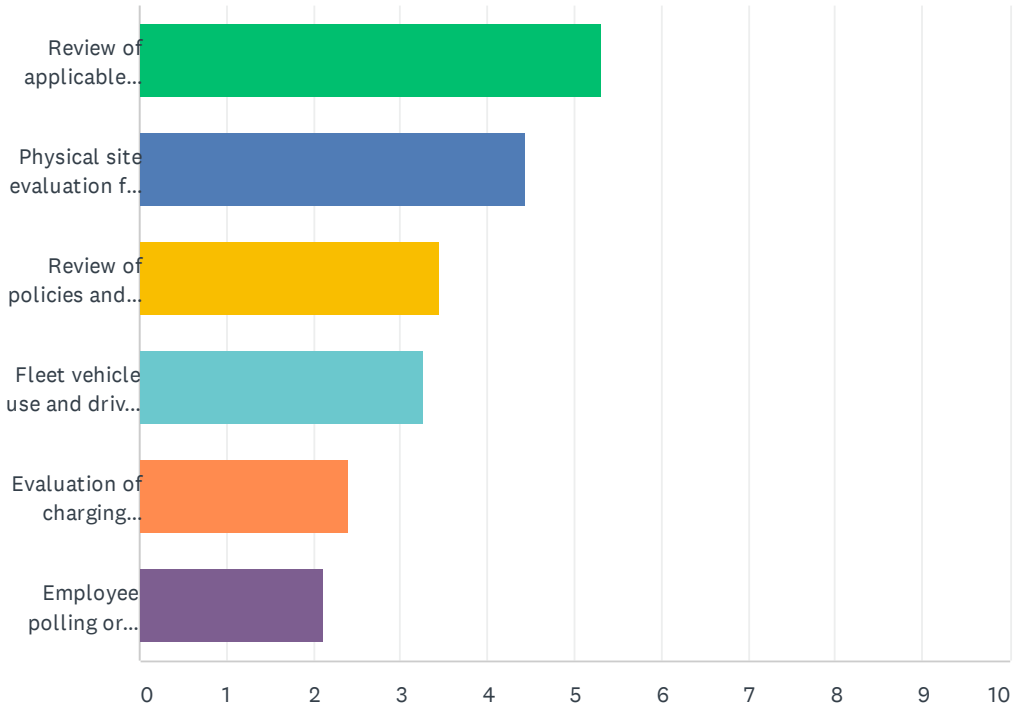
Answered: 143 Skipped: 43



ANSWER CHOICES	RESPONSES	
Yes	9.79%	14
No	73.43%	105
Uncertain	16.78%	24
TOTAL		143

Q11 What components of an EV evaluation program do you feel would be most beneficial? (Please rank the following options)

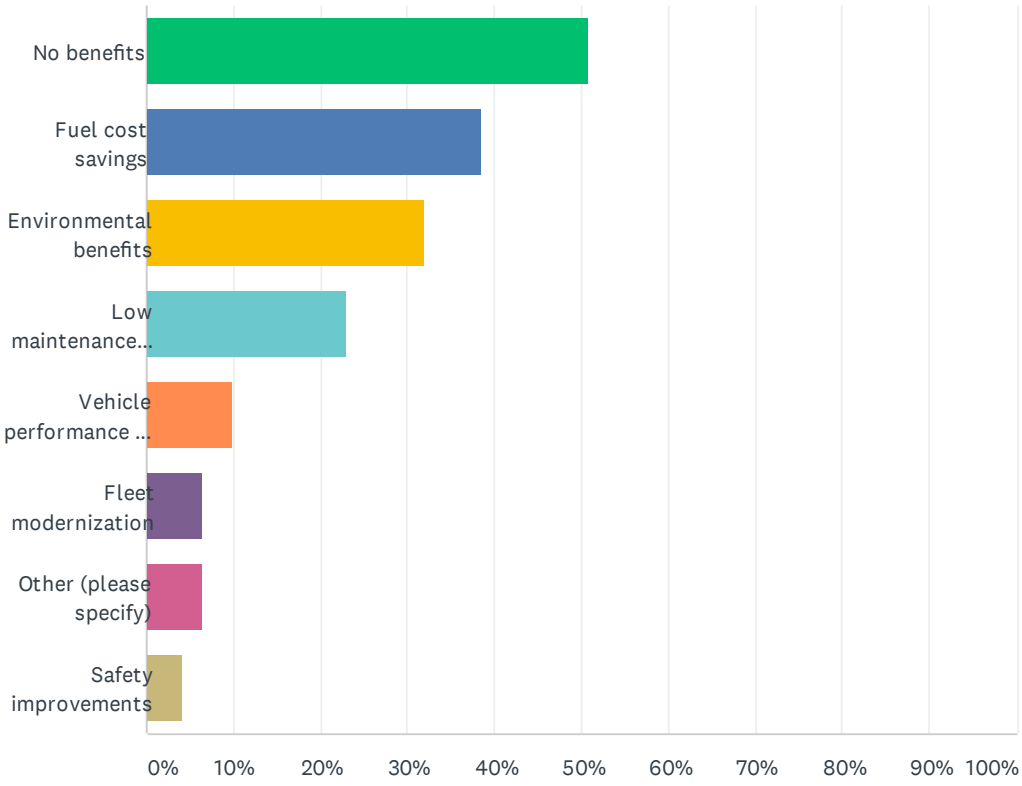
Answered: 77 Skipped: 109



	1	2	3	4	5	6	TOTAL	SCORE
Review of applicable incentives or rebates	67.57% 50	18.92% 14	4.05% 3	1.35% 1	4.05% 3	4.05% 3	74	5.32
Physical site evaluation for construction needs and electrical availability	17.33% 13	41.33% 31	21.33% 16	12.00% 9	4.00% 3	4.00% 3	75	4.44
Review of policies and procedures	5.41% 4	17.57% 13	33.78% 25	17.57% 13	10.81% 8	14.86% 11	74	3.45
Fleet vehicle use and drive pattern evaluation	6.76% 5	8.11% 6	17.57% 13	44.59% 33	18.92% 14	4.05% 3	74	3.27
Evaluation of charging station utilization and/or needs	3.95% 3	9.21% 7	15.79% 12	13.16% 10	10.53% 8	47.37% 36	76	2.41
Employee polling or education	0.00% 0	4.11% 3	8.22% 6	9.59% 7	52.05% 38	26.03% 19	73	2.12

Q12 What do you feel are the benefits of converting your fleet to PHEVs or EVs? (Select all that apply)

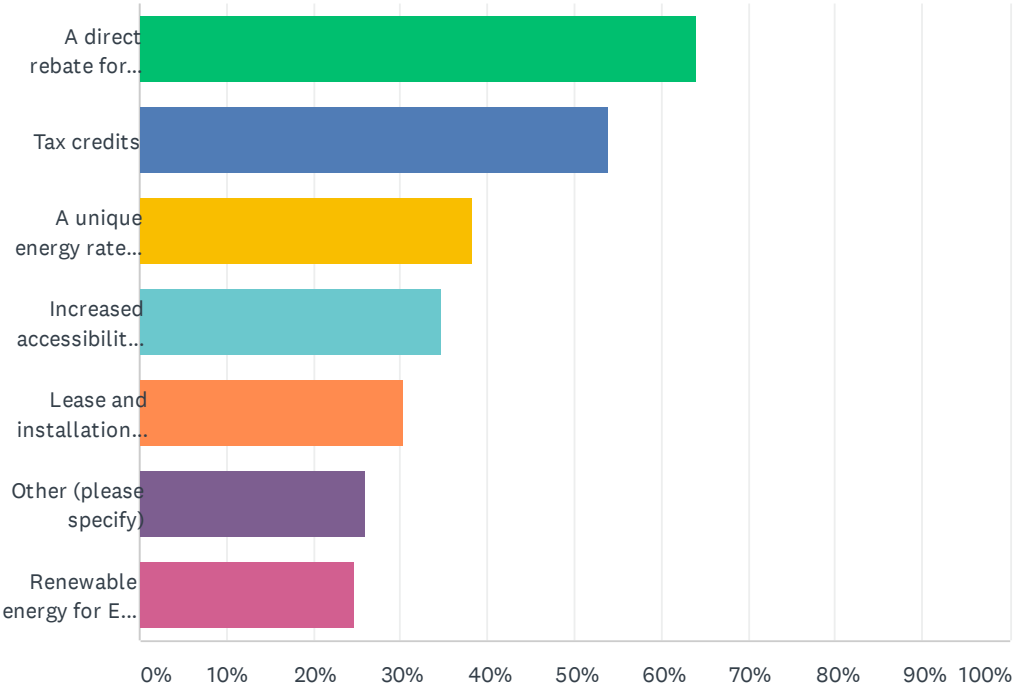
Answered: 122 Skipped: 64



ANSWER CHOICES	RESPONSES	
No benefits	50.82%	62
Fuel cost savings	38.52%	47
Environmental benefits	31.97%	39
Low maintenance costs	22.95%	28
Vehicle performance and experience	9.84%	12
Fleet modernization	6.56%	8
Other (please specify)	6.56%	8
Safety improvements	4.10%	5
Total Respondents: 122		

Q13 Would any of the following increase your interest in including or increasing the number of PHEVs or EVs in your fleet? (Select all that apply)

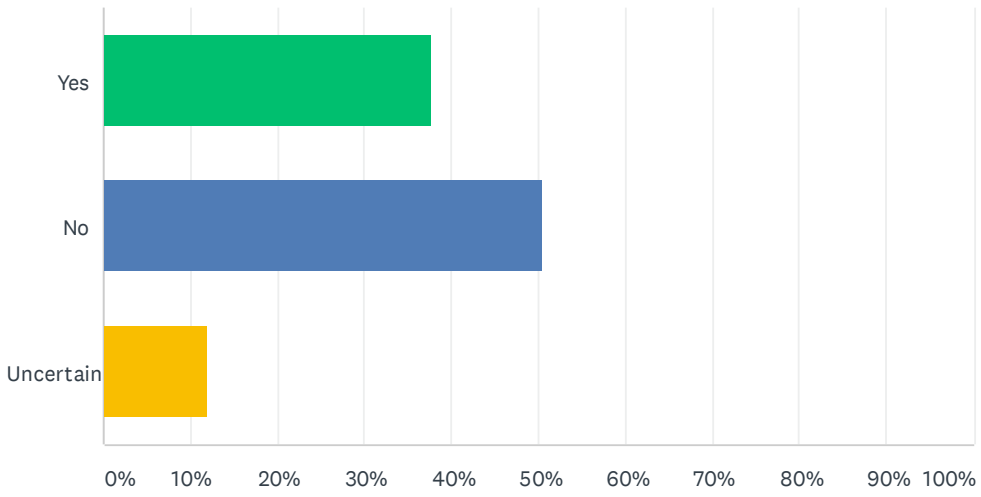
Answered: 89 Skipped: 97



ANSWER CHOICES	RESPONSES	
A direct rebate for purchase or lease of PHEVs or EVs	64.04%	57
Tax credits	53.93%	48
A unique energy rate that lowered your organization's cost-per-mile	38.20%	34
Increased accessibility to charging stations	34.83%	31
Lease and installation of charging equipment by Liberty Utilities	30.34%	27
Other (please specify)	25.84%	23
Renewable energy for EV charging	24.72%	22
Total Respondents: 89		

Q14 Are you aware of sustainability goals or initiatives at your company?

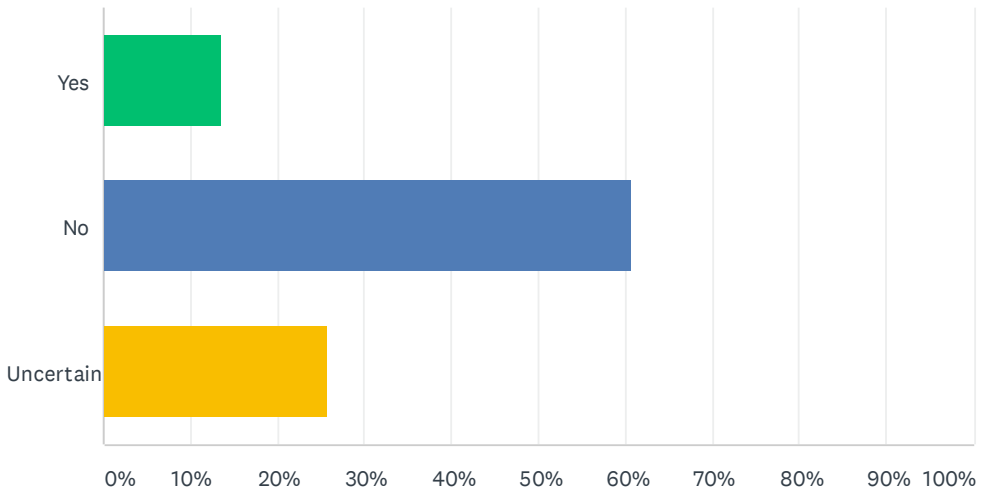
Answered: 117 Skipped: 69



ANSWER CHOICES	RESPONSES	
Yes	37.61%	44
No	50.43%	59
Uncertain	11.97%	14
TOTAL		117

Q15 Would EVs advance your organization's sustainability goals?

Answered: 117 Skipped: 69



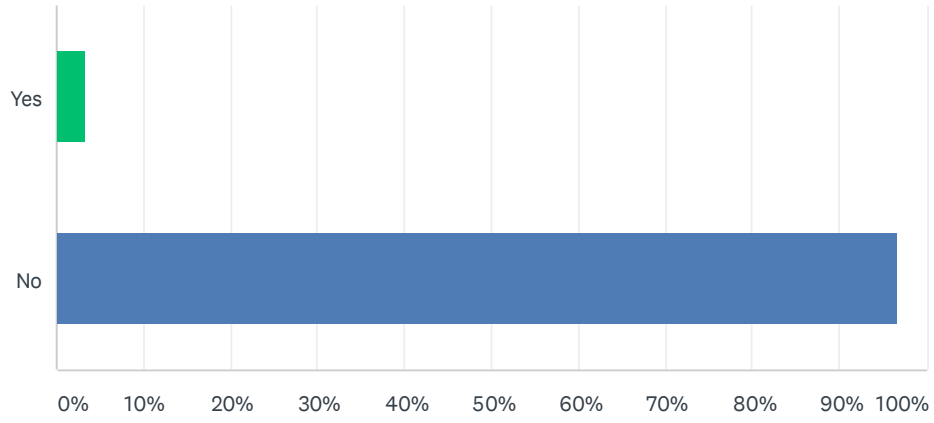
ANSWER CHOICES	RESPONSES	
Yes	13.68%	16
No	60.68%	71
Uncertain	25.64%	30
TOTAL		117

Q16 In your opinion, what would most help your or your organization adopt EVs?

Answered: 45 Skipped: 141

Q17 Does your organization offer plug-in EV charging stations at the worksite for employee use?

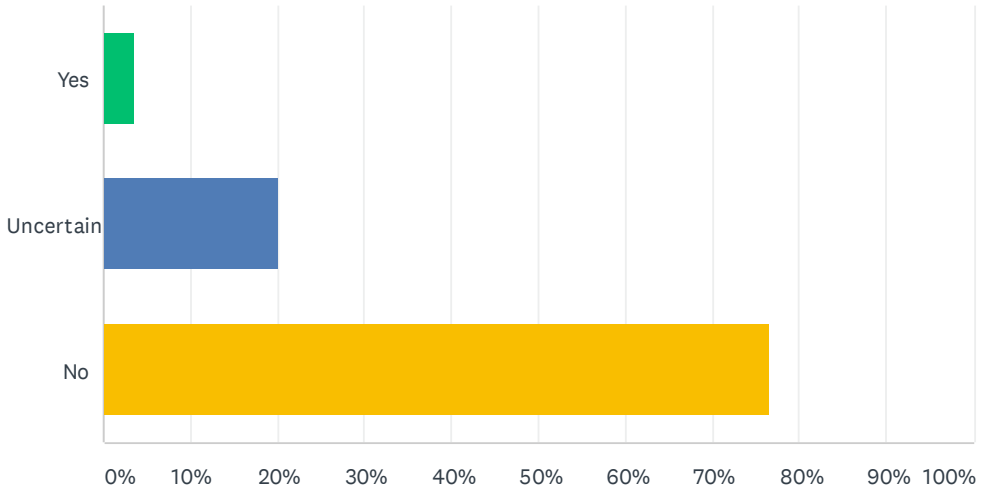
Answered: 119 Skipped: 67



ANSWER CHOICES	RESPONSES	
Yes	3.36%	4
No	96.64%	115
TOTAL		119

Q18 Are you planning to add Electric Vehicle charging stations for employee use in the future?

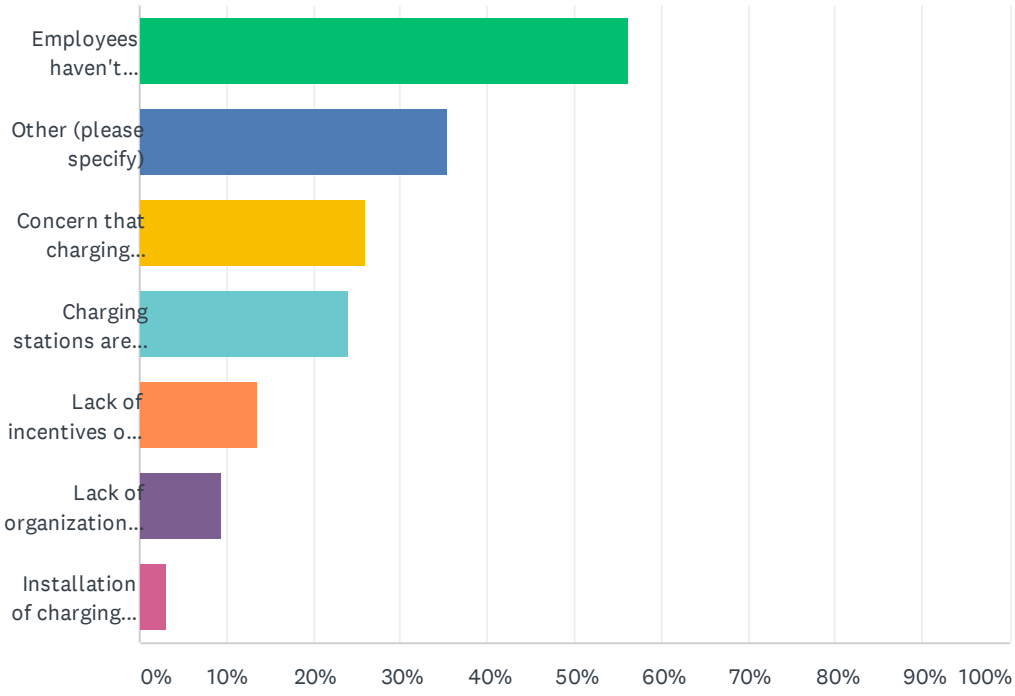
Answered: 115 Skipped: 71



ANSWER CHOICES	RESPONSES	
Yes	3.48%	4
Uncertain	20.00%	23
No	76.52%	88
TOTAL		115

Q19 What are the reasons your company currently does not provide plug-in EV charging stations for employee use? (Select all that apply)

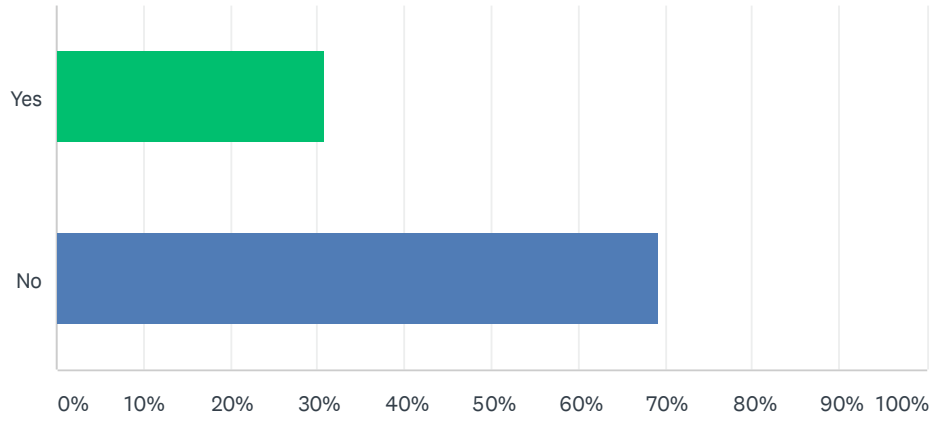
Answered: 96 Skipped: 90



ANSWER CHOICES	RESPONSES	
Employees haven't requested charging stations	56.25%	54
Other (please specify)	35.42%	34
Concern that charging stations would be underutilized	26.04%	25
Charging stations are cost prohibitive	23.96%	23
Lack of incentives or rebates	13.54%	13
Lack of organizational buy-in	9.38%	9
Installation of charging stations is being evaluated	3.13%	3
Total Respondents: 96		

Q20 Are or will there be a cost to employees to use the EV charging stations?

Answered: 13 Skipped: 173



ANSWER CHOICES	RESPONSES	
Yes	30.77%	4
No	69.23%	9
TOTAL		13

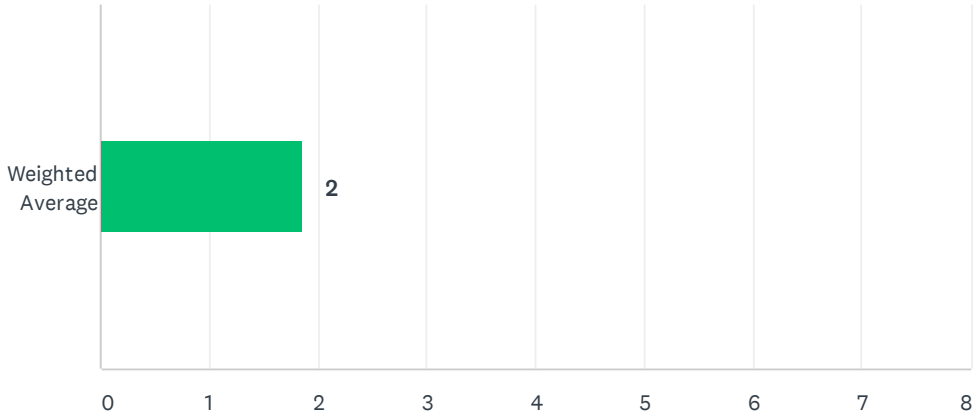
Q21 Contact Information

Answered: 50 Skipped: 136

ANSWER CHOICES	RESPONSES	
Name	96.00%	48
Organization	90.00%	45
Address	92.00%	46
Address 2	16.00%	8
City/Town	98.00%	49
State/Province	98.00%	49
ZIP/Postal Code	96.00%	48
Country	0.00%	0
Email Address	96.00%	48
Phone Number	0.00%	0

Q22 How large is your organization?

Answered: 88 Skipped: 98

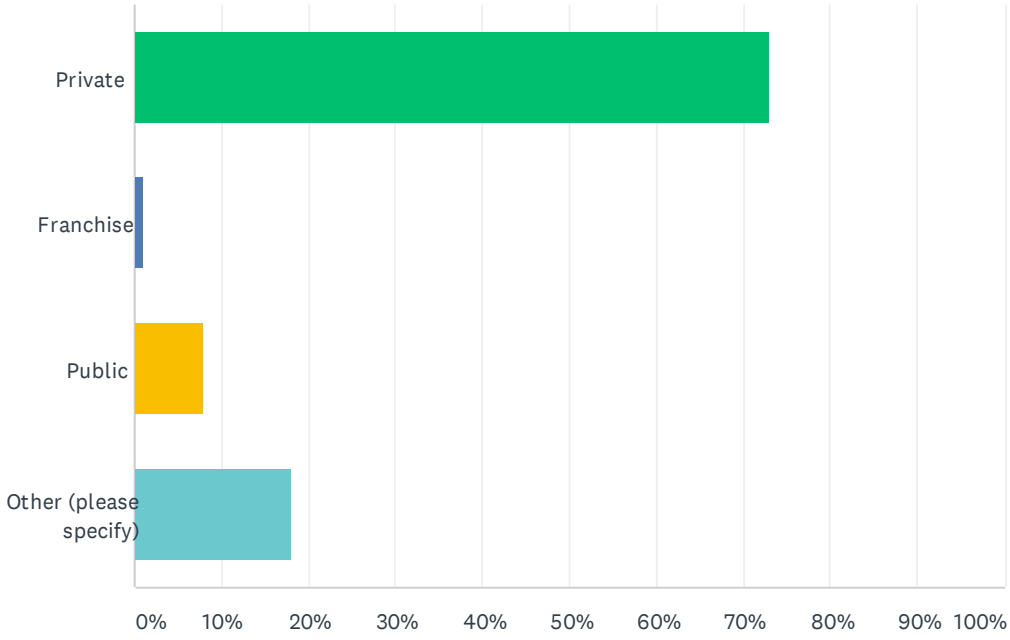


ANSWER CHOICES	RESPONSES	
1-5 employees (1)	61.36%	54
6-14 employees (2)	19.32%	17
15-19 employees (3)	4.55%	4
20-49 employees (4)	6.82%	6
50-100 employees (5)	5.68%	5
101-250 employees (6)	0.00%	0
251-1,000 employees (7)	2.27%	2
1,001 or more employees (8)	0.00%	0
TOTAL		88

BASIC STATISTICS				
Minimum	Maximum	Median	Mean	Standard Deviation
1.00	7.00	1.00	1.85	1.41

Q23 What type of company do you work for?

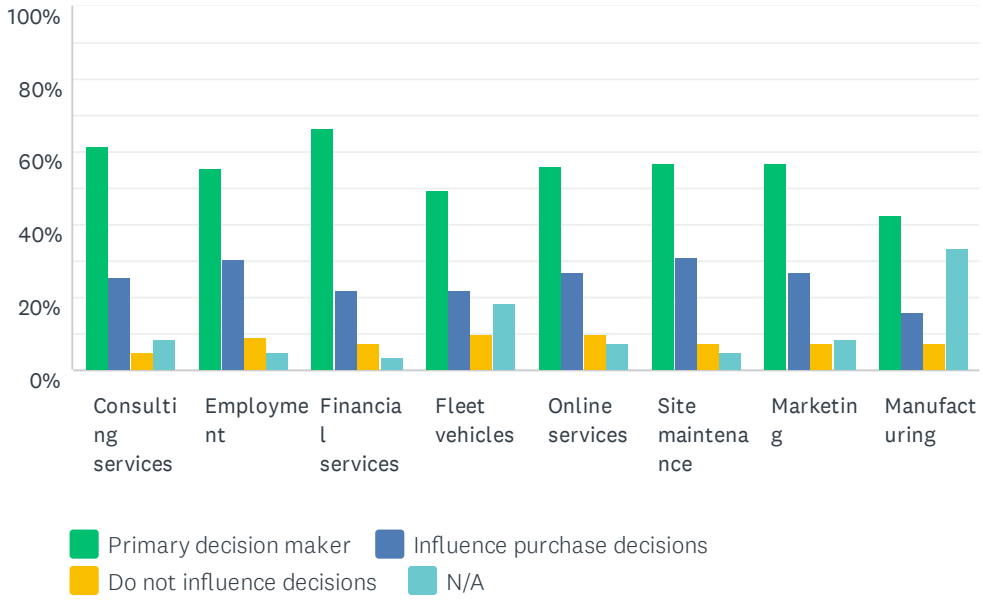
Answered: 89 Skipped: 97



ANSWER CHOICES	RESPONSES	
Private	73.03%	65
Franchise	1.12%	1
Public	7.87%	7
Other (please specify)	17.98%	16
TOTAL		89

Q24 Please describe the level of influence you have over purchasing decisions in the following areas of your organization.

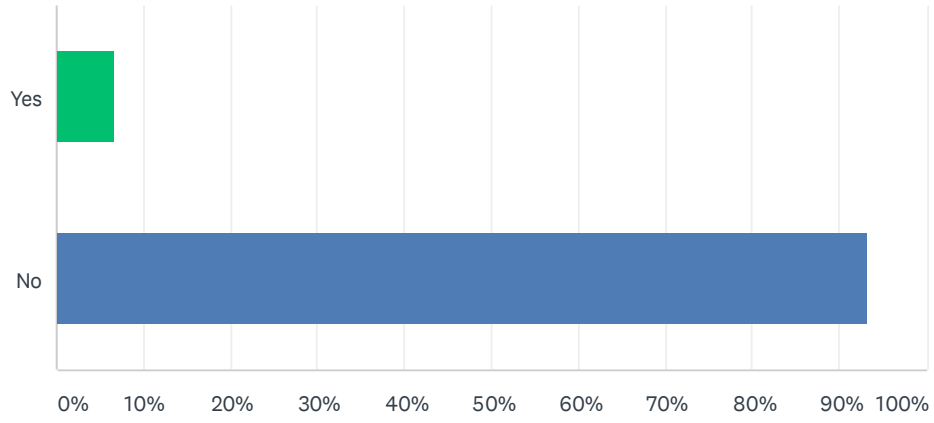
Answered: 83 Skipped: 103



	PRIMARY DECISION MAKER	INFLUENCE PURCHASE DECISIONS	DO NOT INFLUENCE DECISIONS	N/A	TOTAL
Consulting services	61.45% 51	25.30% 21	4.82% 4	8.43% 7	83
Employment	55.70% 44	30.38% 24	8.86% 7	5.06% 4	79
Financial services	66.67% 54	22.22% 18	7.41% 6	3.70% 3	81
Fleet vehicles	49.38% 40	22.22% 18	9.88% 8	18.52% 15	81
Online services	56.10% 46	26.83% 22	9.76% 8	7.32% 6	82
Site maintenance	56.79% 46	30.86% 25	7.41% 6	4.94% 4	81
Marketing	56.79% 46	27.16% 22	7.41% 6	8.64% 7	81
Manufacturing	42.50% 34	16.25% 13	7.50% 6	33.75% 27	80

Q25 Would you like Liberty Utilities to contact you to provide additional information related to this survey?

Answered: 90 Skipped: 96

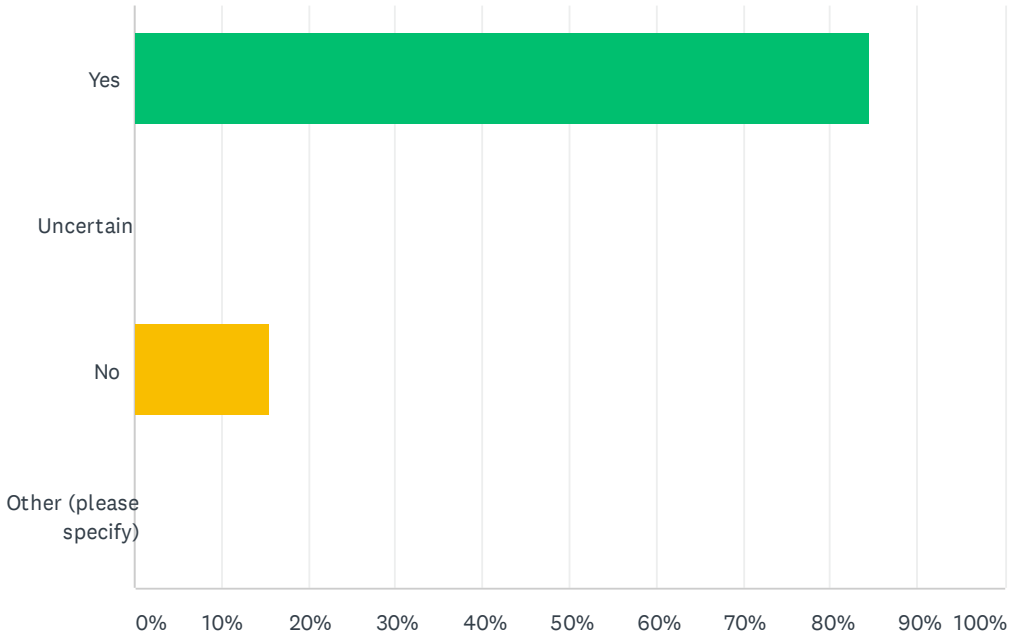


ANSWER CHOICES	RESPONSES	
Yes	6.67%	6
No	93.33%	84
TOTAL		90

APPENDIX C - KEY ACCOUNT SURVEY DATA

Q1 Does your organization currently provide fleet vehicles for employee use?

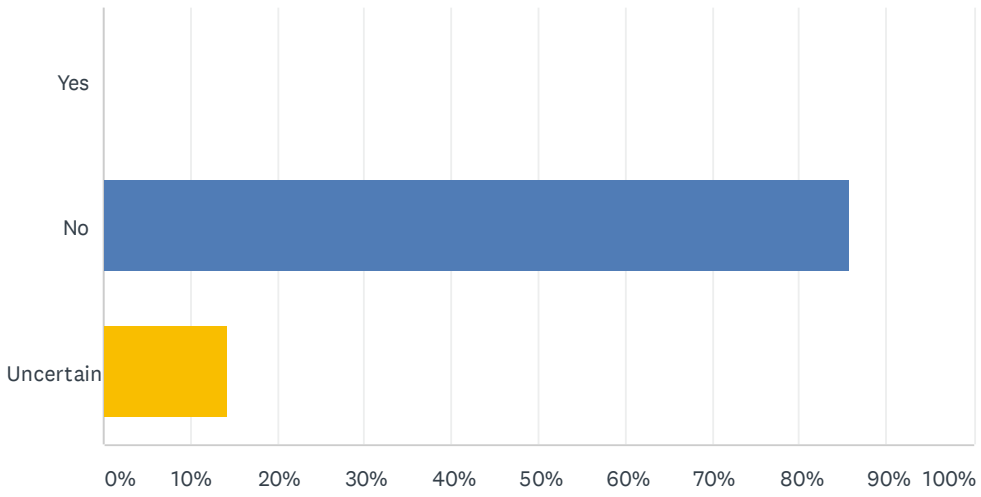
Answered: 45 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	84.44%	38
Uncertain	0.00%	0
No	15.56%	7
Other (please specify)	0.00%	0
TOTAL		45

Q2 Is your organization considering adding fleet vehicles?

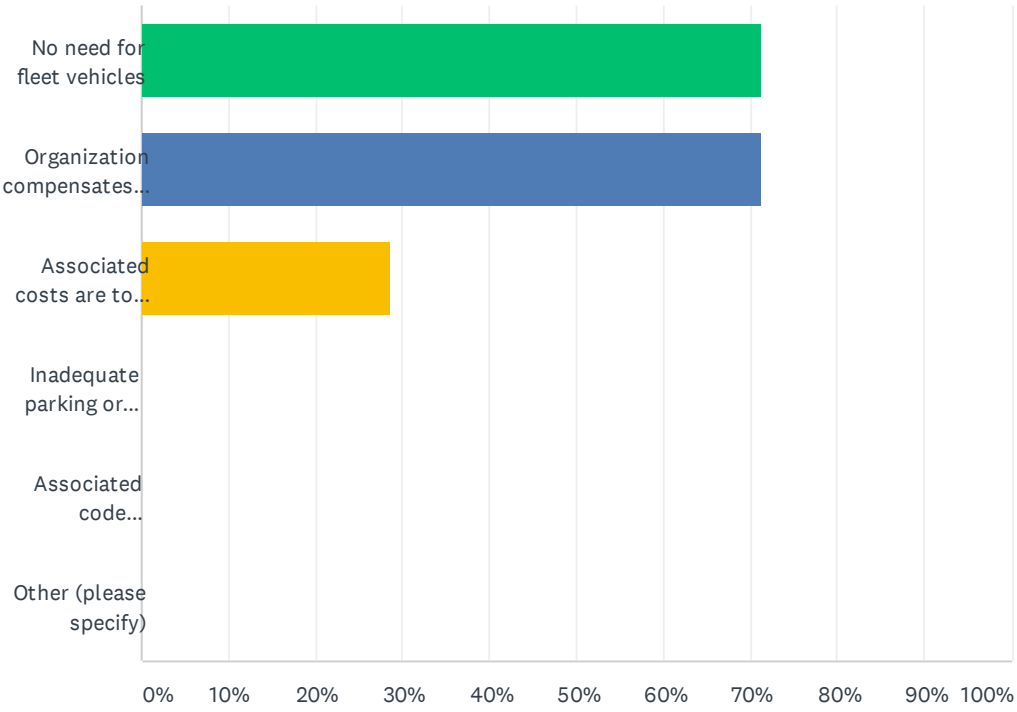
Answered: 7 Skipped: 38



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	85.71%	6
Uncertain	14.29%	1
TOTAL		7

Q3 What factors do you believe prevent your organization from utilizing fleet vehicles? (Select all that apply)

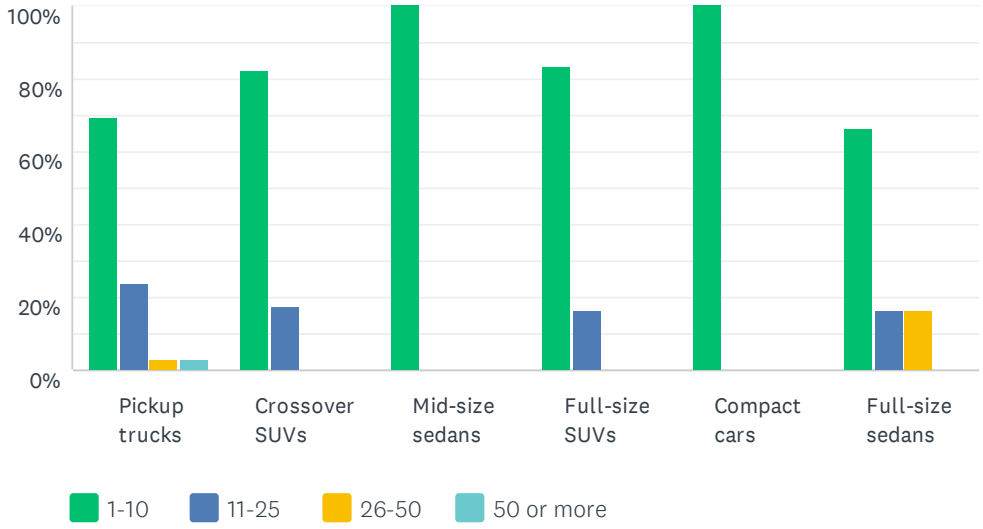
Answered: 7 Skipped: 38



ANSWER CHOICES	RESPONSES	
No need for fleet vehicles	71.43%	5
Organization compensates employees for travel in personal vehicles	71.43%	5
Associated costs are too high	28.57%	2
Inadequate parking or storage space	0.00%	0
Associated code requirements	0.00%	0
Other (please specify)	0.00%	0
Total Respondents: 7		

Q4 What types of vehicles are offered in your organization's fleet? (Select all that apply)

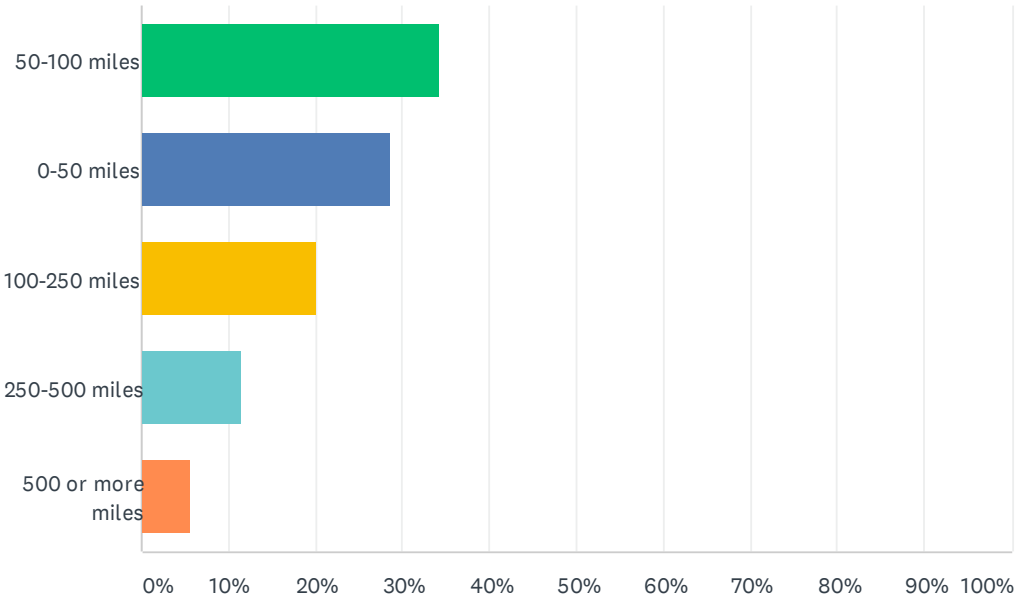
Answered: 35 Skipped: 10



	1-10	11-25	26-50	50 OR MORE	TOTAL
Pickup trucks	69.70% 23	24.24% 8	3.03% 1	3.03% 1	33
Crossover SUVs	82.35% 14	17.65% 3	0.00% 0	0.00% 0	17
Mid-size sedans	100.00% 13	0.00% 0	0.00% 0	0.00% 0	13
Full-size SUVs	83.33% 10	16.67% 2	0.00% 0	0.00% 0	12
Compact cars	100.00% 7	0.00% 0	0.00% 0	0.00% 0	7
Full-size sedans	66.67% 4	16.67% 1	16.67% 1	0.00% 0	6

Q5 On average, how many miles are driven per day in your fleet vehicles? (all vehicles combined)

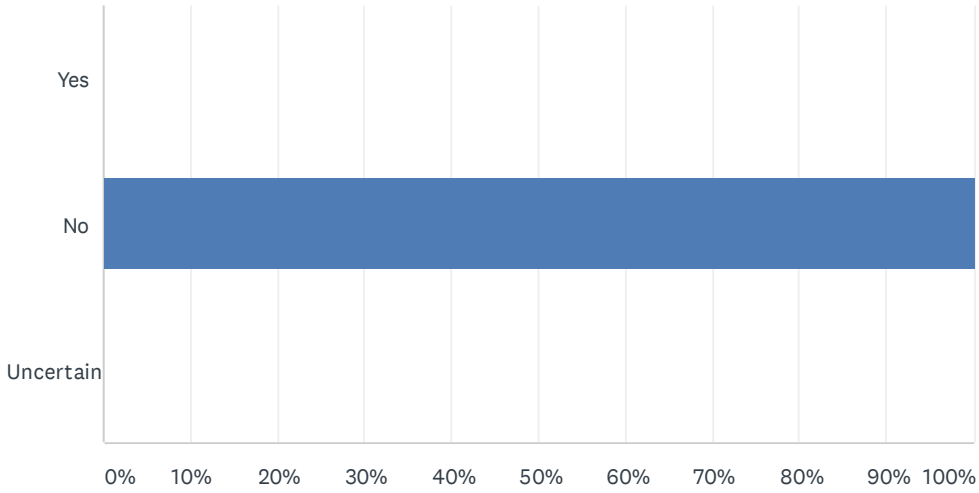
Answered: 35 Skipped: 10



ANSWER CHOICES	RESPONSES	
50-100 miles	34.29%	12
0-50 miles	28.57%	10
100-250 miles	20.00%	7
250-500 miles	11.43%	4
500 or more miles	5.71%	2
TOTAL		35

Q6 Are plug-in hybrid (PHEV) or plug-in Electric Vehicles (EVs) available in your organization's fleet?

Answered: 35 Skipped: 10



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	100.00%	35
Uncertain	0.00%	0
TOTAL		35

Q7 What types and numbers of PHEVs or EVs are available in your fleet? (Select all that apply)

Answered: 0 Skipped: 45

⚠ No matching responses.

	1-5	6-10	11-25	26-50	50 OR MORE	TOTAL
Compact or mid-size PHEV sedan	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
Full-size PHEV sedan	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
PHEV SUVs or Crossovers	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
Compact or mid-size EV sedans	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
Full-size EV sedans	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
EV SUVs or Crossovers	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0

Q8 How likely is your organization to increase the number of PHEVs or EVs within its fleet?

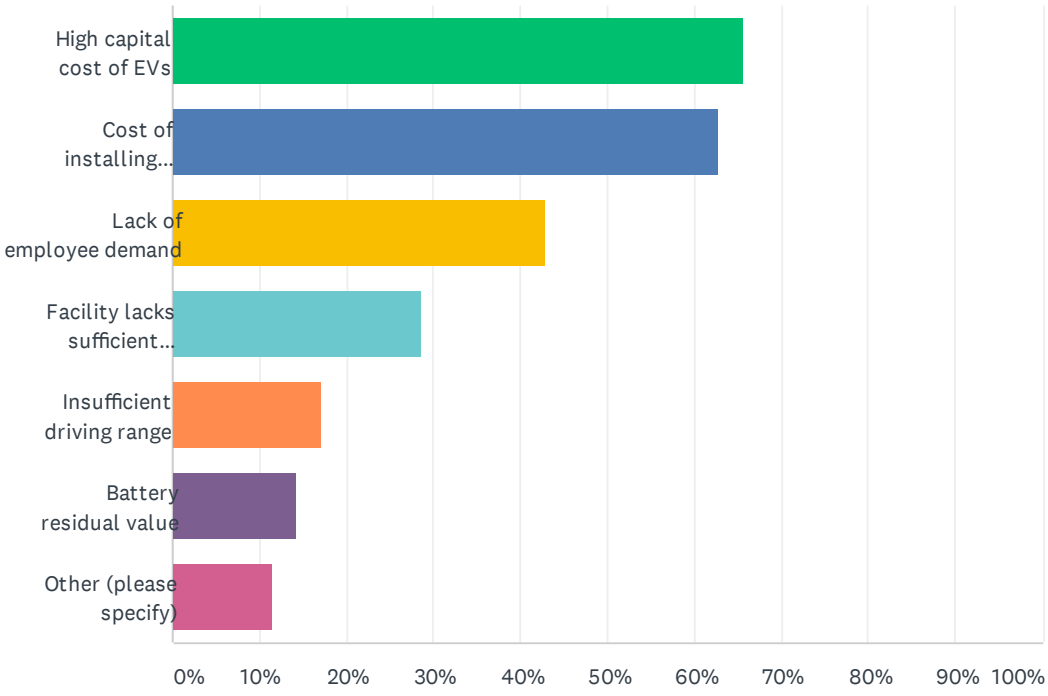
Answered: 0 Skipped: 45

⚠ No matching responses.

ANSWER CHOICES	RESPONSES	
Very likely	0.00%	0
Likely	0.00%	0
Unsure	0.00%	0
Unlikely	0.00%	0
Very unlikely	0.00%	0
TOTAL		0

Q9 What are the barriers you see to your company adopting EVs/PHEVs? (Select all that apply)

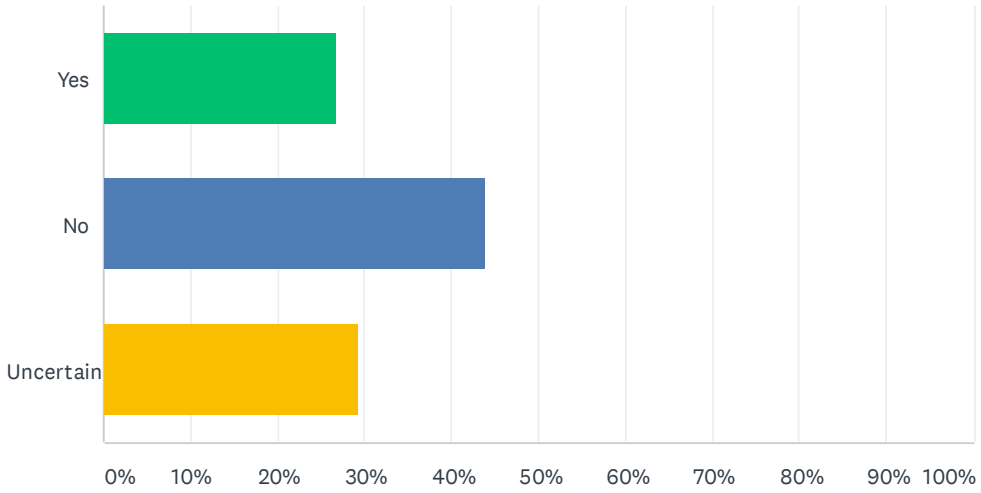
Answered: 35 Skipped: 10



ANSWER CHOICES	RESPONSES	
High capital cost of EVs	65.71%	23
Cost of installing charging infrastructure	62.86%	22
Lack of employee demand	42.86%	15
Facility lacks sufficient electrical distribution	28.57%	10
Insufficient driving range	17.14%	6
Battery residual value	14.29%	5
Other (please specify)	11.43%	4
Total Respondents: 35		

Q10 Would it be beneficial to you or your company if Liberty Utilities offered a program to help evaluate PHEVs or EVs for your fleet?

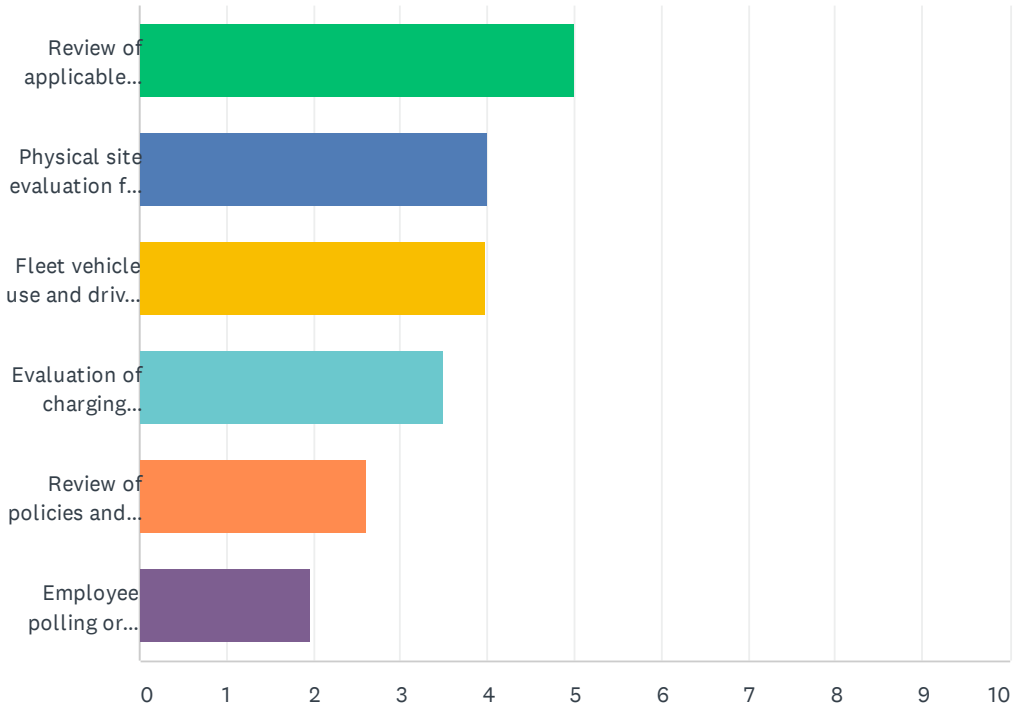
Answered: 41 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	26.83%	11
No	43.90%	18
Uncertain	29.27%	12
TOTAL		41

Q11 What components of an EV evaluation program do you feel would be most beneficial? (Please rank the following options)

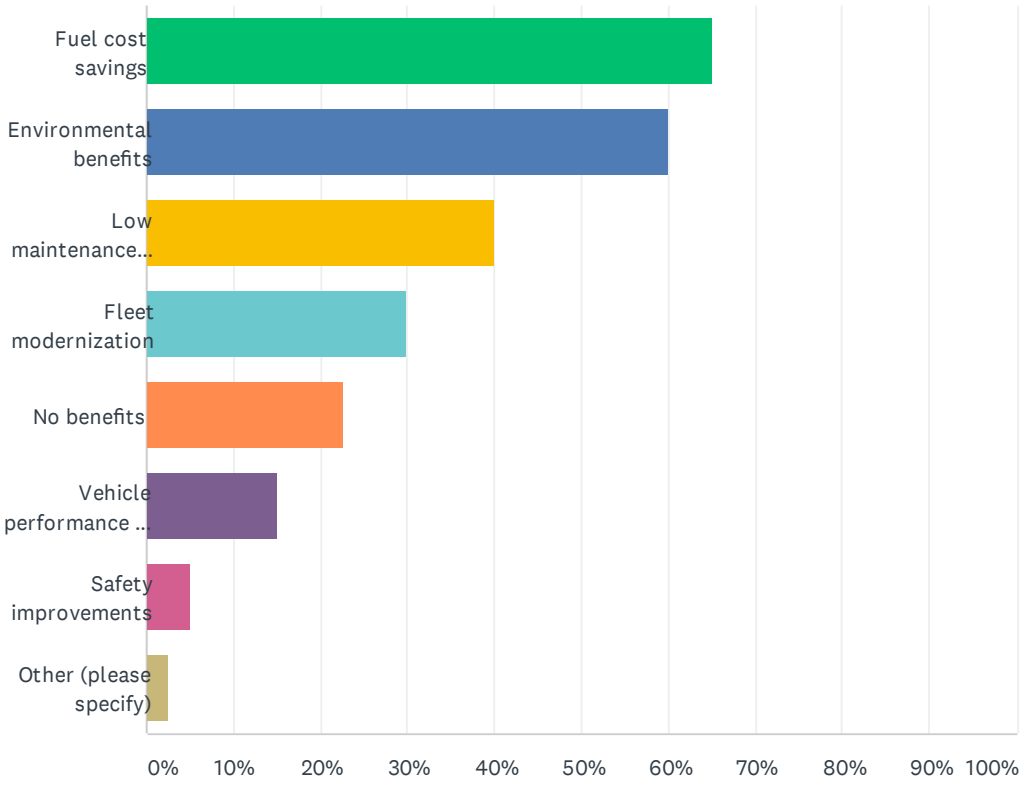
Answered: 32 Skipped: 13



	1	2	3	4	5	6	TOTAL	SCORE
Review of applicable incentives or rebates	64.52% 20	6.45% 2	6.45% 2	16.13% 5	0.00% 0	6.45% 2	31	5.00
Physical site evaluation for construction needs and electrical availability	3.13% 1	40.63% 13	28.13% 9	15.63% 5	6.25% 2	6.25% 2	32	4.00
Fleet vehicle use and drive pattern evaluation	23.33% 7	16.67% 5	16.67% 5	23.33% 7	16.67% 5	3.33% 1	30	3.97
Evaluation of charging station utilization and/or needs	12.50% 4	15.63% 5	25.00% 8	21.88% 7	6.25% 2	18.75% 6	32	3.50
Review of policies and procedures	0.00% 0	12.90% 4	16.13% 5	16.13% 5	29.03% 9	25.81% 8	31	2.61
Employee polling or education	0.00% 0	3.33% 1	10.00% 3	6.67% 2	40.00% 12	40.00% 12	30	1.97

Q12 What do you feel are the benefits of converting your fleet to PHEVs or EVs? (Select all that apply)

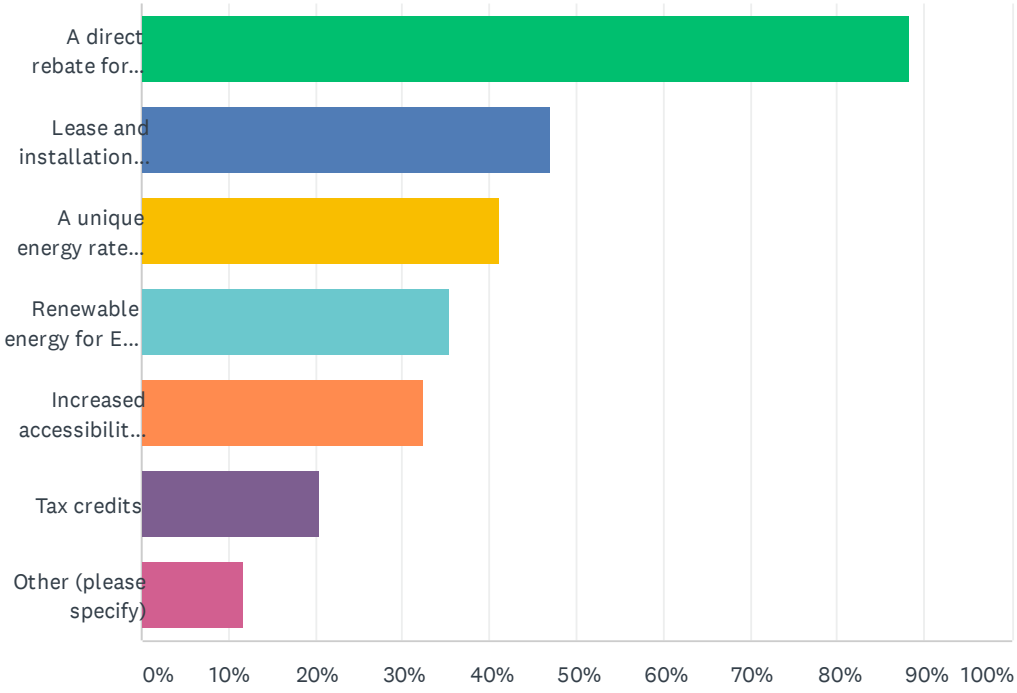
Answered: 40 Skipped: 5



ANSWER CHOICES	RESPONSES	
Fuel cost savings	65.00%	26
Environmental benefits	60.00%	24
Low maintenance costs	40.00%	16
Fleet modernization	30.00%	12
No benefits	22.50%	9
Vehicle performance and experience	15.00%	6
Safety improvements	5.00%	2
Other (please specify)	2.50%	1
Total Respondents: 40		

Q13 Would any of the following increase your interest in including or increasing the number of PHEVs or EVs in your fleet? (Select all that apply)

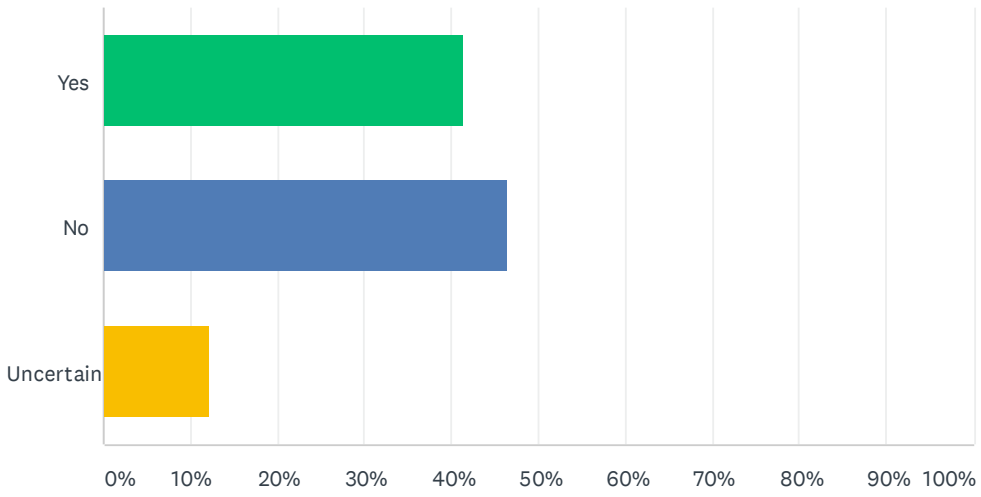
Answered: 34 Skipped: 11



ANSWER CHOICES	RESPONSES	
A direct rebate for purchase or lease of PHEVs or EVs	88.24%	30
Lease and installation of charging equipment by Liberty Utilities	47.06%	16
A unique energy rate that lowered your organization's cost-per-mile	41.18%	14
Renewable energy for EV charging	35.29%	12
Increased accessibility to charging stations	32.35%	11
Tax credits	20.59%	7
Other (please specify)	11.76%	4
Total Respondents: 34		

Q14 Are you aware of sustainability goals or initiatives at your company?

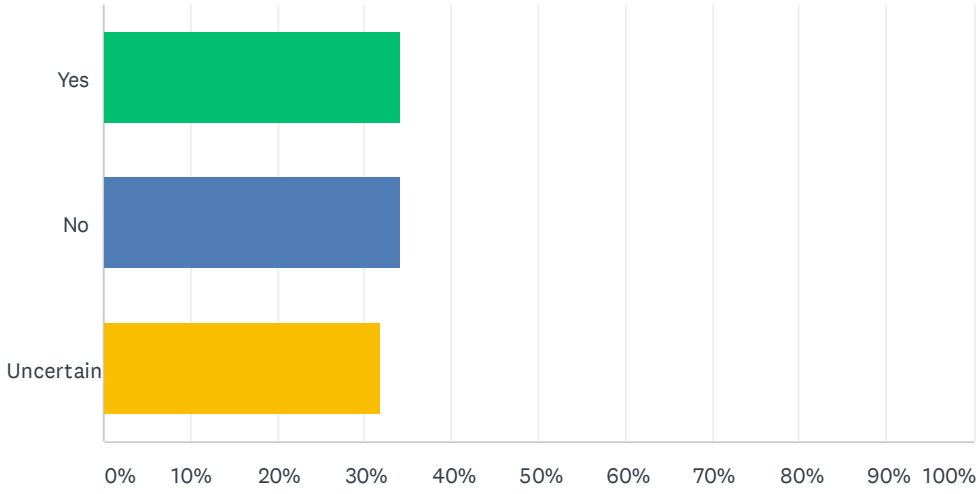
Answered: 41 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	41.46%	17
No	46.34%	19
Uncertain	12.20%	5
TOTAL		41

Q15 Would EVs advance your organization's sustainability goals?

Answered: 41 Skipped: 4



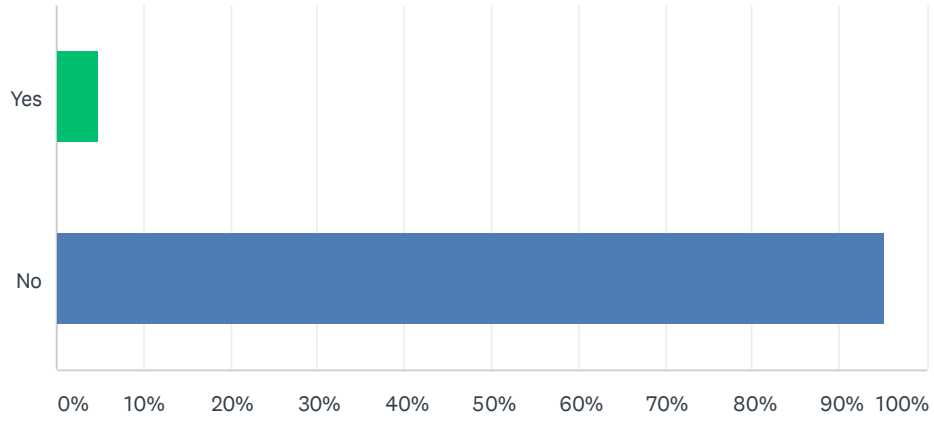
ANSWER CHOICES	RESPONSES	
Yes	34.15%	14
No	34.15%	14
Uncertain	31.71%	13
TOTAL		41

Q16 In your opinion, what would most help your or your organization adopt EVs?

Answered: 22 Skipped: 23

Q17 Does your organization offer plug-in EV charging stations at the worksite for employee use?

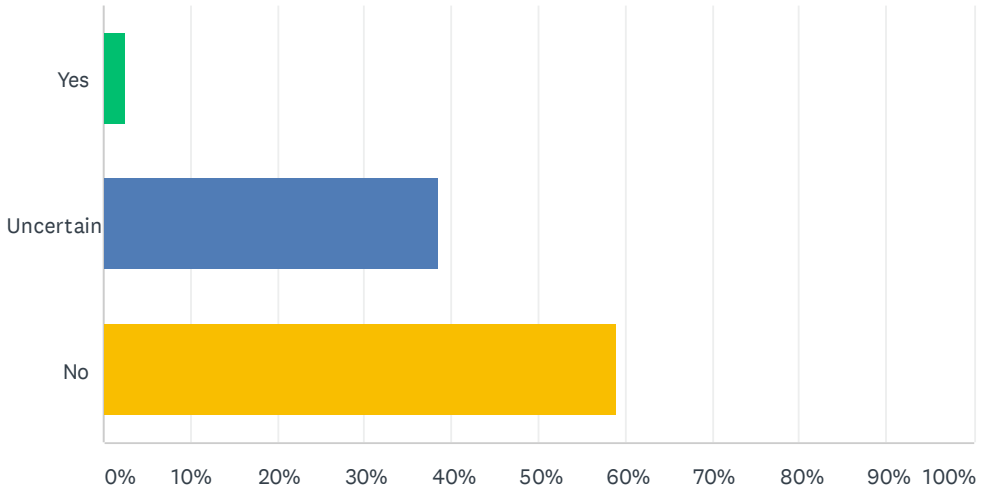
Answered: 41 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	4.88%	2
No	95.12%	39
TOTAL		41

Q18 Are you planning to add Electric Vehicle charging stations for employee use in the future?

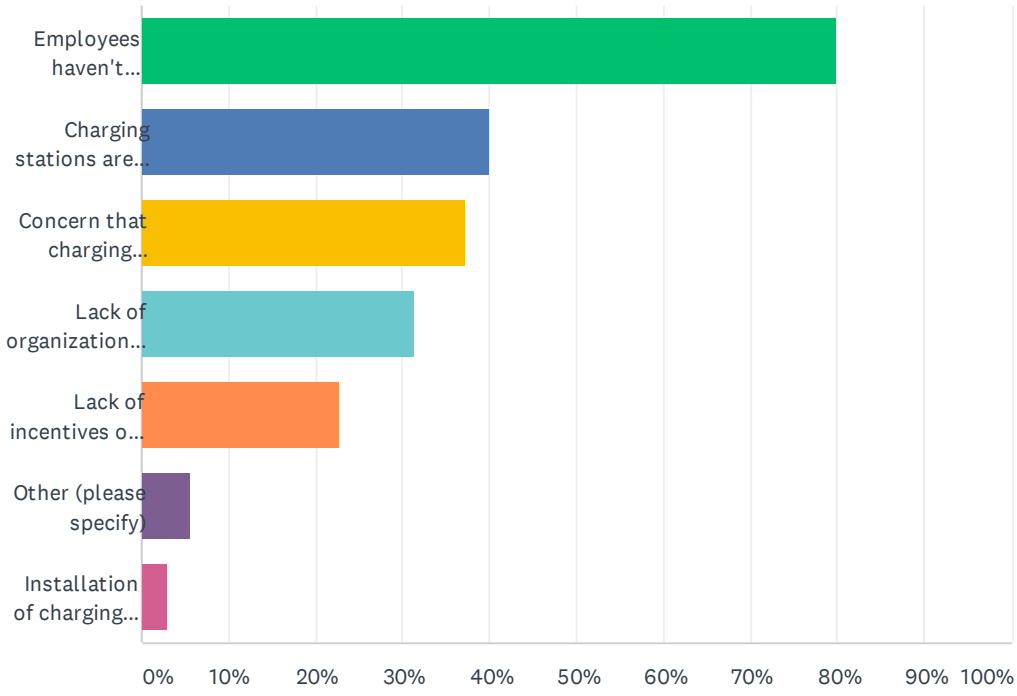
Answered: 39 Skipped: 6



ANSWER CHOICES	RESPONSES	
Yes	2.56%	1
Uncertain	38.46%	15
No	58.97%	23
TOTAL		39

Q19 What are the reasons your company currently does not provide plug-in EV charging stations for employee use? (Select all that apply)

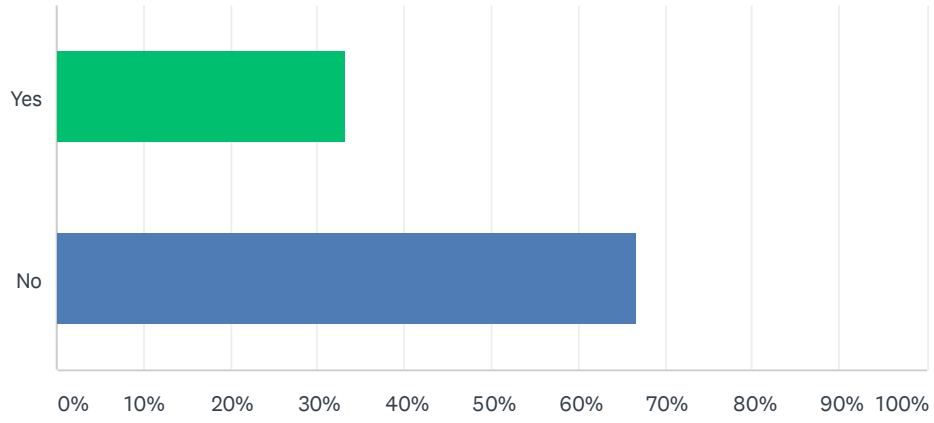
Answered: 35 Skipped: 10



ANSWER CHOICES	RESPONSES	
Employees haven't requested charging stations	80.00%	28
Charging stations are cost prohibitive	40.00%	14
Concern that charging stations would be underutilized	37.14%	13
Lack of organizational buy-in	31.43%	11
Lack of incentives or rebates	22.86%	8
Other (please specify)	5.71%	2
Installation of charging stations is being evaluated	2.86%	1
Total Respondents: 35		

Q20 Are or will there be a cost to employees to use the EV charging stations?

Answered: 3 Skipped: 42



ANSWER CHOICES	RESPONSES	
Yes	33.33%	1
No	66.67%	2
TOTAL		3

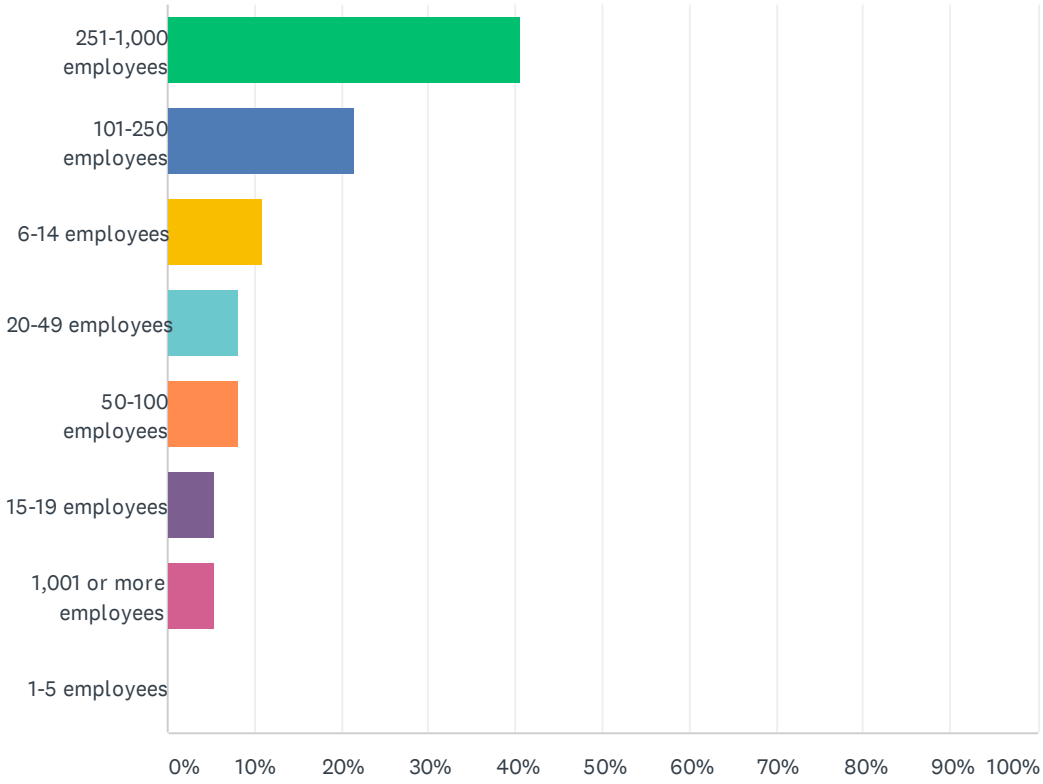
Q21 Contact Information

Answered: 30 Skipped: 15

ANSWER CHOICES	RESPONSES	
Name	100.00%	30
Organization	100.00%	30
Address	96.67%	29
Address 2	6.67%	2
City/Town	100.00%	30
State/Province	100.00%	30
ZIP/Postal Code	96.67%	29
Country	0.00%	0
Email Address	90.00%	27
Phone Number	0.00%	0

Q22 How large is your organization?

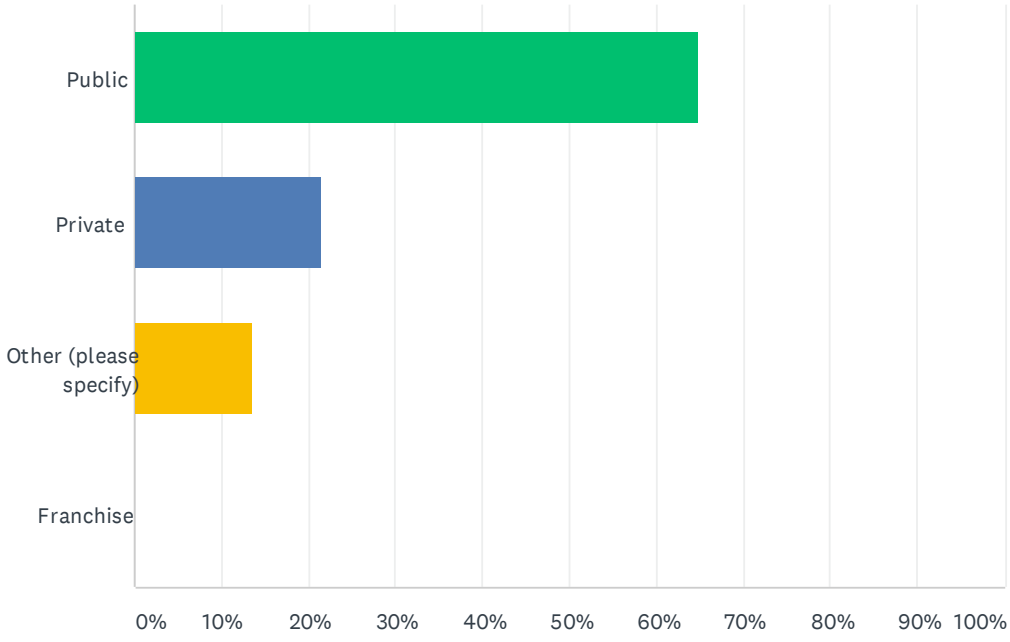
Answered: 37 Skipped: 8



ANSWER CHOICES	RESPONSES	
251-1,000 employees	40.54%	15
101-250 employees	21.62%	8
6-14 employees	10.81%	4
20-49 employees	8.11%	3
50-100 employees	8.11%	3
15-19 employees	5.41%	2
1,001 or more employees	5.41%	2
1-5 employees	0.00%	0
TOTAL		37

Q23 What type of company do you work for?

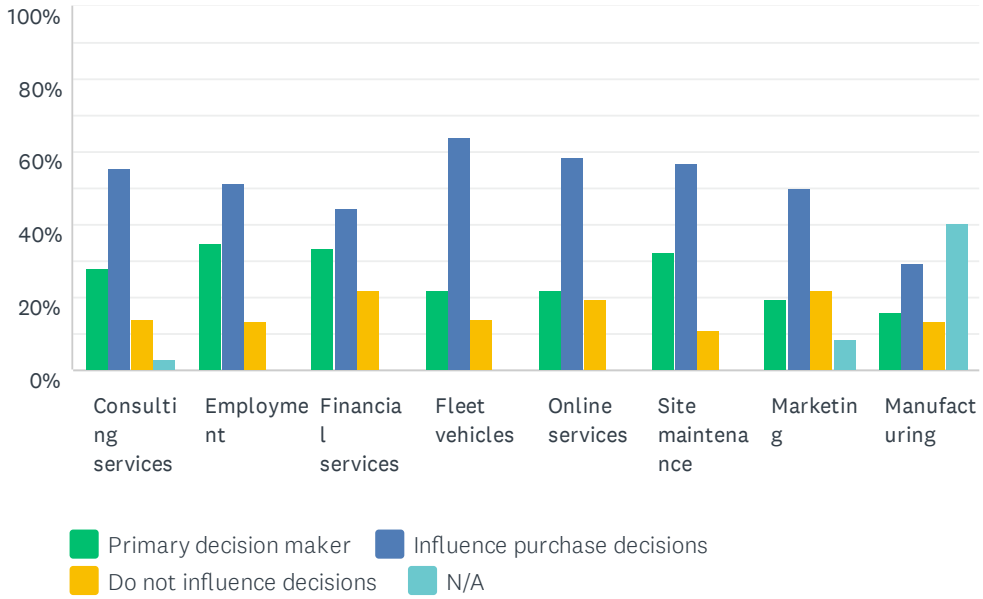
Answered: 37 Skipped: 8



ANSWER CHOICES	RESPONSES	
Public	64.86%	24
Private	21.62%	8
Other (please specify)	13.51%	5
Franchise	0.00%	0
TOTAL		37

Q24 Please describe the level of influence you have over purchasing decisions in the following areas of your organization.

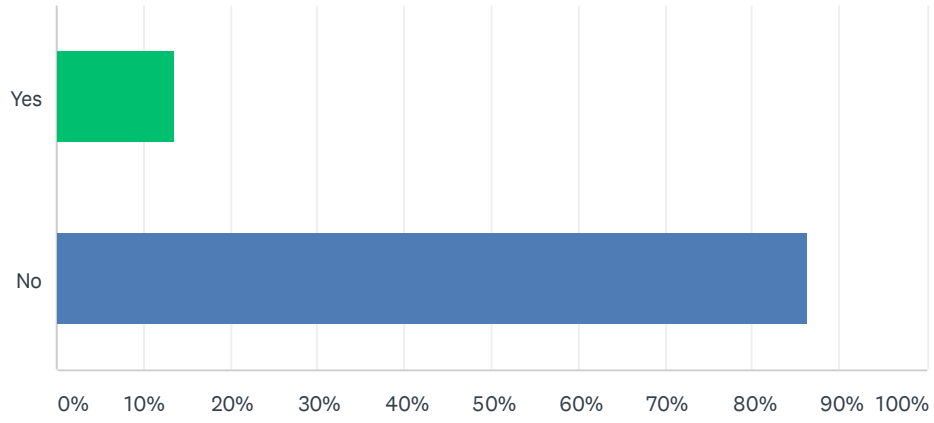
Answered: 37 Skipped: 8



	PRIMARY DECISION MAKER	INFLUENCE PURCHASE DECISIONS	DO NOT INFLUENCE DECISIONS	N/A	TOTAL
Consulting services	27.78% 10	55.56% 20	13.89% 5	2.78% 1	36
Employment	35.14% 13	51.35% 19	13.51% 5	0.00% 0	37
Financial services	33.33% 12	44.44% 16	22.22% 8	0.00% 0	36
Fleet vehicles	22.22% 8	63.89% 23	13.89% 5	0.00% 0	36
Online services	22.22% 8	58.33% 21	19.44% 7	0.00% 0	36
Site maintenance	32.43% 12	56.76% 21	10.81% 4	0.00% 0	37
Marketing	19.44% 7	50.00% 18	22.22% 8	8.33% 3	36
Manufacturing	16.22% 6	29.73% 11	13.51% 5	40.54% 15	37

Q25 Would you like Liberty Utilities to contact you to provide additional information related to this survey?

Answered: 37 Skipped: 8



ANSWER CHOICES	RESPONSES	
Yes	13.51%	5
No	86.49%	32
TOTAL		37

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Cost Element

Charger Delivered Cost (estimated)	(A)	$500.00
Installation (estimated)	(B)	$700.00
Total Installed Cost	(C = A + B)	$1,200.00
Shipping	(D)	$0.00
Total Installed Cost with Tax	(E = C + D)	$1,200.00
ROE	(F)	9.25%
Annual Revenue Requirement of the Charger Investment	(G = E * F)	$111.00
Operations, Maintenance, Data (per year)	(H)	$100.00
Time-Based Electricity & Charges (per year)	(I)	$216.00
Billing System Upgrades	(J)	$40.00
Annual Revenue Requirement per Charger	(K = G + H + I + J)	$467.00
Months per Year	(L)	12
Price per Month	(M = K / L)	**$38.92**