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REPORT NAME: 2019 Electric Vehicle Awareness & Education Evaluation Report

COMPANY NAME: Idaho Power Company

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes

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If known, please select designation: RE (Electric) RG (Gas) RW (Water)
 RO (Other)

Report is required by: OAR 860-087-0030
 Statute
 Order
 Other SB 1547

Is this report associated with a specific docket/case? No Yes
If Yes, enter docket number: UM 1815

Key words:

If known, please select the PUC Section to which the report should be directed:

- Corporate Analysis and Water Regulation
- Economic and Policy Analysis
- Electric and Natural Gas Revenue Requirements
- Electric Rates and Planning
- Natural Gas Rates and Planning
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LISA D. NORDSTROM
Lead Counsel
lnordstrom@idahopower.com

November 1, 2019

Public Utility Commission of Oregon
Filing Center
201 High Street SE, Suite 100
P.O. Box 1088
Salem, Oregon 97301

RE: UM 1815 - Electric Vehicle Awareness & Education Program
Idaho Power Company's 2019 Electric Vehicle Awareness & Education
Program Evaluation Report

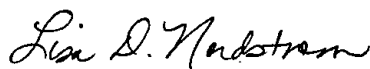
Attention Filing Center:

Pursuant to OAR 860-087-0030 and Oregon Laws 2016, Chapter 028, Sections 20 and 29 (SB 1547), Idaho Power Company ("Idaho Power" or "Company") applied to the Public Utility Commission of Oregon ("Commission") for an order authorizing the Company to implement an Electric Vehicle Awareness & Education Program ("Program") on December 30, 2016. The Commission approved the Company's application for its Program in Order No. 17-286 of Docket No. UM 1815. Order No. 17-286 directed the Company to implement the Program beginning in 2018 and ending in 2020, and to provide a yearly Program evaluation report to the Commission in 2019, 2020 and 2021.

In compliance with Order No. 17-286 and pursuant to OAR 860-087-0040, the Company hereby submits to the Commission an evaluation report of the Company's Program for 2018. Idaho Power respectfully requests that the Commission issue an order acknowledging that the Program evaluation report meets the requirements of OAR 860-087-0040.

If you have any substantive questions about this report, please contact Regulatory Analyst Nicole Blackwell at 208-388-5764 or nblackwell@idahopower.com.

Very truly yours,



Lisa D. Nordstrom

LDN/kkt
Enclosure



Electric Vehicle Awareness & Education Program Evaluation

November 1, 2019

PROCEDURAL BACKGROUND

Pursuant to OAR 860-087-0030 and Oregon Laws 2016, Chapter 028, Sections 20 and 29 (SB 1547), Idaho Power Company (“Idaho Power” or “Company”) applied to the Public Utility Commission of Oregon (“Commission”) for an order authorizing the Company to implement an Electric Vehicle Awareness & Education Program (“Program”) on December 30, 2016. The Commission approved the Company’s application for its Program on July 27, 2017, in Order No. 17-286 of Docket No. UM 1815. Order No. 17-286 directed the Company to implement the Program beginning in 2018 and ending in 2020, and to provide a yearly Program report to the Commission in 2019, 2020, and 2021.

In compliance with Order No. 17-286 and pursuant to OAR 860-087-0040, Idaho Power hereby respectfully submits to the Commission an evaluation report of the Company’s Program for 2018.

Section 20 of Oregon Senate Bill 1547 (“SB 1547”), signed into law March 8, 2016, pertains to Transportation Electrification Programs. Within Section 20, the Legislative Assembly declares that transportation electrification (“TE”) is necessary to reduce petroleum use, achieve optimum levels of energy efficiency and carbon reduction, meet federal and state air quality standards, meet Oregon’s greenhouse gas emission reduction goals, and improve public health and safety. Section 20 also mandates that the Commission direct each Oregon electric utility to file applications, in a form and manner prescribed by the Commission, for programs to accelerate TE. As a result of this mandate, the Commission initiated a rulemaking in Docket No. AR 599 to establish rules concerning utilities’ applications for TE programs.

In Order No. 16-447 in Docket No. AR 599, the Commission adopted OAR 860-087-0030, which requires an electric company to file applications for TE programs, and identifies what each application must include. OAR 860-087-0040 was also adopted in Order No. 16-447, which requires an electric company to report the results of its evaluation for each TE Program approved by the Commission.

PROGRAM DESCRIPTION

Idaho Power’s TE Program is designed to increase electric vehicle (“EV”) awareness and educate customers on the potential benefits of EV ownership, including lower fuel costs, lower maintenance costs, little to no emissions, vehicle performance benefits, energy independence, and local economic benefits. The Program is also designed to help customers understand vehicle and charging technology and the options that are available.

Through awareness and education, Idaho Power believes it has and will continue to address key barriers to EV adoption within its Oregon service area, including customer perception surrounding driving range and price.

I. Program Elements

Idaho Power's Program aims to raise awareness of EVs and provide EV education through a multi-faceted approach, including (1) increasing the visibility of EVs in the Company's Oregon service area, (2) providing resources to customers interested in learning more about EVs, and (3) providing EV training to trade allies.

A. Increasing the Visibility of EVs

In an effort to increase the visibility of EVs in the Company's Oregon service area, the Company committed to showcasing its electric fleet vehicles in at least two events per year.

B. EV Materials & Resources

The Program also consists of providing EV materials and resources to customers interested in learning more about the costs and benefits of EVs. Idaho Power utilizes several mediums to communicate and educate customers on the benefits of EVs including a Company webpage dedicated to EVs, EV marketing materials, and customer access to an EV subject matter expert.

C. EV Training

Another component of the Program includes providing training and education to trade allies. Idaho Power's Program commits to holding at least one training event annually to trade ally groups with a role in EV adoption.

2018 PROGRAM SUMMARY

In 2018, Idaho Power provided EV education through public events and training. Through these events, the Company was able to reach multiple audiences to achieve greater levels of awareness and knowledge of EVs. The Company held a safety course for first responders to provide training for incidents involving alternative fuel vehicles, including All-Electric Vehicles ("AEV") and Hybrid-Electric Vehicles ("HEV"). The Company also hosted an EV informational booth at two public events, the Malheur County Fair and Live After Five, to provide EV education and increase the visibility of EVs. Additionally, Idaho Power enhanced its EV web content in 2018. The following sections detail Idaho Power's Program accomplishments for 2018.

I. First Responder Training

Idaho Power sponsored a training for first responders and firefighters on April 19, 2018, at the Clarion Inn in Ontario, Oregon. The four-hour training, developed by the National Alternative Fuels Training Consortium (“NAFTC”), was conducted by Lieutenant Chris Womock of the Indianapolis Fire Department. The training covered identification of EVs, safety features, identifying the high voltage system, and accident response.

The training was promoted directly to fire and emergency services departments through email and phone calls. Idaho Power also distributed an informational flyer on the training event to target audiences. The flyer is provided Attachment 1.

Twenty-one first responders and emergency services personnel attended the training. Eight of the attendees were from Oregon, representing Ontario Fire and Rescue, Baker Rural Fire, Huntington Fire Department, and the Greater Bowen Valley Rural Fire Department.



Participants received a 180-page training manual that included information, instruction, learning activities, review questions, and supplemental resources regarding hybrid electric vehicles, plug-in hybrid electric vehicles, battery electric vehicles, and fuel cell electric vehicles. Participants of the training were eligible for Continuing Education Credits, which was coordinated through the NAFTC.¹

Participants provided feedback on the training event through course evaluations. In general, feedback was positive. The trainer received the highest possible ratings on nearly all evaluation questions. The average score of all evaluations was 4.8 out of 5.0.

Idaho Power believes the first responder training event was a success and would sponsor the event again. The event was well received by participants and aligned with Idaho Power’s goals to promote EVs by dispelling myths about safety in keeping with the Company’s focus on public and employee safety.

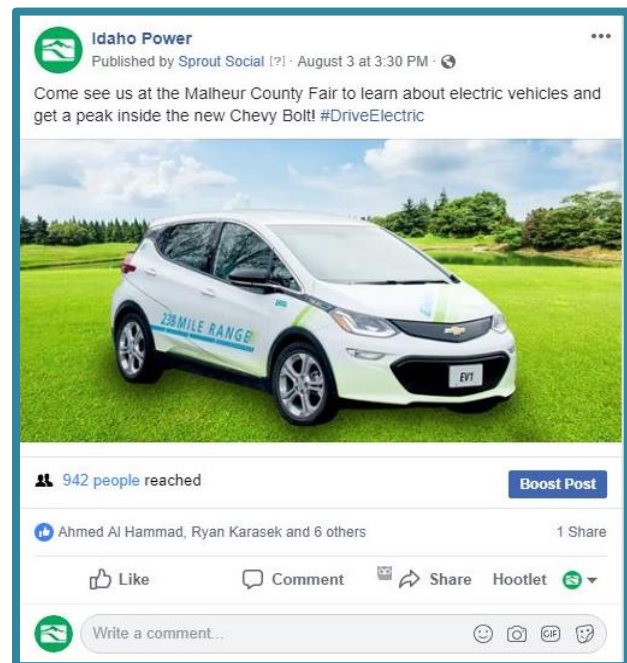
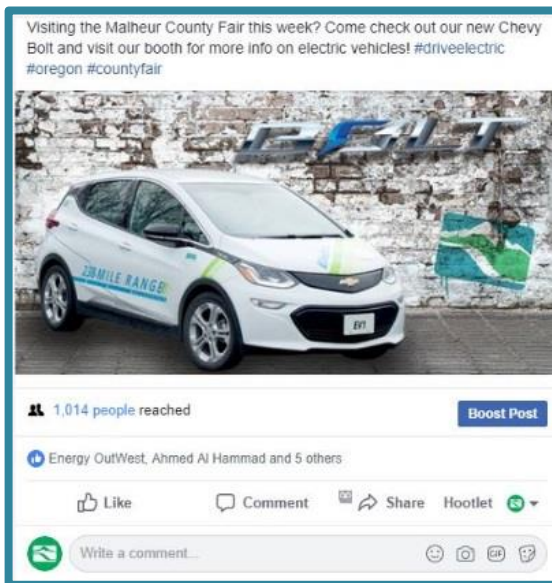
II. Malheur County Fair

The Malheur County Fair is the biggest event in Idaho Power’s Oregon service area with an estimated attendance of 23,000 over five days. For the 2018 Malheur County Fair, Idaho Power created an EV display and showcased its all-electric Chevy Bolt. The Chevy Bolt is wrapped to highlight the 238-mile vehicle range. The Chevy Bolt also had window posters highlighting the features of the vehicle and brochures on its windshield for passersby. Inside an adjacent building, Idaho Power staffed a booth with additional EV

¹ <http://naftc.wvu.edu/afvsafetytraining/>

brochures and information. Idaho Power employees were prepped with talking points including information on the Oregon state tax credits for EV purchases. Idaho Power had three types of brochures on hand: EVs, Home Charging, and Workplace Charging. The brochures are provided as Attachment 2.

Idaho Power promoted its attendance at the Malheur County Fair through social media. Two Facebook posts promoting Idaho Power’s EV informational booth and the Chevy Bolt were targeted to Oregon customers and reached 1,956 people.



Idaho Power employees interacted with approximately 1,000 people at the event and had 30 to 40 informative conversations each day. Idaho Power employees reported a number of people stopped by the booth after grabbing a brochure from the Chevy Bolt windshield. The majority of conversations with event goers centered around EV range and home charging stations, while others were specific to price, tax incentives, and public charging locations.

III. Ontario Live After Five

Idaho Power set up an EV display at the September 5, 2018, Live After Five event at the Four Rivers Cultural Center in Ontario, Oregon. Approximately 200 people attended the outdoor event which included booths supporting the local high school, a band, and food. Idaho Power displayed the Chevy Bolt and educated several dozen customers about the benefits of EVs.

Idaho Power promoted its presence at the event through social media. A boosted Facebook post targeted to Oregon customers resulted in 4,859 people reached.



IV. Other Accomplishments

In addition to hosting an EV training event and an EV informational booth at public events, in 2018, Idaho Power worked with stakeholders including Electrify America, the Oregon Department of Environment Quality (“Oregon DEQ”), and Forth, to promote EV adoption in Oregon. The Company also enhanced its EV web content and utilized its customer newsletter to provide EV education to its Oregon customers.

A. Electrify America Fast Charging Site Opens in Huntington, Oregon

On August 7, 2018, Electrify America opened a DC Fast Charging site in Huntington, Oregon. The site is the first in the western U.S. to boast a 350-kW charging station. The site has four charging stations, with six ports total, including:

- Three ports with a capacity of 150 kW and Combined Charging System (“CCS”) plug types (for most American and European cars)
- Two ports with a capacity of 350 kW and CCS plug types

- One port with a capacity of 50 kW and a CHAdeMO plug type (for Japanese models)



Idaho Power provided technical assistance during the site evaluation phase. Through the Company's standard engineering processes, Idaho Power worked with Electrify America to facilitate the required infrastructure upgrades. Idaho Power also supplied its Chevy Bolt for use during station commissioning and testing.



Idaho Power also helped promote the new station creating a joint press release with Electrify America. The press release led to news stories in the Argus Observer,² which serves Malheur County, and a TV interview on KTVB Boise, which broadcasts into eastern Oregon. Idaho Power also created a video, “Electric Vehicles Get a Boost in Eastern Oregon,” highlighting the DC Fast Charging site in Huntington, Oregon, which is posted on YouTube.³

B. Volkswagen Settlement Funding Comments

In July 2018, Idaho Power provided comments to the Oregon DEQ in support of investing up to 15 percent of Volkswagen Mitigation Funds⁴ in charging infrastructure across Oregon. Idaho Power emphasized the importance of connecting the eastern and western parts of the state and rural areas to allow long-range EV travel across Oregon and to the intermountain west.

C. Forth

In September 2018, one of Idaho Power’s EV subject matter experts, Patti Best, joined the Forth Board of Directors. Formerly known as Drive Oregon, Forth’s mission is to advance electric, smart, and shared transportation in the Pacific Northwest and beyond through innovation, demonstration projects, advocacy and engagement. By having one of its employees on the Forth Board of Directors, Idaho Power will be able to leverage information and ideas on promoting EVs in its Oregon service area.

D. Choose EV Web Platform

In November 2018, Idaho Power launched new and improved EV web content using the Choose EV web platform. The Choose EV web platform includes interactive tools to research EVs, compare cars and benefits, and locate state and federal rebates. The site highlights the Oregon State EV rebate and Charge Ahead fund. See www.idahopower.com/ev for more information on the Company-sponsored Choose EV web platform.

E. Customer Newsletter

Idaho Power featured EV content in its July 2018 Connections newsletter, which is sent to all Idaho Power customers. The EV article discusses types of EVs, range

² https://www.argusobserver.com/news/huntington-gets-station-for-charging-e-vehicles/article_58dadb42-b2ba-11e8-9206-6b7d092ffb9a.html

³ <https://www.youtube.com/watch?v=aBwxpfahMsw>

⁴ For violations of federal motor vehicle emission standards, Volkswagen is required to provide more than \$2.9 billion to an Environmental Mitigation Fund to mitigate previous and current excess emissions of nitrogen oxides by noncompliant vehicles. The initial allocation to the state of Oregon is approximately \$72.9 million to be spent over 10 years. <https://www.oregon.gov/deq/FilterDocs/VWmitigplan.pdf>

capabilities, cost savings, and charging. The July Customer Connections Newsletter is provided in Attachment 3.

PROGRAM EVALUATION (OAR 860-087-0040)

Pursuant to OAR 860-087-0040, Idaho Power is required to evaluate and report the results of its Program. The Program evaluation is to include information required under OAR 860-087-0030(1)(g)(A)-(F), as well as OAR 860-087-0040(1)(b)-(h).

I. OAR 860-087-0030(1)(g)(A)-(F)

OAR 860-087-0030(1)(g)(A)-(F) specify how electric companies will evaluate their TE programs and are established as part of companies' TE program applications. In its application, Idaho Power detailed how it would evaluate its Program and provides a recap below in compliance with OAR 860-087-0040.

A. Timeline of Program Evaluation and Evaluation Reporting Schedule (OAR 860-087-0030(1)(g)(A))

In compliance with Commission Order No. 17-286, Idaho Power will provide annual evaluation reports to the Commission in 2019, 2020, and 2021. The Program evaluation report will address all reporting requirements specified in ORS 860-087-0040.

B. Cost of Evaluation (OAR 860-087-0030(1)(g)(B))

In the Company's Program application, it estimated program evaluation costs of \$500 primarily for printing and focus group costs. Idaho Power incurred minimal costs to evaluate the Program for 2018. The evaluation costs primary consisted of labor costs to conduct a survey among its Oregon Empowered Community⁵ participants to assess EV awareness. The Company has not included labor expense in the 2018 Program costs as it relied on its existing workforce to conduct the survey.

C. How the Evaluation was Conducted and Whether Third-Party Evaluation was Necessary (OAR 860-087-0030(1)(g)(C))

In the Company's Program application, Idaho Power stated that it would conduct Program evaluation internally due to the cost of third-party evaluations for an education program of this size. As planned, Idaho Power conducted the Program evaluation internally.

⁵ The Empowered Community is an online survey group facilitated by Idaho Power, consisting of Idaho and Oregon customers in various rate classes.

D. How the Evaluation Addresses Identified Barriers (OAR 860-087-0030(1)(g)(D))

As explained in Idaho Power’s Program application, during the three-year Program period, Idaho Power expects to evaluate Program impact on market barriers by examining updated data and trends to identify and quantify the pace and extent of EV adoption in its service area. Specifically, evaluation efforts will attempt to determine if and how the Program impacted EV awareness, the number of EVs, the availability of EVs and access to EV charging stations within Idaho Power’s Oregon service area. Data used for this evaluation is detailed in the following section.

E. A Discussion of the Method of Data Collection and How the Data was Used to Evaluate the Effectiveness of the Program (OAR 860-087-0030(1)(g)(E))

As outlined in the Company’s TE Program application, Idaho Power used a combination of existing data sources and internal survey instruments to collect Program data. Those data sources and how they were used to evaluate Program effectiveness are provided in the table below.

Program Impact	Evaluation Sources
Number of Customers Reached	<ul style="list-style-type: none"> • Attendees at events • Social media click-through rates • Attendees at trainings
Awareness Achieved	<ul style="list-style-type: none"> • Empowered Community Online Panel • Company-facilitated focus groups • Surveys
Number of EVs	<ul style="list-style-type: none"> • Data from the Oregon DEQ
Availability of EVs	<ul style="list-style-type: none"> • Dealership contact
Number of Public Charging Stations	<ul style="list-style-type: none"> • Plugshare.com

F. Any Other Evaluative Information Requested by the Commission (OAR 860-087-0030(1)(g)(F))

Not applicable.

II. OAR 860-087-0040(1)(b)-(h)

OAR 860-087-0040(1)(b)-(h) outline the information that must be included in companies’ TE program evaluation reports. The following section includes this information for Idaho Power’s Program.

A. Assessment of Program Costs and Benefits Realized by Ratepayers and the Electric Company (OAR 860-087-0040(1)(b))

Idaho Power estimated total annual program costs including delivery, marketing, administration, and evaluation of \$8,000. For 2018, Program costs totaled \$7,076. A breakdown of Program costs is provided below:

Group	Cost
Events & Training	\$4,875
Marketing	\$50
Administration	\$2,151
Total	\$7,076

The Company did not seek cost recovery for the Program. Rather, all costs have been expensed.

As the proposed program is an awareness and education program, immediate financial benefits to customers are not quantifiable. However, the Company does believe the Program is providing intrinsic benefits to its customers. For example, participants in Idaho Power’s EV first responder training event were appreciative for the training opportunity and commented through course evaluations that the training provided valuable information. Although Idaho Power cannot quantify these types of benefits, there is value in EV education and awareness and its impact on barriers to adoption.

B. Tracking of Program Costs Over the Life of the Program (OAR 860-087-0040(1)(c))

As 2018 was the first year of the Program, lifetime costs total \$7,076, as detailed above.

C. Progress Against Identified Market Barriers and Implementation Barriers (OAR 860-087-0040(1)(d))

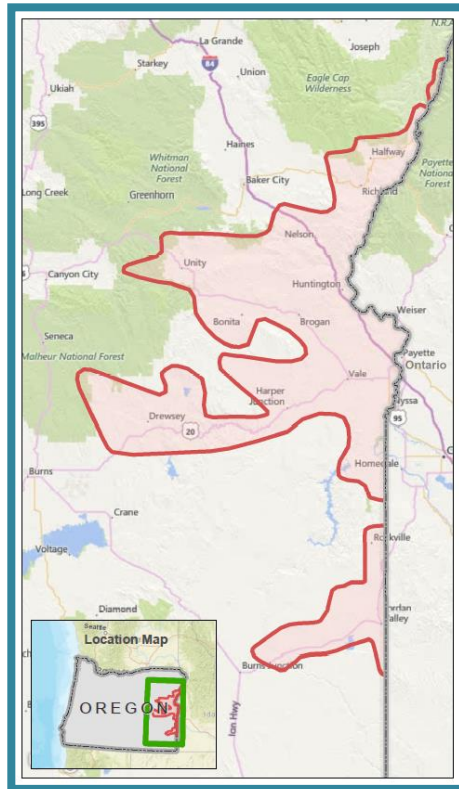
Identified barriers to EV adoption include driving range, access to public charging, dealership availability, and price. These barriers exist for Idaho Power’s Oregon customers, and are exacerbated by the characteristics of the service area.

Idaho Power’s Oregon service area spans some of the most remote landscape across eastern Oregon. The service area encompasses 4,744 square miles, and is largely comprised of rural communities. The largest town in Idaho Power’s Oregon service area is Ontario, which has a population of roughly 11,000. The next largest towns are Nyssa, with a population of approximately 3,000, and Vale with a population of approximately 2,000. The majority of the remaining towns in Idaho Power’s Oregon service area have populations of less than 300. As of year-end 2018, Idaho Power’s

Oregon service area consisted of 19,173 total customers, 13,510 of which are residential customers.

1. Market Barrier: Driving Range

Idaho Power’s Oregon service area is located in a remote portion of eastern Oregon. The distance between Ontario and Nyssa, the two largest towns in the Company’s Oregon service area, is 13 miles. The closest metropolitan statistical area is Boise, Idaho,⁶ which is 56 miles east of Ontario, Oregon. The closest metropolitan statistical area within Oregon is Bend,⁷ which is 260 miles west of Ontario. Below is a map of Idaho Power’s service area in Oregon:



The rural nature of Idaho Power’s Oregon service area presents a challenge to the range capabilities of midlevel EVs. In order to travel outside the rural area, or even between many of the towns within this area, customers would likely need a newer model EV with longer range capabilities, which comes at a higher cost, or access to public charging, which is limited.

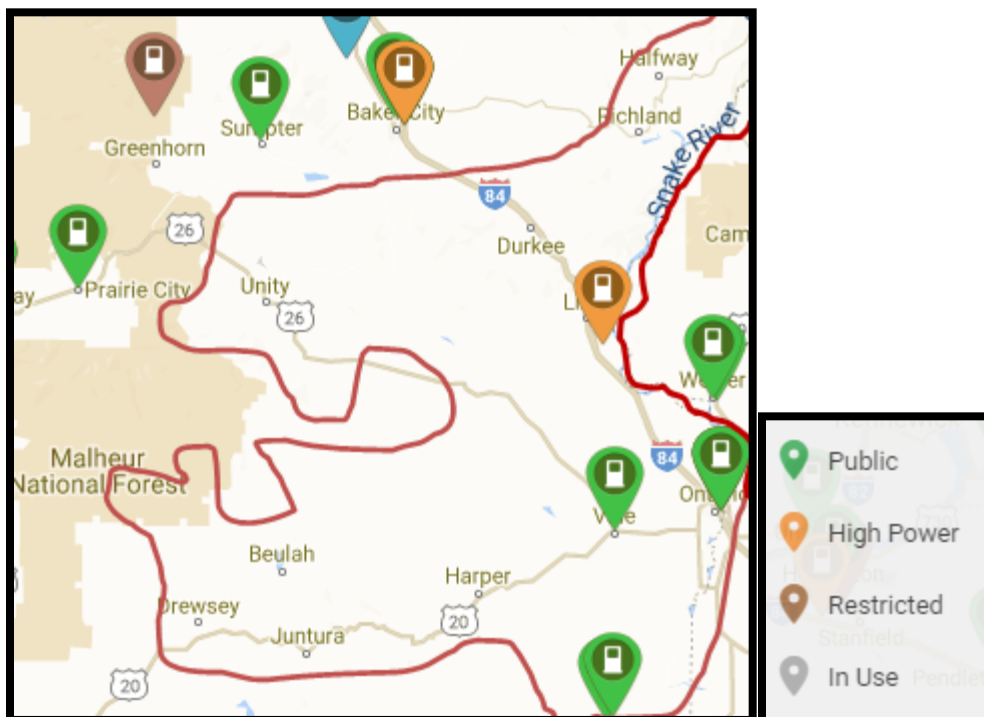
⁶ “September 2018 Office of Management and Budget Bulletin No. 18-04.” U.S. Census Bureau. <https://www.whitehouse.gov/wp-content/uploads/2018/09/Bulletin-18-04.pdf>.

⁷ “September 2018 Office of Management and Budget Bulletin No. 18-04.” U.S. Census Bureau. <https://www.whitehouse.gov/wp-content/uploads/2018/09/Bulletin-18-04.pdf>.

Idaho Power is encouraged by the improvements in battery technology and driving range in newer model EVs. The Company believes continued improvement in this area will ease this market barrier for its Oregon customers so long as it is not cost prohibitive, another market barrier that will be discussed later.

2. Market Barrier: Public Charging

Public charging station availability is limited within Idaho Power's Oregon service area. As of September 2019, Plugshare.com, a website that allows users to find and review charging stations, reported four locations to charge EVs in the Company's Oregon service area. Of these four locations, the Electrify America DC Fast Charging site located in Huntington, Oregon is the only EV station designed for EV charging. The other locations, including a hotel, RV park, and state park, consist of electrical outlets that EV drivers can use. Below is a map of charging station availability in Idaho Power's Oregon service area, provided by PlugShare.com:



3. Market Barrier: Dealership Availability

As of June 2019, there were 25 EVs registered in Idaho Power's Oregon service area. A contributing factor to the absence of EV's in eastern Oregon is the lack of availability. In October 2019, Idaho Power contacted the car dealerships located within its Oregon service area to determine the availability of EVs. None of the dealerships carry new EVs, however, from time to time, they may acquire a used EV as a trade in. Boise, Idaho is the closest location

to the Company's Oregon service area that would offer a variety of EVs, including Battery Electric Vehicles. Boise is 56 miles from Ontario.

4. Market Barrier: Price

Although the range and cost of EVs are improving as technology advances, the price of EVs remains a barrier to adoption. This barrier is amplified when considering the income levels of Idaho Power's Oregon customers. According to the United States Census Bureau,⁸ the median household income for Ontario, Oregon is \$31,182, compared to \$54,547 for Boise, Idaho and \$61,532 for Portland, Oregon. Furthermore, in a report released in January 2018, the Oregon Department of Human Services⁹ identified Malheur County, the county in which the majority of the Company's Oregon customers reside, as a "high poverty hotspot,"¹⁰ or a geographic concentration of poor residents. The report states that Malheur County has three high poverty locations: Ontario, Nyssa, and Vale, the three largest towns in Idaho Power's Oregon service area. The report states that 91 percent of Malheur County's poor and 90 percent of the county's Supplemental Nutrition Assistance Program clients live in these three towns.

In evaluating its Program and TE Plan, which has been filed concurrently with this report, Idaho Power was mindful of these characteristics, particularly the financial impact that programs and infrastructure investments can have on its 19,173 Oregon customers.

Again, due to the educational nature of the Company's Program, it is difficult to measure the direct impact the Program has had on driving range, public charging, dealership availability, and price barriers, if any. The Company is monitoring technological progress, dealership availability, and available incentives so that it can market this information to customers and help address these barriers. Although Idaho Power does not have current plans to invest in charging infrastructure due to the costs it could impose on its customers, the Company will continue to assess how it can leverage partnerships to promote and market public charging in its Oregon service area, similar to its work with Electrify America and the Huntington public charging station.

⁸ Data derived from U.S. Census Bureau American Fact Finder. Median Household Income in the past 12 months (in 2017 inflation-adjusted dollars). 2013-2017 American Community Survey 5-year estimates. Dataset ID: S1901. Analysis derived data for Ontario, and separate analyses derived the same data for the cities of Boise and Portland for comparison purposes.

⁹ "High Poverty Hotspots – Malheur County" *Oregon.gov*. Oregon Department of Human Services Office of Forecasting, Research, & Analysis.

¹⁰ Hotspot: The U.S. Census Bureau's definition of a poverty area is a tract with a poverty rate of 20 percent or more. The Oregon Department of Human Services defines a high poverty hotspot as a census tract or contiguous group of tracts with poverty rates of 20 percent or more for two consecutive measurements. Poverty rates were measured in the Census Bureau's 2011-2015 and 2010-2014 American Community Surveys.

D. Current Risk that Investment Will Result in Stranded Costs (OAR 860-087-0040(1)(e))

Not applicable.

E. Whether Any Program Modifications are Recommended to Help Meet Expected Outcomes (OAR 860-087-0040(1)(f))

Idaho Power did not make any modifications to the Program structure for 2019. However, the Company is exploring options for 2020 training events and public events to ensure new audiences are reached, customer interactions are maximized, and Program funds are used most efficiently. Currently, the Company is evaluating an EV charger installation training course for electricians. The Company is also considering another first responder training event due to the success and positive feedback received from the 2018 first responder training.

Idaho Power is also exploring funding a Level 2 Charging Station in Ontario, Oregon in support of its training and education events for 2020. Events are typically held at the Treasure Valley Community College or the neighboring Four Rivers Cultural Center. A Level 2 charging station at or near this location would enhance training and educational opportunities, giving participants the chance to see this technology and understand how it connects to the vehicles.

The Company hosted an EV informational booth and showcased an AEV at the Malheur County Fair in 2019 and plans to do so again in 2020. The Malheur County fair is the largest gathering of residential customers in Idaho Power's Oregon service area with attendance estimated at 23,000 over five days. The event is a low-cost option that maximizes customer interactions.

Idaho Power is undecided on whether it will participate in Ontario's Live After Five event again. While the event drew approximately 200 people and the attendees were engaged and interested in the Company's EV, the potential exists that this event will draw the same people in future years and may not target new audiences.

F. Updated Market Data, Including a Description of Changes in the Condition of the Transportation Electrification Market within the Electric Company's Service Territory (OAR 860-087-0040(1)(g))

In Idaho Power's initial Program application, the Company explained that TE is essentially nonexistent in the region of eastern Oregon. Unfortunately, this is still the case. Idaho Power's customers are in the awareness phase of the adoption cycle. While the Company believes that progress is being made in terms of awareness and education, it will be years before the TE market experiences significant change. Idaho Power includes a discussion below on updated market metrics, as well as survey statistics.

The Company's initial Program application noted that as of June 2016, the Oregon DEQ reported there were 14 EVs registered in Oregon counties that are partially or fully served by Idaho Power. As of June 2019, the Oregon DEQ reports that there are 25 EVs registered in Idaho Power's service area, representing a 79 percent increase. As explained in Idaho Power's TE Plan, the Company is projecting that 37 EVs will be registered in its Oregon service area by December 2020 and approximately 130 EVs by December 2025.

As noted previously, Plugshare.com currently reports that there are four charging locations within the Company's Oregon service territory, consisting of 10 charging ports total. Compared to when the Company filed its initial Program application in 2016, this represents a 50 percent increase in the number of charging ports, which is attributable to the Electrify America charging station in Huntington, Oregon.

As discussed previously, in 2016 none of the car dealerships located in the Company's Oregon service area carried EVs. As of October 2019, this had not changed, and dealerships cite no plans to carry EVs. The Company will continue to monitor availability and work with dealerships to address barriers.

An August 2016 survey of Idaho Power's Empowered Community revealed that 50 percent of the Oregon respondents were "not very familiar" or "not familiar at all" with EVs. The Company posed this survey question again to its Oregon members of the Empowered Community in December 2018 to gauge changes in the level of EV awareness. The December 2018 survey results showed that 45 percent of respondents were "not very familiar" or "not familiar at all" with EVs.

The December 2018 survey provided other insightful statistics including, zero respondents owned an EV at the time the survey was conducted, and 55 percent said they had never been in or seen an EV or were unsure if they had ever been in or seen an EV. Of the 55 percent of participants that say they were "very familiar" or "somewhat familiar" with EVs, 64 percent said they "have become more informed about EVs in the last two years", and 55 percent said they "like EVs but have questions or concerns." Idaho Power is encouraged by the percentage of respondents whose EV knowledge has increased in the last two years, as well as the percentage of respondents who like EVs and would likely be open to further education and potential adoption. The December 2018 Empowered Community EV survey and response statistics are provided in Attachment 4.

G. Evaluation of Whether and How the Program has Accelerated Transportation Electrification (OAR 860-087-0040(1)(h)(A))

As the Program emphasizes awareness and education, it is difficult to determine and measure how the Program has accelerated TE. Idaho Power continues to believe that market barriers to adoption for its eastern Oregon customers are significant and it will take years for market transformation to occur in this remote, rural area. Nonetheless,

Idaho Power is committed to increasing awareness of the benefits of EVs and ensuring that its customers have access to the latest information.

Idaho Power believes that education and awareness is the first step in accelerating TE. The consumer purchase cycle begins with awareness of the technology, followed by consideration to determine if that vehicle will meet the consumer's needs. Once a customer has determined that the technology could work, they begin to evaluate the different options and eventually may purchase a vehicle. The Company's TE Program is a prudent first step towards accelerating TE and achieving the objectives established by the Legislative Assembly in SB 1547.

H. Evaluation of Whether and How the Program has Stimulated Innovation, Competition and Customer Choice (OAR 860-087-0040(1)(h)(B))

As the Program emphasizes awareness and education of EVs, it has not had an impact on innovation, competition, and customer choice. Perhaps in the long-term, the Program may have an indirect impact on these elements through increased consumer demand for EVs and charging equipment. Idaho Power will be attentive to these components in the future if/when the TE market in its Oregon service area has expanded and warrants more infrastructure.

I. Evaluation of Whether and How the Program has Supported System Efficiency and Operational Flexibility, Including the Ability to Integrate Variable Resources (OAR 860-087-0040(1)(h)(C))

As the Program emphasizes awareness and education, it has not had an impact on the Company's electrical system efficiencies and operational flexibility, including the ability to integrate variable generating resources.

CONCLUSION

Idaho Power's Program intends to improve visibility and awareness of EVs in its Oregon service area through targeted education, including showcasing EVs at local events, providing resources to customers interested in learning more about EVs, and offering EV training to trade allies. The Program is an essential first step to gaining customer understanding of the benefits of EVs, which will eventually lead to increased adoption and acceleration of TE. Idaho Power achieved its Program objectives for 2018 and looks forward to Program successes in the coming years.

BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

IDAHO POWER COMPANY

Attachment 1
Electric Vehicle Training Flyer

November 1, 2019



Firefighter Alternative Fuel Vehicle **SAFETY TRAINING**

Presented by the National Alternative Fuels Training Consortium

Electric Vehicles (EV) are now more common with manufacturers frequently announcing new models coming to market. With increased electric vehicle use, the chance of these new technologies being involved in a vehicular accident also increases.

Firefighters need to be trained on the differences between these vehicles and their conventional counterparts and on the proper procedures for safely addressing incidents involving electric vehicles. This course is designed to educate firefighters on the properties and procedures to follow when dealing with EVs and alternative fuel vehicles.

BOISE

**MON. • APRIL 16
8 a.m.—Noon**

Idaho Power Headquarters
1221 W Idaho St., Boise

TWIN FALLS

**TUES. • APRIL 17
8 a.m.—Noon**

Twin Falls Visitor Center
2015 Nielsen Point Pl., Twin Falls

POCATELLO/ CHUBBUCK

**WED. • APRIL 18
8 a.m.—Noon**

Idaho Central Credit Union
4400 Central Way, Chubbuck

ONTARIO, OREGON

**THURS. • APRIL 19
8 a.m.—Noon**

Clarion Inn
1249 Tapadera Ave., Ontario

Course materials provided:

- Participant Manual – ISBN 978-1-933954-28-8
- Includes review questions and learning activities
- Each module of the Participant's Manual contains text, illustrations, explanatory figures and tables, module review questions, and a list of key terms and abbreviations.

Course designed for:

- Firefighter officers and firefighting trainers

Taught by certified NAFTC instructors, this course will enable you to:

- List the key properties, characteristics, and functions of alternative fuels.
- Explain the operation of AFV/EVs.
- Recognize AFV/EV components.
- Identify the risks and hazards common to alternative fuel storage, including high-voltage batteries and high pressure gaseous fuel cylinders.
- Explain the major components of AFV/EV fueling and charging systems.
- Describe AFV/EV fueling and charging station safety systems.
- Identify the risks involved with the transport and handling of alternative fuels.
- List personal protective equipment necessary for firefighters when responding to an AFV/EV incident.
- List the steps required to secure an AFV/EV.
- List the steps for rescuing occupants from a damaged AFV/EV.
- Demonstrate proper fire response to an alternative fuel fire.

Space is limited to 30 participants per location.

To Register, visit www.idahopower.com/ev

Questions? Call Patti Best at 208-388-5948.

BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

IDAHO POWER COMPANY

Attachment 2
Electric Vehicle Brochures

November 1, 2019

Want to learn more?

Visit idahopower.com/EV to:

- / Calculate savings
- / Compare cars
- / Learn about tax credits and incentives
- / Find charging stations
- / Learn about providing charging stations at your business



Chevy Bolt

Electric Vehicles



IDAHO POWERED™

With prices among the lowest in that nation, record reliable service and clean energy sources, Idaho Power proudly supports customer use of EVs. The company even has its own fleet of cost-effective, environmentally friendly EVs. These include passenger cars, pickup trucks, forklifts, bucket trucks and utility vehicles.

Idaho Power will continue to monitor EV technology and work with customers to add new charging stations so EVs can be enjoyed by all.

Thinking about adding an
EV TO YOUR FLEET?

Come see ours in **ACTION**

Email us at ev@idahopower.com.



Nissan Leaf

Chevy Volt



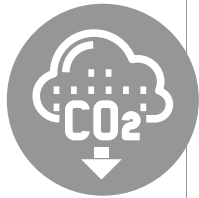
P.O. Box 70
1221 W. Idaho St.
Boise, ID 83702
idahopower.com

What are the benefits of electric vehicles (EV)?



Fuel savings

Mile for mile, it costs less than half to fuel an EV compared to a gas-powered vehicle. And with electricity prices among the lowest in the nation, Idaho Power makes charging EVs affordable.



Better air quality

With low or no tailpipe emissions, EVs reduce air pollution.



Less maintenance

All-electric vehicles have fewer moving parts and fewer fluids, resulting in lower maintenance costs. Also, most EVs come with a manufacturer warranty of up to 10 years or 100,000 miles.

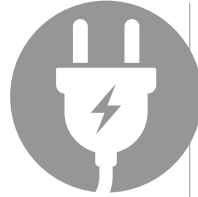


Performance

With instant acceleration, EVs are fun, quiet and easy to drive.

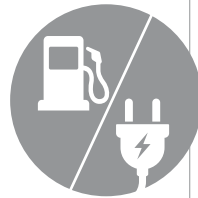


What are the types of EVs?



All-electric

All-electric vehicles have a battery and an electric motor instead of a gas tank and an internal combustion engine. They run entirely on electricity and do not produce exhaust from the burning of fossil fuels. They are “fueled” by plugging into an outlet.



Plug-in Hybrid

Hybrid EVs have a battery and an electric motor, as well as a gas-powered internal combustion engine. These EVs can run off the battery, then switch to gas power when the battery is depleted. Like all-electric EVs, hybrid EVs are plugged in to charge the battery.

How are EVs charged?

EVs can be fueled by simply plugging them into an outlet connected to the power grid. There are different types, or levels, of outlets that charge at different speeds. The time it takes to charge will depend on the size of the battery, how full it is and the type of charger. Since most people drive less than 30 miles a day, it may only take a short time to top off the battery each night.

A standard household 120-volt outlet (called a **Level 1 charger**) may be used but takes longer to charge — 9 to 24 hours for full charge.

A faster charging outlet (called a **Level 2 charger**) fully charges in 4 to 6 hours and can be installed in homes but require additional equipment.* More efficient chargers are labeled ENERGY STAR®.

Fast-charging stations (called **DC fast chargers**) are available along interstate corridors for long-distance travelers. In the time it takes to take a break or stop for lunch (25 to 40 minutes), EVs can fully recharge at these stations.



How far can EVs travel?

Different EVs can travel different distances before needing to be charged (called range), but most EVs can travel well over 100 miles per charge. Some EVs can even travel over 300 miles per charge! This range gets most drivers easily through their typical commute for several days.

TIP: Use the timer on your car or charger to manage when you charge. Charging after 9 p.m. helps keep prices lower for everyone.

Where can I charge my EV?

Outside of the home, EV charging stations are available to use throughout the country. You can find these stations by visiting idahopower.com/EV or plugshare.com.

*Idaho Power recommends talking to an electrician to see if electric-service changes are needed for any electrical work.

Compare EV options and federal tax credits at idahopower.com/ev

Fluctuating gas prices, advancements in battery technology, environmental concerns and federal incentives have all led to an increased interest in electric vehicles (EVs). As your electricity provider, Idaho Power is preparing for accelerated consumer adoption of EVs and wants to help our customers better understand the technology.

How much energy does it take to charge an EV?

It takes about 0.3 kilowatt hours (kWh) to go one mile in an EV. So for example, a 10-mile commute to work would require 3 kWh of electricity.

DOE's eGallon calculator provides up-to-date gasoline vs. electricity prices at: www.energy.gov/maps/egallon.



IDAHO POWERED™



What about Idaho Power's Time of Day plan?

We're encouraging EV owners to consider our Time of Day pricing plan instead of the Standard plan. The Time of Day plan has lower prices weekdays after 9 pm and all day on weekends and holidays. This option could save you money and, by charging during off hours, you'll help even out demand on the power grid. For more information, visit idahopower.com/TOD.

The first step to determining which plan is right for you is to register to use myAccount. Signing up is easy and you'll get access to detailed information about your account and energy use. To enroll, go to idahopower.com/register.

Electric Vehicle HOME CHARGING



Learn more at idahopower.com/ev



P.O. Box 70
1221 W. Idaho St.
Boise, ID 83702
www.idahopower.com



What is an EV?

EVs run off an electric motor and a battery pack. They're powered entirely by electricity and have low to no emissions. Also referred to as Battery Electric Vehicles (BEVs) or Plug-in Electric Vehicles (PEVs), EVs are charged by plugging into a charging station.

Example: Nissan Leaf

Plug-In Hybrid Electric Vehicles (PHEVs) are hybrids with larger battery packs and an Internal Combustion Engine. PHEVs can be plugged into a charging station to recharge their battery pack(s) or run off gasoline.

Example: Chevy Volt

What are the benefits of owning an EV?

Fuel savings: Electricity as a fuel can be significantly cheaper than gasoline or diesel.

Better air quality: EVs are low to no emissions vehicles, which improves air quality.

Local fuel: More than half of Idaho Power's energy is generated in our service area, meaning your fuel dollars stay at home.

Less maintenance: EVs have far fewer moving parts to be maintained than traditional vehicles.

Performance: Unlike traditional engines, EVs are always "on," meaning instant acceleration.



Nissan Leaf

Chevy Volt

I'm interested – how do I charge it?

EVs are powered all or in part by electricity. The time it takes for a full charge depends on the type of vehicle, temperature, driving habits and the type of charging station, among other factors.

There are three options for charging:

Level 1 – 120V, dedicated 15-20A circuit.

Used both at home and work, Level 1 charging draws a lower electrical demand but takes longer to charge a car than the other options.

Level 2 – 240V, dedicated 30-40A circuit.

Typically found at businesses and public sites, these units are also available for home use. This type of unit will recharge an EV much faster than Level 1, allowing multiple users throughout the day. Home EV charging stations typically range from \$600 to \$800 plus installation. Installation costs vary and will be higher if wiring or electrical service upgrades are needed.

DC Fast Charging – 480V.

These units are typically found at public facilities. Note that not all EVs are equipped for fast charging.



Visit www.PlugShare.com to find public charging locations in your area.

Charging at Home

EVs all come with a Level 1, 120 Volt charging cord that can be plugged into a standard electric socket, providing a slow charge. While the Level 1 may work well for a plug-in electric hybrid, it may not be sufficient for an all electric vehicle, which can take overnight or longer to fully charge at 120 Volts.

For faster charging, you'll want a Level 2 charging station. Level 2 stations require a dedicated 208/240 Volt circuit, similar to wiring used for electric clothes dryers.

Placement

Consider where you'll park your EV. Make sure the cord is long enough to reach your parking spot. For stations installed outdoors, ensure the unit is rated for outdoor weather.

Compatibility

Make sure the station you choose is compatible with the make, model and year of vehicle and your electrical service. The speed a car can charge is measured in kilowatts (kW) or Amps and can vary depending on the car. The more kilowatts or amps, the faster the charge. If your electrical service panel can handle it, you'll likely want a charging station that can charge as fast as your car can accommodate.

Where to buy a charging station

Charging stations can be purchased online through a variety of retailers. Your vehicle manufacturer may offer recommendations or discounts on specific products.

Idaho Power recommends using a licensed electrician for any home or workplace electrical work.

Fluctuating gas prices, advancements in battery technology, environmental concerns and federal incentives have all led to an increased interest in electric vehicles (EVs). As your electricity provider, Idaho Power is preparing for accelerated consumer adoption of EVs and wants to help our customers better understand the technology.

What is an EV?

EVs run off an electric motor and a battery pack. They're powered entirely by electricity and have zero tailpipe emissions. Also referred to as Battery Electric Vehicles (BEVs) or Plug-in Electric Vehicles (PEVs), EVs are charged by plugging into a charging station. **Example: Nissan Leaf.**

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Nissan Leaf

Chevy Volt

IDAHO POWERED™

Idaho Power's leading the way:

To get familiar with the technology, Idaho Power has added several passenger EVs to our fleet, as well as hybrid-electric bucket trucks, electric utility vehicles and battery-assisted trucks. We also installed five charging stations of varying make and model at our Downtown Boise office, specifically for employee workplace charging. We will continue to monitor advancements in EV and charging station technology to make sure our customers have the information they need.

Email ev@idahopower.com for information.



EV WORKPLACE Charging



Want to see
CHARGING STATIONS?
in **ACTION?**
Schedule a visit.



Learn more at
idahopower.com/ev



P.O. Box 70
1221 W. Idaho St.
Boise, ID 83702
www.idahopower.com



Charging an EV

EVs are powered all or in part by electricity. The time it takes for a full charge depends on the type of vehicle, temperature, driving habits and the type of charging station, among other factors.

There are three options for charging:

Level 1 – 120V, dedicated 15-20A circuit.

Used both at home and work, Level 1 charging draws a lower electrical demand but takes longer to charge a car than the other options.

Level 2 – 240V, dedicated 30-40A circuit.

Typically found at businesses and public sites, these units are also available for home use. This type of unit will recharge an EV much faster than Level 1, allowing multiple users throughout the day.

DC Fast Charging – 480V.

These units are typically found at public facilities. Note that not all EVs are equipped for fast charging.



Compare EV options and Federal Tax Credits at www.fueleconomy.gov

Workplace Charging

Installing workplace charging stations for employee, customer and fleet vehicles offers a low-cost benefit that will expand your business' transportation and parking options. Charging at work or in public places can help EV drivers double their all-electric daily commuting range and provides a charging location for employees and customers without access to home charging. Level 1 and 2 charging stations cost anywhere from \$1,000 to over \$7,500, depending on the number of ports and functionality. Installation costs are additional.

For employees: Most employees spend 40 hours a week or more at work, and studies show that next to home, work is the preferred place to charge.

For your fleet: Adding EVs to your company fleet demonstrates your company's commitment to sustainability. EVs are fun to drive, easy to maintain, and may even reduce your business' transportation-related operating costs.

For your customers: Installing charging stations for customers with EVs provides a convenient way to recharge while they visit your business, and may encourage them to stay longer or visit more frequently.



How much energy does it take to charge an EV?

It takes about 0.3 kilowatt hours (kWh) to go one mile in an EV. So for example, a 10-mile commute to work would require 3 kWh of electricity.

DOE's eGallon calculator provides up-to-date gasoline vs. electricity prices at: www.energy.gov/maps/egallon.

I'm Ready to Buy – What's Next?

- ⚡ Choose the EV charging station that best suits your needs.
- ⚡ Consult with the product manufacturer on any special installation requirements.
- ⚡ Get bids from contractors and electricians before proceeding.
- ⚡ Ensure all local, state, and federal codes are met.



Visit www.PlugShare.com to find public charging locations in your area.

Idaho Power recommends using a licensed electrician for any home or workplace electrical work.

BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

IDAHO POWER COMPANY

Attachment 3
Connections Newsletter

November 1, 2019

Working Hard to Keep Your Energy Green



Idaho Power is committed to protecting birds of prey, reducing carbon emissions, boosting fish populations and restoring wildlife habitat.

Idaho is known for many things: potatoes (of course), the Sawtooth Range's spectacular scenery, our spirit of independence and strong communities. Here's something else we should be famous for: green energy.

About half of Idaho Power's energy portfolio in 2017 came from clean, renewable hydroelectric power that was drawn from the Snake River and its tributaries. In addition, every year we buy more energy from wind and solar projects through long-term contracts and, while we do not deliver that energy directly to customers, we sell the associated renewable energy certificates to keep customer rates as low as possible. The percentage of coal in our energy mix keeps dropping — down to only 18 percent in 2017, which is well below the national average of 30 percent. But that's just part of the story.

Behind every light switch, wall outlet and power line is a company dedicated to preserving the unique beauty of the place where we live, work and play. Idaho Power's energy sources continue

to get cleaner and greener; we've decreased our average carbon emissions to well below 2005 levels for the past decade. And there's more to being green than cutting carbon.

Our commitment to the environment extends from seemingly small things, such as installing devices to keep hawks and eagles from touching our electrical lines, to developing a plan to improve our region's water supply that we believe will provide benefits for decades.

Idaho Power owns more than 60 parks, campgrounds and boat launches from American Falls to Hells Canyon. We support sustainable salmon, steelhead and trout fisheries, and our biologists work to restore and maintain some 30,000 acres of wildlife habitat. We've already planted more than 200,000

native trees and shrubs in key streamside locations to provide shade and reduce erosion as part of our Snake River Stewardship Program. And we're just getting started.

That independent spirit Idahoans are known for has led us to develop

innovative programs to help farmers keep their water and topsoil on their land while reducing sediment going into the Snake River. Working with experienced partners like The Freshwater Trust and River Design Group, we've proposed the largest private watershed recovery program ever undertaken in the Northwest.

Surprised? Many folks are. Much of this work takes place in the most remote parts of our service area. Whether we're surveying for sturgeon in the Snake River or growing food plots for elk and other wildlife that winter in Hells Canyon, this stewardship is often out of sight and not likely to come to mind when you flip that light switch.

While we work to preserve our natural resources for coming generations, we also work hard on your behalf to keep electricity costs low. Our 2017 rates were among the lowest in the nation, and starting June 1, they went down 7.06 percent for the average Idaho residential customer. Idaho commercial, industrial and irrigation customers also saw rate decreases, as did residential customers in Oregon.

You, our customers, are equal partners in this undertaking. Every time you pay your power bill, you support clean energy, in more ways than one. Together, we'll keep Idaho — and Idaho's power — green.

Behind every light switch, wall outlet and power line is a company dedicated to preserving the unique beauty of the place where we live, work and play.

Interested in Driving Electric?

There is a lot of buzz surrounding electric vehicles (EVs). As battery technology improves and prices decrease, more people are looking at EVs as a cost-effective, environmentally friendly transportation option.

What options are on the market?

EVs are powered entirely by electricity. They have zero tailpipe emissions and are charged by plugging into a charging station. Example: Nissan Leaf.

Plug-in hybrid EVs can be plugged in to recharge their battery packs or run on gasoline. Example: Chevy Volt.

More EV models are available on the market every year.

How practical is it to drive an electric car?

Owning an EV is becoming easier. Cars currently on the market can easily accommodate the average commute of 30 miles per day, plus local errands. Range and convenience are improving — some vehicles are approaching 300 miles on a charge, and fast-charging stations are on the rise. Although pur-

chase prices of EVs can be higher, with lower maintenance and fuel costs, they are less expensive in the long-term. For many two-car households, owning one EV would be totally doable.

Where can I charge my vehicle?

All EVs come with a Level 1, 120-volt charging cord that can be plugged in to any standard three-prong electric socket. For faster charging, owners can upgrade to a Level 2 (240-volt) home charging station. The fastest charging occurs at DC fast-charging (480-volt) stations. These are starting to pop up nationwide, including in Idaho.

How is Idaho Power involved?

Several of our company vehicles are now electric. We own hybrid electric bucket trucks, electric forklifts and battery-assisted trucks. We continue to monitor advancements in technology to keep customers informed and to stay aware of opportunities to improve EV infrastructure in our service area.

For more info, email ev@idahopower.com or visit idahopower.com/ev.



News Feed

New Connections format

This month's issue of *Connections* has a different look — we have changed to a two-page format. We remain committed to providing news stories and updates on the programs and initiatives that matter to you.

Thank you for being our valued customers, and for reading *Connections*! If you have feedback on the new format, send it our way using the contact info at the bottom of page 1.

Protecting Sage Grouse Habitat

Watching native Idaho sage grouse during their mating ritual is an unforgettable experience. Idaho Power works hard to avoid impacting sage grouse when siting and building power lines near the areas where they live. Visit our YouTube channel to watch a video about these magnificent birds!



From The Electric Kitchen

July 2018

Grilled Mango Salsa

3 ripe mangos	1 habanero, seeded and minced (or to taste)
½ cup jicama, peeled and diced	1 lime, juiced
½ cup red onion, diced	2–3 Tbsp fresh cilantro, chopped
1 medium red bell pepper, seeded and diced	Salt and pepper to taste
1 jalapeño, seeded and minced	Olive oil

Slice the mango off the pit in large chunks still attached to the rind. Brush fruit with oil and place flat, flesh-down on a medium grill. Watch closely for grill marks to appear and for fruit to soften (approx. 6–8 minutes). Remove from the heat and set aside. Combine all other ingredients in a medium bowl. Cut the grilled mango off the rind into half-inch cubes and add to the salsa. Store in a sealed container in the fridge. Makes approximately 10 servings.

Recipes are selected for nutritional value and low energy use in preparation. They are approved by Registered Dietitian Erin Green from the Central District Health Department in Boise.

Side Dish

Dietary information per serving:

Calories: **55**
Fat: **0.7 g**
Carbohydrate: **12.7 g**
Protein: **0.8 g**
Sodium: **17 mg**
Potassium: **134 mg**
Fiber: **2 g**
Cholesterol: **0 mg**




[youtube.com/idahopower](https://www.youtube.com/idahopower)

BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

IDAHO POWER COMPANY

Attachment 4
December 2018 Empowered Community EV Survey

November 1, 2019



empowered community

Oregon Member EV Survey

December 2018

2018 Oregon Electric Vehicle Survey

Summary of Results

- Survey sent to 46 members of empowered community who have an Oregon zip code.
- 20 of the 46 responded for a 43% response rate.
- Very small sample to evaluate.
- None of the respondents currently own an EV.
- Not much difference in familiarity with EV's based on age
- More women responded to the survey than men but the men were more familiar with EVs than women.
- The respondents that indicated they were most familiar with EV's were those with a college degree.
- Those who had seen an EV and those who hadn't were evenly split with a few respondents not sure if they had ever seen one.
- Of those who had seen an EV before, only two said they had actually driven one.
- Most respondents said their knowledge of EV's had increased in the last two years and their primary sources for information included: the internet, family or friends and television.
- The majority of respondents said they like EV's but they have some question or concerns. Only one respondent said they didn't like EVs.
- The attributes most liked about EV's is the "no, or low, vehicle emissions" followed by "no, or little fossil fuel required to power the vehicle."
- The attributes most disliked about EV's were "not good for long trips," "purchase price," and "not very many public EV charging stations."
- When asked how likely they would be to purchase an EV if the purchase price of the EV was the same as a gas or diesel fueled vehicle, over half said "somewhat" or "very" likely.
- When asked how likely they would be to purchase an EV if the distance you could drive on a battery charge of an EV was the same as the distance you could drive on a tank of gas diesel fuel, two-thirds of respondents said "somewhat" or "very" likely.
- The majority of respondents said they typically drive more than 50 miles at least monthly with fifteen percent of the respondents saying they drive more than 50 miles on a daily basis.

2018 Oregon Electric Vehicle Survey

Do you already own an Electric Vehicle (EV)?

Total	20
1 Yes	0%
2 No	100%

How familiar are you with EVs? (again by EVs we are referring specifically to Plug-in Electric Vehicles or Plug-in Hybrid Electric Vehicles)

Total	20
1 Very familiar	5%
2 Somewhat familiar	50%
3 Not very familiar	30%
4 Not familiar at all	15%

Have you ever been in an EV or seen an EV? *(asked only of respondents who indicated they are very or somewhat familiar with Evs)*

Total	11
1 Yes	45%
2 No	36%
3 Not sure	18%

Have you ever driven an EV? *(asked only of respondents who indicated they have been in or seen an EV)*

Total	5
1 Yes	40%
2 No	60%

Would you say you have become more informed about EVs in the last 2 years or has your knowledge of EVs not changed in the last 2 years? *(asked only of respondents who indicated they are very or somewhat familiar with Evs)*

Total	11
1 More informed about EVs	64%
2 Knowledge of EVs not changed	36%

Through what channels have you gained more information about EVs in the last 2 years? *(asked only of respondents who indicated they have become more informed about Evs in the last two years)*

Total	7
Family or friends	57%
Personal research	29%
Car dealership	14%
Television	43%
Radio	0%
Podcast	0%
Car show	0%
EV informational booth	0%
Internet	71%
Social Media (Facebook, Twitter, Instagram, etc.)	14%
Printed material (newspaper, magazines, etc.)	29%
Other (please specify)	0%

Overall, what is your opinion of EVs? *(asked only of respondents who indicated they are very or somewhat familiar with Evs)*

Total	11
1 I love them and I wish I owned one	0%
2 I like them but I have questions or concerns	55%
3 I don't like them	9%
4 I don't know enough about them to form an opinion	18%
5 Other (Please specify)	18%

Other (Please specify) Responses

I know I would not buy one based upon my transportation requirements
too small of a car,wish they had bigger ones!

Which of the following do you like best about EVs? *(asked only of respondents who indicated they love Evs and wish they owned one or those who indicated they like Evs but have some questions or concerns)*

Total	6
No, or low, vehicle emissions	83%
No, or little, fossil fuel required to power vehicle	67%
Overall cheaper to operate	0%
Little noise output	33%
Low maintenance	17%
Other (Please specify)	0%
None of the above	17%

Which, if any, of the following do you like least about EV's? *(asked only of respondents who indicated they love Evs and wish they owned one or those who indicated they like Evs but have some questions or concerns)*

Total	6
Not good for long trips	83%
Needs special equipment to charge at home	33%
Not very many public EV charging stations	67%
Special equipment is needed for roadside assistance or emergencies	50%
Sometimes it's too small for what I need to do	50%
Purchase price	67%
Other (Please specify)	0%
None of the above	0%

Which, if any, of the following are reasons why you don't like EVs? *(asked only of respondents who indicated they dislike Ev's)*

Total	1
Not good for long trips	100%
Needs special equipment to charge at home	100%
Not very many public EV charging stations	100%
Special equipment is needed for roadside assistance or emergencies	100%
Sometimes it's too small for what I need to do	100%
Purchase price	100%
Other (Please specify)	100%
None of the above	0%

Other (Please specify) Responses

State fees too high are not durable enough to be a family car or haul a trailer

If available in your area and the purchase price of a new vehicle of your choice was the same for an EV and a traditional gas or diesel powered vehicle, how likely would you be to purchase the electric powered version of the vehicle?

Total	20
1 Very likely	10%
2 Somewhat likely	45%
3 Not very likely	25%
4 Not likely at all	20%

If available in your area and the distance you could drive on a tank of gas or battery charge was the same for an EV and a traditional gas or diesel powered vehicle, how likely would you be to purchase the electric powered version of the vehicle of your choice?

Total	20
1 Very likely	25%
2 Somewhat likely	40%
3 Not very likely	20%
4 Not likely at all	15%

Overall, considering all driving you do, how often would you say you drive more than 50 miles in a day?

Total	20
1 Daily	15%
2 Weekly	20%
3 Monthly	40%
4 A few times per year	25%
5 Never	0%

		Total	AGE_ROLLUP							Q7_GENDER		Q9_EDUCATION							
			less than 25	25-34	35-44	45-54	55-64	65-74	75 or older	Male	Female	Less than high school	High school graduate or GED	Some college or technical school	Associate degree	College degree	Some graduate school	Graduate degree	
How familiar are you with EVs?	Base	COUNT	20	0	2	2	4	6	5	1	7	13	0	4	5	1	6	0	4
		COL %	--	0%	10%	10%	20%	30%	25%	5%	35%	65%	0%	20%	25%	5%	30%	0%	20%
	Very familiar	COUNT	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0
		COL %	5%	0%	0%	50%	0%	0%	0%	0%	14.3%	0%	0%	25%	0%	0%	0%	0%	0%
	Somewhat familiar	COUNT	10	0	2	0	2	2	3	1	6	4	0	2	2	0	5	0	1
		COL %	50%	0%	100%	0%	50%	33.3%	60%	100%	85.7%	30.8%	0%	50%	40%	0%	83.3%	0%	25%
	Not very familiar	COUNT	6	0	0	1	1	3	1	0	0	6	0	0	2	1	0	0	3
		COL %	30%	0%	0%	50%	25%	50%	20%	0%	0%	46.2%	0%	0%	40%	100%	0%	0%	75%
	Not familiar at all	COUNT	3	0	0	0	1	1	1	0	0	3	0	1	1	0	1	0	0
		COL %	15%	0%	0%	0%	25%	16.7%	20%	0%	0%	23.1%	0%	25%	20%	0%	16.7%	0%	0%

		Total	AGE_ROLLUP							Q7_GENDER		Q9_EDUCATION							
			less than 25	25-34	35-44	45-54	55-64	65-74	75 or older	Male	Female	Less than high school	High school graduate or GED	Some college or technical school	Associate degree	College degree	Some graduate school	Graduate degree	
Have you ever been in an EV or seen an EV?	Base	COUNT	11	0	2	1	2	2	3	1	7	4	0	3	2	0	5	0	1
		COL %	--	0%	18%	9%	18%	18%	27%	9%	64%	36%	0%	27%	18%	0%	45%	0%	9%
	Yes	COUNT	5	0	1	1	0	2	1	0	4	1	0	2	1	0	2	0	0
		COL %	45.5 %	0 %	50 %	100 %	0 %	100 %	33.3 %	0 %	57.1 %	25 %	0 %	66.7 %	50 %	0 %	40 %	0 %	0 %
	No	COUNT	4	0	0	0	2	0	2	0	2	2	0	0	1	0	2	0	1
		COL %	36.4 %	0 %	0 %	0 %	100 %	0 %	66.7 %	0 %	28.6 %	50 %	0 %	0 %	50 %	0 %	40 %	0 %	100 %
	Not sure	COUNT	2	0	1	0	0	0	0	1	1	1	0	1	0	0	1	0	0
		COL %	18.2 %	0 %	50 %	0 %	0 %	0 %	0 %	100 %	14.3 %	25 %	0 %	33.3 %	0 %	0 %	20 %	0 %	0 %

		Total	AGE_ROLLUP							Q7_GENDER		Q9_EDUCATION							
			less than 25	25-34	35-44	45-54	55-64	65-74	75 or older	Male	Female	Less than high school	High school graduate or GED	Some college or technical school	Associate degree	College degree	Some graduate school	Graduate degree	
Have you ever driven an EV?	Base	5	0	1	1	0	2	1	0	4	1	0	2	1	0	2	0	0	
		--	0%	20%	20%	0%	40%	20%	0%	80%	20%	0%	40%	20%	0%	40%	0%	0%	
	Yes	COUNT	2	0	1	0	0	1	0	0	1	1	0	0	1	0	1	0	0
		COL %	40 %	0 %	100 %	0 %	0 %	50 %	0 %	0 %	25 %	100 %	0 %	0 %	100 %	0 %	50 %	0 %	0 %
	No	COUNT	3	0	0	1	0	1	1	0	3	0	0	2	0	0	1	0	0
		COL %	60 %	0 %	0 %	100 %	0 %	50 %	100 %	0 %	75 %	0 %	0 %	100 %	0 %	0 %	50 %	0 %	0 %

		Total	AGE_ROLLUP							Q7_GENDER		Q9_EDUCATION							
			less than 25	25-34	35-44	45-54	55-64	65-74	75 or older	Male	Female	Less than high school	High school graduate or GED	Some college or technical school	Associate degree	College degree	Some graduate school	Graduate degree	
Would you say you have become more informed about EVs in the last 2 years or has your knowledge of EVs not changed in the last 2 years?	Base		11	0	2	1	2	2	3	1	7	4	0	3	2	0	5	0	1
			--	0%	18%	9%	18%	18%	27%	9%	64%	36%	0%	27%	18%	0%	45%	0%	9%
	More informed about EVs	COUNT	7	0	1	0	1	2	2	1	4	3	0	2	2	0	3	0	0
		COL %	63.6 %	0 %	50 %	0 %	50 %	100 %	66.7 %	100 %	57.1 %	75 %	0 %	66.7 %	100 %	0 %	60 %	0 %	0 %
	Knowledge of EVs not changed	COUNT	4	0	1	1	1	0	1	0	3	1	0	1	0	0	2	0	1
		COL %	36.4 %	0 %	50 %	100 %	50 %	0 %	33.3 %	0 %	42.9 %	25 %	0 %	33.3 %	0 %	0 %	40 %	0 %	100 %

		Total	AGE_ROLLUP							Q7_GENDER		Q9_EDUCATION							
			less than 25	25-34	35-44	45-54	55-64	65-74	75 or older	Male	Female	Less than high school	High school graduate or GED	Some college or technical school	Associate degree	College degree	Some graduate school	Graduate degree	
Overall, what is your opinion of EVs?	Base		11	0	2	1	2	2	3	1	7	4	0	3	2	0	5	0	1
			--	0%	18%	9%	18%	18%	27%	9%	64%	36%	0%	27%	18%	0%	45%	0%	9%
	I love them and I wish I owned one	COUNT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		COL %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
	I like them but I have questions or concerns	COUNT	6	0	0	0	2	2	1	1	5	1	0	2	2	0	1	0	1
		COL %	54.5 %	0 %	0 %	0 %	100 %	100 %	33.3 %	100 %	71.4 %	25 %	0 %	66.7 %	100 %	0 %	20 %	0 %	100 %
	I don't like them	COUNT	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0
		COL %	9.1 %	0 %	50 %	0 %	0 %	0 %	0 %	0 %	0 %	25 %	0 %	0 %	0 %	0 %	20 %	0 %	0 %
	I don't know enough about them to form an opinion	COUNT	2	0	1	0	0	0	1	0	0	2	0	0	0	0	2	0	0
		COL %	18.2 %	0 %	50 %	0 %	0 %	0 %	33.3 %	0 %	0 %	50 %	0 %	0 %	0 %	0 %	40 %	0 %	0 %
	Other (Please specify)	COUNT	2	0	0	1	0	0	1	0	2	0	0	1	0	0	1	0	0
		COL %	18.2 %	0 %	0 %	100 %	0 %	0 %	33.3 %	0 %	28.6 %	0 %	0 %	33.3 %	0 %	0 %	20 %	0 %	0 %

		Total	AGE_ROLLUP							Q7_GENDER		Q9_EDUCATION							
			less than 25	25-34	35-44	45-54	55-64	65-74	75 or older	Male	Female	Less than high school	High school graduate or GED	Some college or technical school	Associate degree	College degree	Some graduate school	Graduate degree	
Which of the following do you like best about EVs?	Base	COUNT	6	0	0	0	2	2	1	1	5	1	0	2	2	0	1	0	1
		COL %	--	0%	0%	0%	33%	33%	17%	17%	83%	17%	0%	33%	33%	0%	17%	0%	17%
	No, or low, vehicle emissions	COUNT	5	0	0	0	1	2	1	1	5	0	0	2	1	0	1	0	1
		COL %	83.3 %	0%	0%	0%	50 %	100 %	100 %	100 %	100 %	0%	0%	100 %	50 %	0%	100 %	0%	100 %
	No, or little, fossil fuel required to power vehicle	COUNT	4	0	0	0	0	2	1	1	4	0	0	2	1	0	1	0	0
		COL %	66.7 %	0%	0%	0%	0%	100 %	100 %	100 %	80 %	0%	0%	100 %	50 %	0%	100 %	0%	0%
	Overall cheaper to operate	COUNT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		COL %	0 %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Little noise output	COUNT	2	0	0	0	0	1	0	1	2	0	0	1	1	0	0	0	0
		COL %	33.3 %	0%	0%	0%	0%	50 %	0%	100 %	40 %	0%	0%	50 %	50 %	0%	0%	0%	0%
	Low maintenance	COUNT	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0
		COL %	16.7 %	0%	0%	0%	0%	50 %	0%	0%	20 %	0%	0%	0%	50 %	0%	0%	0%	0%
	Other (Please specify)	COUNT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		COL %	0 %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	None of the above	COUNT	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0
		COL %	16.7 %	0%	0%	0%	50 %	0%	0%	0%	0%	100 %	0%	0%	50 %	0%	0%	0%	0%

		Total	AGE_ROLLUP							Q7_GENDER		Q9_EDUCATION						
			less than 25	25-34	35-44	45-54	55-64	65-74	75 or older	Male	Female	Less than high school	High school graduate or GED	Some college or technical school	Associate degree	College degree	Some graduate school	Graduate degree
Base		20	0	2	2	4	6	5	1	7	13	0	4	5	1	6	0	4
		--	0%	10%	10%	20%	30%	25%	5%	35%	65%	0%	20%	25%	5%	30%	0%	20%
Very likely	COUNT	2	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	2
	COL %	10 %	0 %	0 %	0 %	25 %	16.7 %	0 %	0 %	14.3 %	7.7 %	0 %	0 %	0 %	0 %	0 %	0 %	50 %
Somewhat likely	COUNT	9	0	1	1	0	4	2	1	5	4	0	3	1	1	3	0	1
	COL %	45 %	0 %	50 %	50 %	0 %	66.7 %	40 %	100 %	71.4 %	30.8 %	0 %	75 %	20 %	100 %	50 %	0 %	25 %
Not very likely	COUNT	5	0	1	0	2	0	2	0	0	5	0	1	1	0	2	0	1
	COL %	25 %	0 %	50 %	0 %	50 %	0 %	40 %	0 %	0 %	38.5 %	0 %	25 %	20 %	0 %	33.3 %	0 %	25 %
Not likely at all	COUNT	4	0	0	1	1	1	1	0	1	3	0	0	3	0	1	0	0
	COL %	20 %	0 %	0 %	50 %	25 %	16.7 %	20 %	0 %	14.3 %	23.1 %	0 %	0 %	60 %	0 %	16.7 %	0 %	0 %

If available in your area and the purchase price of a new vehicle of your choice was the same for an EV and a traditional gas or diesel powered vehicle, how likely would you be to purchase the electric powered version of the vehicle?

		Total	AGE_ROLLUP							Q7_GENDER		Q9_EDUCATION							
			less than 25	25-34	35-44	45-54	55-64	65-74	75 or older	Male	Female	Less than high school	High school graduate or GED	Some college or technical school	Associate degree	College degree	Some graduate school	Graduate degree	
If available in your area and the distance you could drive on a tank of gas or battery charge was the same for an EV and a traditional gas or diesel powered vehicle, how likely would you be to purchase the electric powered version of the vehicle?		Base	20	0	2	2	4	6	5	1	7	13	0	4	5	1	6	0	4
			--	0%	10%	10%	20%	30%	25%	5%	35%	65%	0%	20%	25%	5%	30%	0%	20%
Very likely		COUNT	5	0	0	0	1	3	1	0	3	2	0	0	1	1	1	0	2
		COL %	25 %	0 %	0 %	0 %	25 %	50 %	20 %	0 %	42.9 %	15.4 %	0 %	0 %	20 %	100 %	16.7 %	0 %	50 %
Somewhat likely		COUNT	8	0	1	1	1	2	2	1	3	5	0	4	0	0	3	0	1
		COL %	40 %	0 %	50 %	50 %	25 %	33.3 %	40 %	100 %	42.9 %	38.5 %	0 %	100 %	0 %	0 %	50 %	0 %	25 %
Not very likely		COUNT	4	0	1	1	1	0	1	0	0	4	0	0	2	0	1	0	1
		COL %	20 %	0 %	50 %	50 %	25 %	0 %	20 %	0 %	0 %	30.8 %	0 %	0 %	40 %	0 %	16.7 %	0 %	25 %
Not likely at all		COUNT	3	0	0	0	1	1	1	0	1	2	0	0	2	0	1	0	0
		COL %	15 %	0 %	0 %	0 %	25 %	16.7 %	20 %	0 %	14.3 %	15.4 %	0 %	0 %	40 %	0 %	16.7 %	0 %	0 %

		Total	Q4_LENGTH_OF_SERVICE				Q6_PRIMARY_HEAT_SOURCE						Q4_Rent_Own	
			Less than 10 years	10-25 years	More than 25 years	Don't know	Electricity	Natural Gas	Propane	Wood	Fuel Oil	Other	Own	Rent
How familiar are you with EVs?	Base	20	8	6	6	0	11	5	0	3	1	0	14	3
		--	40%	30%	30%	0%	55%	25%	0%	15%	5%	0%	70%	15%
	Very familiar	COUNT	1	0	1	0	0	1	0	0	0	0	0	0
		COL %	5 %	0 %	16.7 %	0 %	0 %	9.1 %	0 %	0 %	0 %	0 %	0 %	0 %
	Somewhat familiar	COUNT	10	4	3	3	0	5	2	0	3	0	0	8
		COL %	50 %	50 %	50 %	50 %	0 %	45.5 %	40 %	0 %	100 %	0 %	0 %	57.1 %
	Not very familiar	COUNT	6	3	1	2	0	3	2	0	0	1	0	4
		COL %	30 %	37.5 %	16.7 %	33.3 %	0 %	27.3 %	40 %	0 %	0 %	100 %	0 %	28.6 %
	Not familiar at all	COUNT	3	1	1	1	0	2	1	0	0	0	0	2
		COL %	15 %	12.5 %	16.7 %	16.7 %	0 %	18.2 %	20 %	0 %	0 %	0 %	0 %	14.3 %

		Total	Q4_LENGTH_OF_SERVICE				Q6_PRIMARY_HEAT_SOURCE						Q4_Rent_Own	
			Less than 10 years	10-25 years	More than 25 years	Don't know	Electricity	Natural Gas	Propane	Wood	Fuel Oil	Other	Own	Rent
Have you ever been in an EV or seen an EV?	Base	11	4	4	3	0	6	2	0	3	0	0	8	0
		--	36%	36%	27%	0%	55%	18%	0%	27%	0%	0%	73%	--
	Yes	COUNT	5	1	2	2	0	4	0	0	1	0	0	4
		COL %	45.5 %	25 %	50 %	66.7 %	0 %	66.7 %	0 %	0 %	33.3 %	0 %	0 %	50 %
	No	COUNT	4	2	2	0	0	1	1	0	2	0	0	3
		COL %	36.4 %	50 %	50 %	0 %	0 %	16.7 %	50 %	0 %	66.7 %	0 %	0 %	37.5 %
	Not sure	COUNT	2	1	0	1	0	1	1	0	0	0	0	1
		COL %	18.2 %	25 %	0 %	33.3 %	0 %	16.7 %	50 %	0 %	0 %	0 %	0 %	12.5 %

		Total	Q4_LENGTH_OF_SERVICE				Q6_PRIMARY_HEAT_SOURCE						Q4_Rent_Own	
			Less than 10 years	10-25 years	More than 25 years	Don't know	Electricity	Natural Gas	Propane	Wood	Fuel Oil	Other	Own	Rent
			Base		5	1	2	2	0	4	0	0	1	0
		--	20%	40%	40%	0%	80%	0%	0%	20%	0%	0%	80%	0%
Have you ever driven an EV?	Yes	COUNT	2	1	1	0	0	2	0	0	0	0	2	0
		COL %	40 %	100 %	50 %	0 %	0 %	50 %	0 %	0 %	0 %	0 %	50 %	0 %
No	COUNT	3	0	1	2	0	2	0	0	1	0	0	2	0
		COL %	60 %	0 %	50 %	100 %	0 %	50 %	0 %	0 %	100 %	0 %	50 %	0 %

		Total	Q4_LENGTH_OF_SERVICE				Q6_PRIMARY_HEAT_SOURCE						Q4_Rent_Own		
			Less than 10 years	10-25 years	More than 25 years	Don't know	Electricity	Natural Gas	Propane	Wood	Fuel Oil	Other	Own	Rent	
			Base		11	4	4	3	0	6	2	0	3	0	0
		--	36%	36%	27%	0%	55%	18%	0%	27%	0%	0%	73%	0%	
Would you say you have become more informed about EVs in the last 2 years or has your knowledge of EVs not changed in the last 2 years?	More informed about EVs	COUNT	7	2	2	3	0	4	0	0	3	0	0	6	0
		COL %	63.6 %	50 %	50 %	100 %	0 %	66.7 %	0 %	0 %	100 %	0 %	0 %	75 %	0 %
Knowledge of EVs not changed	COUNT	4	2	2	0	0	2	2	0	0	0	0	2	0	
		COL %	36.4 %	50 %	50 %	0 %	0 %	33.3 %	100 %	0 %	0 %	0 %	0 %	25 %	0 %

		Total	Q4_LENGTH_OF_SERVICE				Q6_PRIMARY_HEAT_SOURCE						Q4_Rent_Own		
			Less than 10 years	10-25 years	More than 25 years	Don't know	Electricity	Natural Gas	Propane	Wood	Fuel Oil	Other	Own	Rent	
Overall, what is your opinion of EVs?	Base		11	4	4	3	0	6	2	0	3	0	0	8	0
			--	36%	36%	27%	0%	55%	18%	0%	27%	0%	0%	73%	0%
	I love them and I wish I owned one	COUNT	0	0	0	0	0	0	0	0	0	0	0	0	0
		COL %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
	I like them but I have questions or concerns	COUNT	6	2	2	2	0	4	1	0	1	0	0	5	0
		COL %	54.5 %	50 %	50 %	66.7 %	0 %	66.7 %	50 %	0 %	33.3 %	0 %	0 %	62.5 %	0 %
	I don't like them	COUNT	1	1	0	0	0	1	0	0	0	0	0	1	0
		COL %	9.1 %	25 %	0 %	0 %	0 %	16.7 %	0 %	0 %	0 %	0 %	0 %	12.5 %	0 %
	I don't know enough about them to form an opinion	COUNT	2	1	1	0	0	0	1	0	1	0	0	1	0
		COL %	18.2 %	25 %	25 %	0 %	0 %	0 %	50 %	0 %	33.3 %	0 %	0 %	12.5 %	0 %
	Other (Please specify)	COUNT	2	0	1	1	0	1	0	0	1	0	0	1	0
		COL %	18.2 %	0 %	25 %	33.3 %	0 %	16.7 %	0 %	0 %	33.3 %	0 %	0 %	12.5 %	0 %

		Total	Q4_LENGTH_OF_SERVICE				Q6_PRIMARY_HEAT_SOURCE						Q4_Rent_Own		
			Less than 10 years	10-25 years	More than 25 years	Don't know	Electricity	Natural Gas	Propane	Wood	Fuel Oil	Other	Own	Rent	
Which of the following do you like best about EVs?	Base		6	2	2	2	0	4	1	0	1	0	0	5	0
			--	33%	33%	33%	0%	67%	17%	0%	17%	0%	0%	83%	0%
	No, or low, vehicle emissions	COUNT	5	1	2	2	0	4	1	0	0	0	0	5	0
		COL %	83.3 %	50 %	100 %	100 %	0 %	100 %	100 %	0 %	0 %	0 %	0 %	100 %	0 %
	No, or little, fossil fuel required to power vehicle	COUNT	4	1	1	2	0	3	1	0	0	0	0	4	0
		COL %	66.7 %	50 %	50 %	100 %	0 %	75 %	100 %	0 %	0 %	0 %	0 %	80 %	0 %
	Overall cheaper to operate	COUNT	0	0	0	0	0	0	0	0	0	0	0	0	0
		COL %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
	Little noise output	COUNT	2	0	1	1	0	2	0	0	0	0	0	2	0
		COL %	33.3 %	0 %	50 %	50 %	0 %	50 %	0 %	0 %	0 %	0 %	0 %	40 %	0 %
	Low maintenance	COUNT	1	0	1	0	0	1	0	0	0	0	0	1	0
		COL %	16.7 %	0 %	50 %	0 %	0 %	25 %	0 %	0 %	0 %	0 %	0 %	20 %	0 %
	Other (Please specify)	COUNT	0	0	0	0	0	0	0	0	0	0	0	0	0
		COL %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
	None of the above	COUNT	1	1	0	0	0	0	0	0	1	0	0	0	0
		COL %	16.7 %	50 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %

		Total	Q4_LENGTH_OF_SERVICE				Q6_PRIMARY_HEAT_SOURCE						Q4_Rent_Own	
			Less than 10 years	10-25 years	More than 25 years	Don't know	Electricity	Natural Gas	Propane	Wood	Fuel Oil	Other	Own	Rent
Base		20	8	6	6	0	11	5	0	3	1	0	14	3
		--	40%	30%	30%	0%	55%	25%	0%	15%	5%	0%	70%	15%
Very likely	COUNT	2	0	1	1	0	2	0	0	0	0	0	2	0
	COL %	10 %	0 %	16.7 %	16.7 %	0 %	18.2 %	0 %	0 %	0 %	0 %	0 %	14.3 %	0 %
Somewhat likely	COUNT	9	4	3	2	0	4	3	0	1	1	0	6	1
	COL %	45 %	50 %	50 %	33.3 %	0 %	36.4 %	60 %	0 %	33.3 %	100 %	0 %	42.9 %	33.3 %
Not very likely	COUNT	5	2	1	2	0	3	2	0	0	0	0	4	1
	COL %	25 %	25 %	16.7 %	33.3 %	0 %	27.3 %	40 %	0 %	0 %	0 %	0 %	28.6 %	33.3 %
Not likely at all	COUNT	4	2	1	1	0	2	0	0	2	0	0	2	1
	COL %	20 %	25 %	16.7 %	16.7 %	0 %	18.2 %	0 %	0 %	66.7 %	0 %	0 %	14.3 %	33.3 %

If available in your area and the purchase price of a new vehicle of your choice was the same for an EV and a traditional gas or diesel powered vehicle, how likely would you be to purchase the electric powered version of the vehicle?

		Total	Q4_LENGTH_OF_SERVICE				Q6_PRIMARY_HEAT_SOURCE						Q4_Rent_Own	
			Less than 10 years	10-25 years	More than 25 years	Don't know	Electricity	Natural Gas	Propane	Wood	Fuel Oil	Other	Own	Rent
Base		20	8	6	6	0	11	5	0	3	1	0	14	3
		--	40%	30%	30%	0%	55%	25%	0%	15%	5%	0%	70%	15%
Very likely	COUNT	5	2	2	1	0	3	2	0	0	0	0	5	0
	COL %	25 %	25 %	33.3 %	16.7 %	0 %	27.3 %	40 %	0 %	0 %	0 %	0 %	35.7 %	0 %
Somewhat likely	COUNT	8	2	3	3	0	4	2	0	1	1	0	5	1
	COL %	40 %	25 %	50 %	50 %	0 %	36.4 %	40 %	0 %	33.3 %	100 %	0 %	35.7 %	33.3 %
Not very likely	COUNT	4	2	1	1	0	3	1	0	0	0	0	3	1
	COL %	20 %	25 %	16.7 %	16.7 %	0 %	27.3 %	20 %	0 %	0 %	0 %	0 %	21.4 %	33.3 %
Not likely at all	COUNT	3	2	0	1	0	1	0	0	2	0	0	1	1
	COL %	15 %	25 %	0 %	16.7 %	0 %	9.1 %	0 %	0 %	66.7 %	0 %	0 %	7.1 %	33.3 %

If available in your area and the distance you could drive on a tank of gas or battery charge was the same for an EV and a traditional gas or diesel powered vehicle, how likely would you be to purchase the electric powered version of the vehicle?

