

HIGHLY CONFIDENTIAL INFORMATION**Ameren Missouri Charge Ahead Quarterly Report - ET-2018-0132
Electric Vehicle Charging – Corridors and Local Incentives
Report for March 2021**

This report comprises the fourth quarterly report on the subject case and topics. The report includes this narrative document as well as two associated Excel spreadsheet files, a table of EV registration data, and an update on the WattTime pilot. Note the due dates for the quarterly reports for each portion of Charge Ahead are as follows:

Corridors	Initial report due 30 days after the anniversary date of the tariff effective date, or June 26, 2020. Subsequent reports will be provided on a quarterly basis.
Local	Within 90 days of the end of each program quarter. Given the program began on January 13, 2020, the due date is roughly the end of March for this fourth quarterly report.

Ameren Missouri has combined these reports since the subject matter is related and for ease of production and review by interested stakeholders.

Corridor Charging Program (background)

Ameren Missouri pursued a competitive bid "reverse auction" approach to procuring one or more vendors to work with Ameren Missouri business customers to set up the corridor charging per the approved program tariff. The pricing component requested how much incentive from Ameren Missouri would be needed to accomplish the proposed projects to set up the specified charging in designated communities throughout the Ameren Missouri territory. In-person interviews were held with the two top proposals. After interviews, LilyPad EV was unanimously confirmed as the best choice for the Charge Ahead Corridors project. LilyPad EV, along with partners ChargePoint and Sachs Electric have been working with customers in the designated communities outlined in the case. A total of 11 companies and/or partnerships were solicited for 2020 and the \$4 million incentive budget will accommodate 2-3 more sites (tentatively planned for Eureka, Ironton and Sikeston) in 2021, which will result in a total of up to 14 corridor locations. Note that the tariff allowed for 8-15 sites.

Ameren Missouri's assessment that incentives of up to \$360,000 per site may be necessary was relatively accurate. While the costs for each site will vary based on unique site conditions and line extension requirements, the rough average is about \$290,000 per site. LilyPad EV, in their bid, provided an estimate per site that was based on certain reasonable assumptions. As the design for each site is finalized with the business customer and the line extension costs are determined in detail, a final cost for each site is developed.

Each site has the same configuration of charging equipment. Two ChargePoint CPE-250s, each having the capability to provide up to 62.5kW of power and that paired can provide up to 125kW, and two CP-4001 Level 2 chargers providing 6.6kW each. Any modern EV can charge at these stations.

Education and Outreach

We're actively raising awareness of the Corridor Charging Program with education and outreach efforts. To-date, our marketing activities have included the following efforts:

- Earned media (TV news, print publications, radio interviews) and social media (Twitter, Facebook, etc.)
- Outreach to municipalities, business and professional associations through newsletters and speaking opportunities
- Outreach through Key and Regional Account Executives
- Developed a Corridor Charging Program brochure provided with third quarterly report in December 2020 and available at the Ameren Missouri EV Website page:

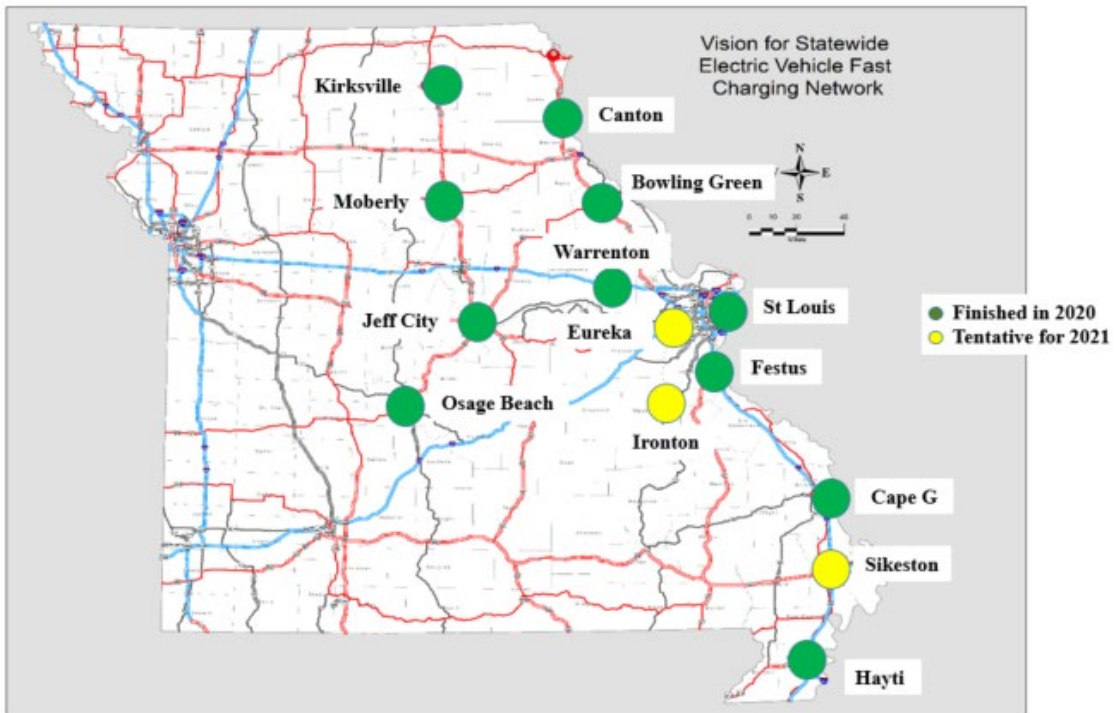
<https://www.ameren.com/missouri/residential/electric-vehicles/resources>

Costs

The table below contains basic project information, including site status and costs. Program costs have been on-target with assumptions made in development of the program. Total sites (14) that will be developed through 2021 will be just under the total \$4,000,000 budget allocated for this program.

**** Table CONFIDENTIAL in its entirety****

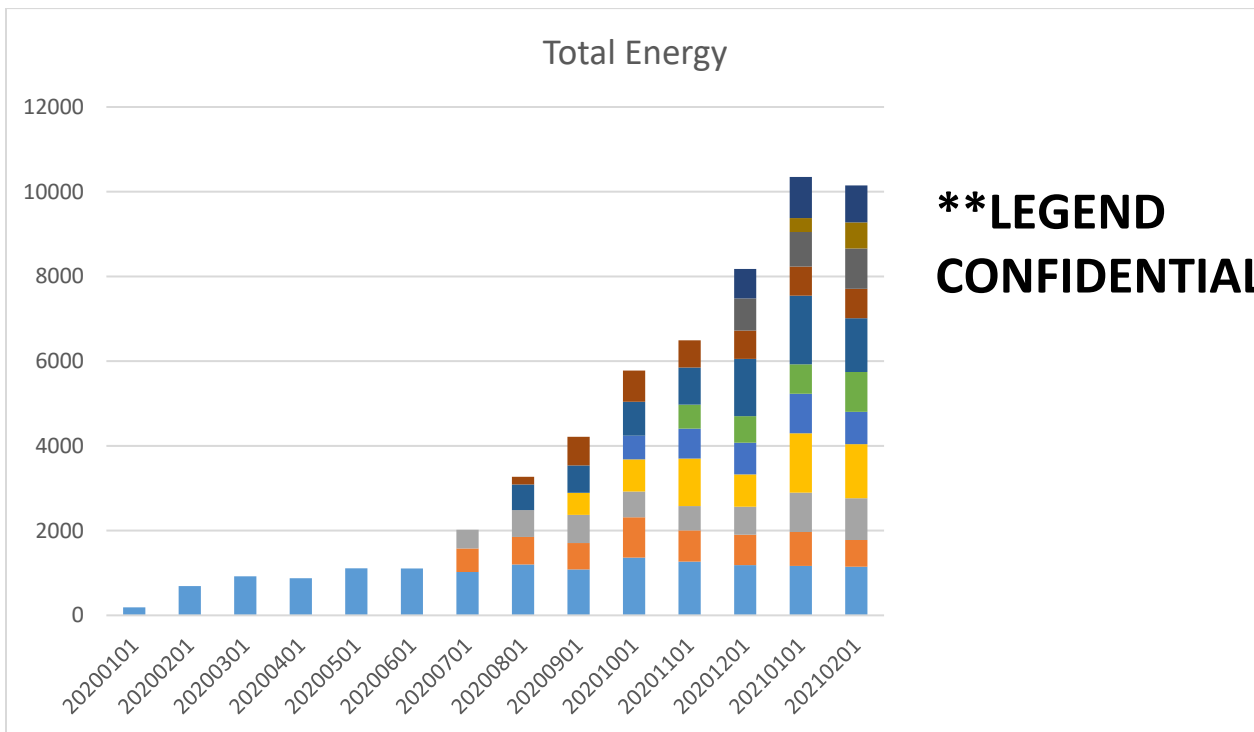
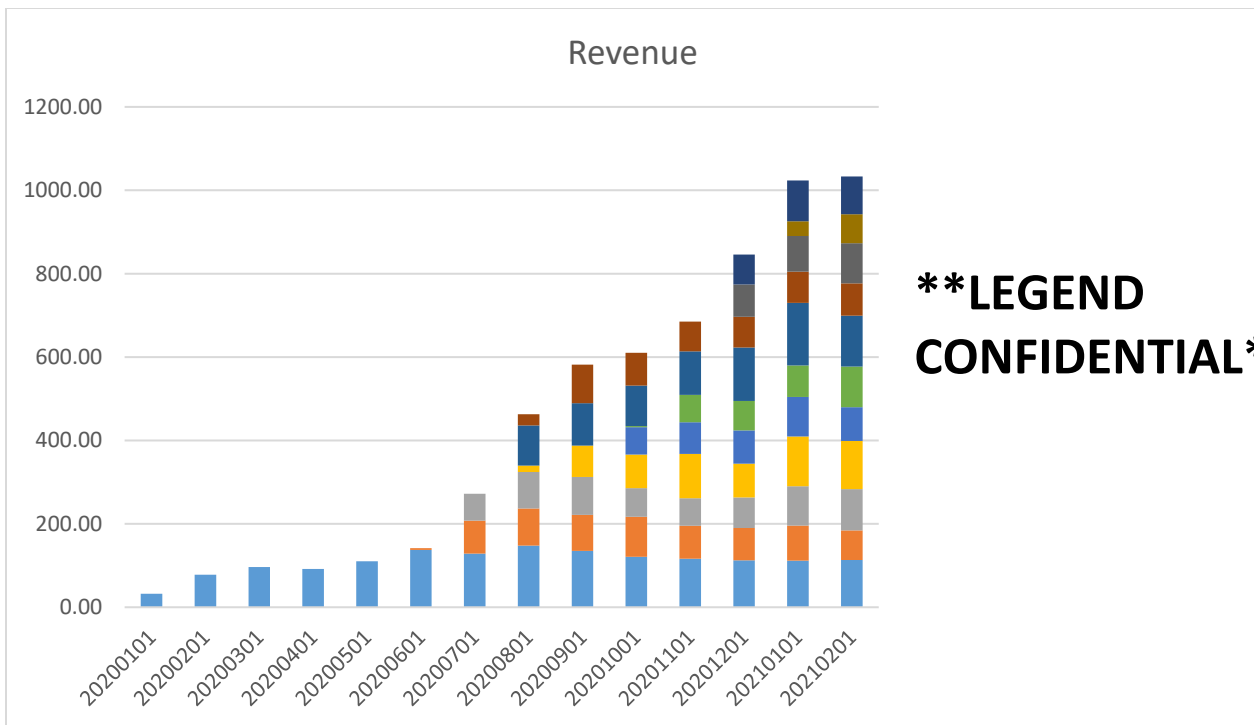
Charge Ahead Corridors – Progress Map

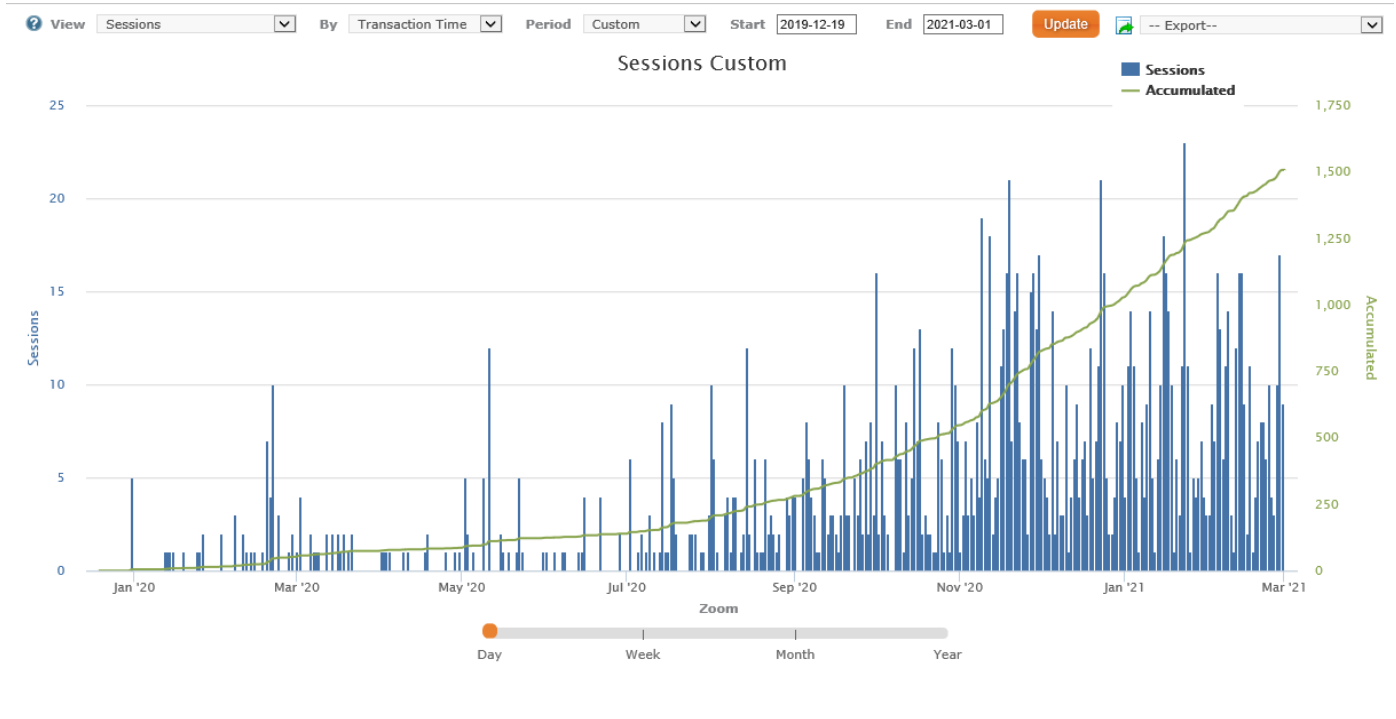


The charts below show the **revenue, energy, and number of sessions** by month for the following locations:

- ** _____ **
- ** _____ **
- ** _____ **
- ** _____ **
- ** _____ **
- ** _____ **
- ** _____ **
- ** _____ **
- ** _____ **
- ** _____ **
- ** _____ **
- ** _____ **

More usage reporting will be developed for the additional sites in subsequent quarterly reports.





The charts below represent the "Uptime" for the following locations in Q4 2020:

**

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	189	17	\$ 42.48	24	79	6	6	100.00%
	108	12	\$ 5.15	14	45	3	3	100.00%
	98	9	\$ 0.00	12	41	16	16	100.00%
	476	19	\$ 107.04	60	200	10	11	100.00%
	968	36	\$ 217.76	121	407	27	28	100.00%
	285	23	\$ 56.45	36	120	47	50	100.00%

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	232	21	\$ 62.73	29	98	6	7	100.00%
	316	12	\$ 85.43	40	133	8	8	100.00%
	42	6	\$ 8.22	5	17	7	7	100.00%

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	84	4	\$ 18.89	11	35	2	2	100.00%
	64	7	\$ 14.32	8	27	2	2	100.00%
	36	9	\$ 7.07	4	15	13	14	100.00%

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	137	13	\$ 16.26	17	58	4	4	100.00%
	214	16	\$ 25.61	27	90	5	6	100.00%
	11	9	\$ 1.04	1	5	2	2	100.00%

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	127	11	\$ 28.67	16	54	2	3	100.00%
	183	17	\$ 41.18	23	77	3	3	54.82%
	32	9	\$ 5.82	4	14	5	5	100.00%

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	79	9	\$ 15.62	10	33	2	2	93.52%
	315	20	\$ 70.97	40	132	7	7	100.00%
	37	7	\$ 7.72	5	16	6	7	100.00%

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	157	29	\$ 0.00	20	66	58	75	100.00%
	142	43	\$ 0.00	18	59	36	41	99.98%
	225	20	\$ 50.72	28	95	7	7	100.00%
	175	24	\$ 39.30	22	73	4	5	88.52%
	471	29	\$ 105.99	59	198	12	13	100.00%
	702	39	\$ 157.86	88	295	16	19	100.00%
	139	52	\$ 0.00	17	58	37	38	100.00%
	640	62	\$ 143.94	80	269	17	19	93.99%
	380	47	\$ 83.57	48	160	11	12	100.00%
	90	39	\$ 0.00	11	38	17	18	100.00%

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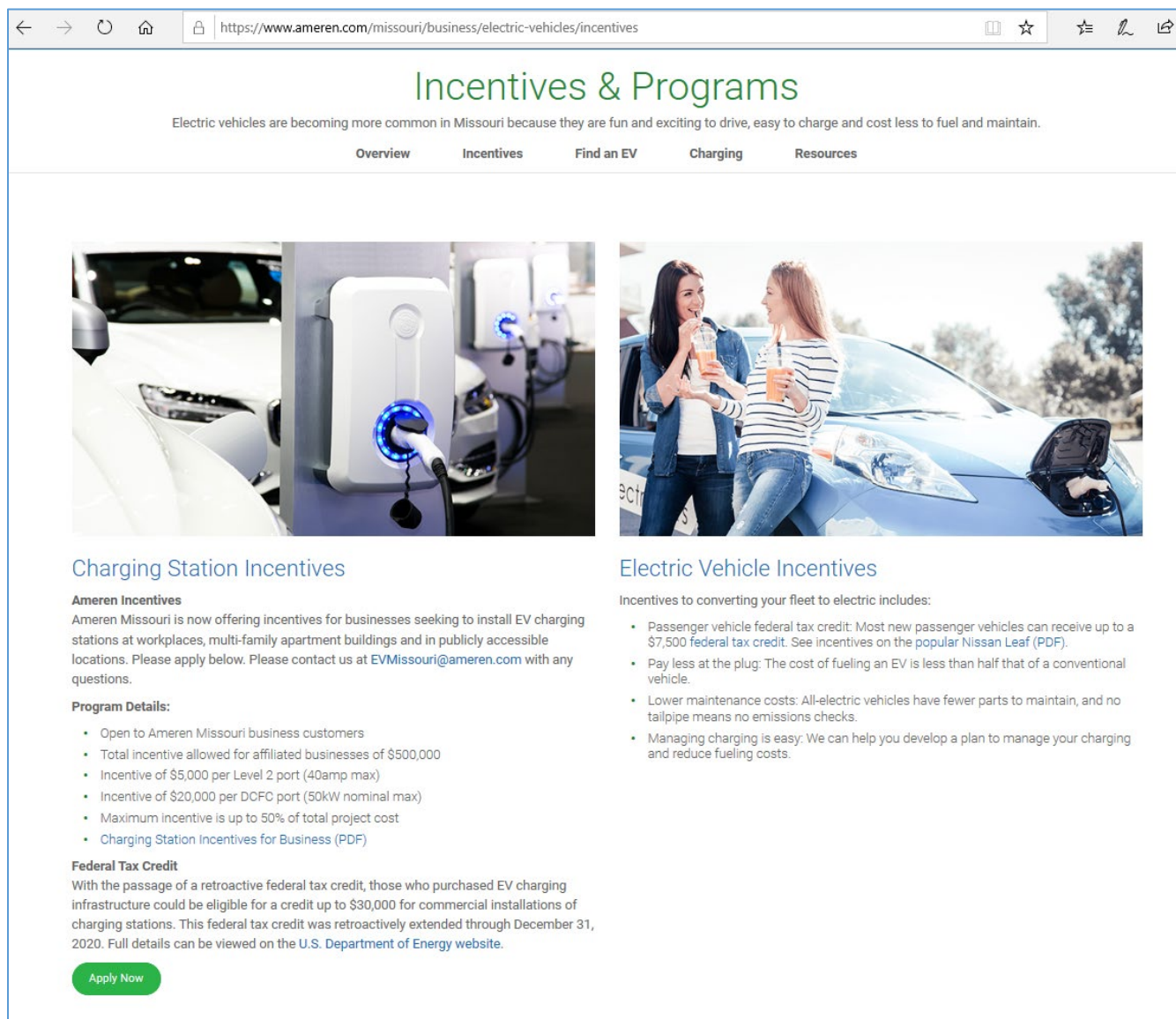
Direct Revenues from Corridors

This chart represents the monthly direct revenue data for the corridor sites listed below.

Revenue												
												**
20200101	32.55	0	0	0	0	0	0	0	0	0	0	0
20200201	78.14	0	0	0	0	0	0	0	0	0	0	0
20200301	96.32	0	0	0	0	0	0	0	0	0	0	0
20200401	92.05	0	0	0	0	0	0	0	0	0	0	0
20200501	110.40	0	0	0	0	0	0	0	0	0	0	0
20200601	137.69	3.99	0	0	0	0	0	0	0	0	0	0
20200701	128.85	79.05	64.35	0	0	0	0	0	0	0	0	0
20200801	147.79	89.27	87.46	15.32	0	0	96.04	27.05	0	0	0	0
20200901	135.35	86.17	90.85	75.43	0	0	101.77	92.24	0	0	0	0
20201001	120.97	96.11	68.64	80.69	65.54	2.67	96.86	78.79	0	0	0	0
20201101	116.57	79.09	65.85	106.08	76.34	65.55	104.22	71.47	0	0	0	0
20201201	112.7	77.33	73.25	81.19	79.74	70.52	128.25	73.71	77.53	0	71.56	0
20210101	111.79	84.23	94.33	119.1	94.97	75.55	149.9	75.08	85.43	35.2	97.78	0
20210201	113.4	70.86	99.13	115.34	81.19	97.24	122.11	77.51	96.44	69.31	90.59	0

Local Charging Incentive Program

The Ameren Missouri Local Charging Station Incentives Program opened on January 13, 2020, and business customers can apply through the program application portal linked to the green "Apply Now" button on the Ameren Missouri EV business incentives Web page:





https://www.ameren.com/missouri/business/electric-vehicles/incentives

Incentives & Programs

Electric vehicles are becoming more common in Missouri because they are fun and exciting to drive, easy to charge and cost less to fuel and maintain.

[Overview](#) [Incentives](#) [Find an EV](#) [Charging](#) [Resources](#)





Charging Station Incentives

Ameren Incentives

Ameren Missouri is now offering incentives for businesses seeking to install EV charging stations at workplaces, multi-family apartment buildings and in publicly accessible locations. Please apply below. Please contact us at EVMissouri@ameren.com with any questions.

Program Details:

- Open to Ameren Missouri business customers
- Total incentive allowed for affiliated businesses of \$500,000
- Incentive of \$5,000 per Level 2 port (40amp max)
- Incentive of \$20,000 per DCFC port (50kW nominal max)
- Maximum incentive is up to 50% of total project cost
- [Charging Station Incentives for Business \(PDF\)](#)

Federal Tax Credit

With the passage of a retroactive federal tax credit, those who purchased EV charging infrastructure could be eligible for a credit up to \$30,000 for commercial installations of charging stations. This federal tax credit was retroactively extended through December 31, 2020. Full details can be viewed on the [U.S. Department of Energy website](#).

[Apply Now](#)

Electric Vehicle Incentives

Incentives to converting your fleet to electric includes:

- Passenger vehicle federal tax credit: Most new passenger vehicles can receive up to a \$7,500 federal tax credit. See [incentives on the popular Nissan Leaf \(PDF\)](#).
- Pay less at the plug: The cost of fueling an EV is less than half that of a conventional vehicle.
- Lower maintenance costs: All-electric vehicles have fewer parts to maintain, and no tailpipe means no emissions checks.
- Managing charging is easy: We can help you develop a plan to manage your charging and reduce fueling costs.

Thank you for your interest in this program.

To complete the application process, you will need to enter details regarding the following items:

Your Contact and Business Information

- Business Name
- Address, Phone/Email
- Ameren Missouri Electric account number
- Contact Name
- Contact Address/Phone/Email
- W9
- Payment preference (check or bill credit). Download the [Payment Release Authorization Form](#) if re-assigning incentive payment to the installer.

Contractor Information (if not self-install)

- Contractor Name
- Contractor Address
- Contact Name
- Contact Address/Phone/Email

Project Information

- Number of ports and charging rate of each
- Equipment Make
- Equipment Model
- Site Plan including electrical diagram and pictures
- Electrical supply details-panel has sufficient capacity/is capacity review needed/additional service on site requested

Estimated Costs

- Equipment (charger, pedestals, cord management etc.)
- Labor
- Site Preparation (trenching/boring, conduit/wiring, concrete/asphalt)
- Battery Storage

Note: Ameren Missouri must pre-approve project prior to construction

Are you ready to begin your application?

[Begin Application](#)

Administrative and Education Costs

The administrative costs associated with the Local Charging Incentive Program include development of the application portal and workflow management system developed by Applied Energy Group (AEG). The education costs include the Auto Show and Watt Time Pilot program. The cost to-date through March for total administrative and educational costs is approximately \$191,296 and includes the following costs:

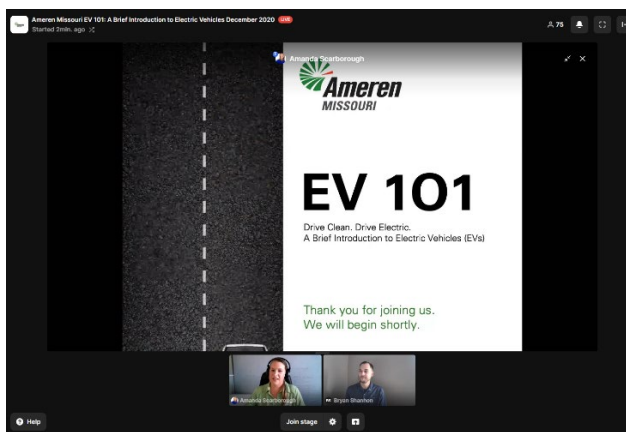
- AEG administrative costs \$103,580
- Auto Show (event facilitated by Reach) \$64,835
- Auto Show (charging station exhibits) \$9,461
- WattTime Pilot \$7,120 (Project is still in progress; see accompanying WattTime progress report)
- Contractor Support Role for Portal Management \$6,300

Education and Outreach Activities

We're actively raising awareness of the Local Charging Incentive Program with education and outreach efforts. Currently, our marketing activities include the following:

- Virtual Community Events – EV 101: An Introduction to Electric Vehicles (see screenshots below)
- Electric Vehicle Partners (EVP) Network – these are trade allies for EV support
- Outreach to municipalities, business and professional associations
- Outreach through Key and Regional Account executives
- Direct email marketing to large and mid-size business customers
- Traditional and earned media (TV, print publications, radio) and social media (Twitter, Facebook, etc.)

Ameren MO is hosting multiple virtual community events – EV 101 targeting residential customers throughout our service territory. Ameren MO has also partnered with MO Botanical Gardens offering two virtual sessions to their members and the general public.

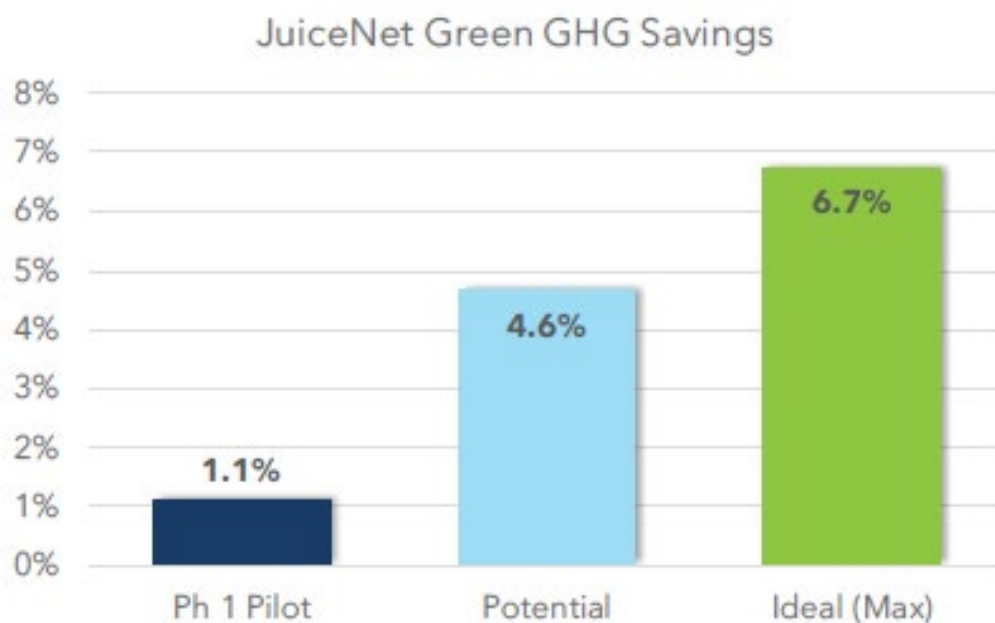


WattTime Pilot

WattTime evaluated the functionality and performance of Automated Emissions Reduction (AER) for EV charging--provided by Enel X's JuiceNet Green--during the Phase 1 evaluation (Sept-Nov 2020). Functionality was confirmed and performance showed room for improvement due to limitations of the JuiceNet Green software version deployed at that time. Performance was not expected to change until JuiceNet Green v3 was released to the pilot users. Enel X plans to upgrade the pilot users to JuiceNet Green v3 by the end of March. WattTime will resume monthly performance evaluation (Phase 2) after that release, likely at the beginning of April. The Phase 2 evaluation could last 3-4 months, with monthly results updates. Ameren has also suggested extending this through the end of 2021. In parallel WattTime, Enel X, and Ameren are working to identify existing Ameren customers that are already using JuiceNet Green to charge their EVs. We hope to recruit them into the pilot so that we can evaluate the performance on a larger population (during Phase 2).

Phase 1 Recap:

- GHG Savings was 1.1%
 - Functionality confirmed
- Potential GHG savings is 4.6%+
- Max expected GHG savings is 6.7%+



Charge Ahead – Local Incentives Dashboard Statistics – Snapshot 3-12-2021



Smart Charging vs. Basic Charging

For each of the completed projects listed below, the customers have identified their charging equipment as being a "smart charger." We are currently reaching out to these customers to acquire any utilization data if they are actually collecting data.

Completed Projects	Smart Charging Equipment
** [REDACTED]	Siemens/VCSG30GCPUW
[REDACTED]	LilyPad/EV CT4000
[REDACTED]	Charge Point/CPH50-NEMA14-50-L23
[REDACTED]	BTC Power Slim 50kW
[REDACTED]	Charge Point/CT4021-GW1
[REDACTED]	Leviton/EVR-GREEN 4000
[REDACTED]	Charge Point/ CT4021 & CT4025
[REDACTED]	Charge Point/CT4023-GW1
[REDACTED]	Siemens/VCSG30GCPUW
[REDACTED] **	Enel x/pro 40 c

Direct Revenues from Local Charging Stations *(see workbook for calculations)*

There have been no Local Charging Incentive Program projects with a dedicated meter. Based on the 58 installed chargers (at 19 locations) through 3-15-21, Ameren Missouri estimates a total annual direct load/revenue of \$33,577 to \$41,125 and a total annual direct energy consumed of approximately 500,622 kWh. Please refer to included work papers for information by location. Please note that the variability relates to an estimate of billing demand. The high end of the range assumes that, for all customers on rates which include a demand charge, the charging demand coincided with customer billing demand in all months. The low end of the range assumes that the charging demand never coincided with the customer billing demand in any month.

Indirect Revenues *(see workbook for calculations)*

Ameren Missouri receives a snapshot of Missouri registrations from IHS MarkIT on a quarterly basis, approximately seven weeks after the end of the calendar quarter. This report includes baseline and current data through **December 2020** that reflects numbers for Ameren Missouri territory. See Power BI visual depiction shown at end of this report.

An attachment to this report is the Excel spreadsheet, "AMO Charge Ahead – Revenue Workbook 3-15-21," which contains the EV counts by county and type of EV. Note these counts have been proportioned for the percentage of households served by Ameren Missouri in each county.

Ameren Missouri estimates indirect energy load of 27,178,050 kWh and indirect revenue in a range of \$2,105,180 to \$2,241,741. The variability in revenue range relates to a variable estimate of where charging is occurring (Multifamily, Workplace, or Public).

EV Registration Data as Power BI Visuals (includes snapshot from end of December 2020)

6,645

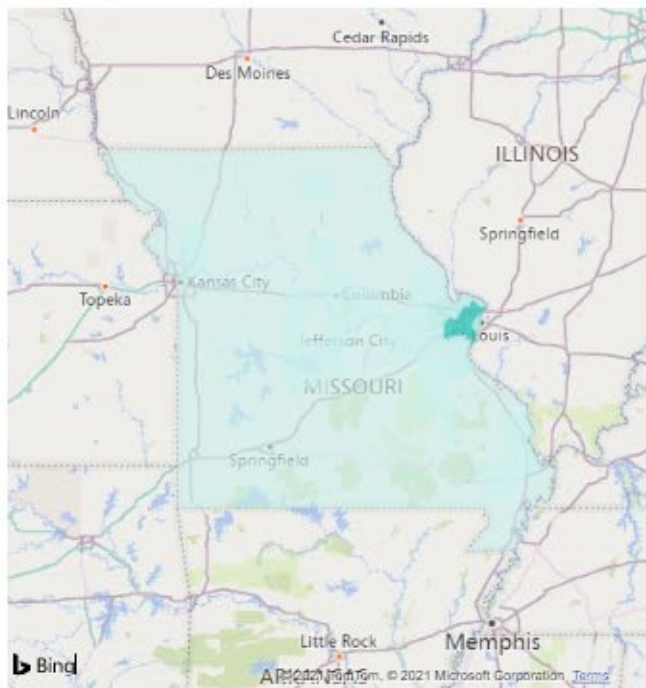
AMO EV Total

Year	Quarter	Ameren EV Total	Quarterly Change
2020	Qtr 4	6,645	361
2020	Qtr 3	6,284	238
2020	Qtr 2	6,046	222
2020	Qtr 1	5,824	357
2019	Qtr 4	5,467	247
2019	Qtr 3	5,220	515
2019	Qtr 2	4,705	341
2019	Qtr 1	4,364	323
2018	Qtr 4	4,040	538

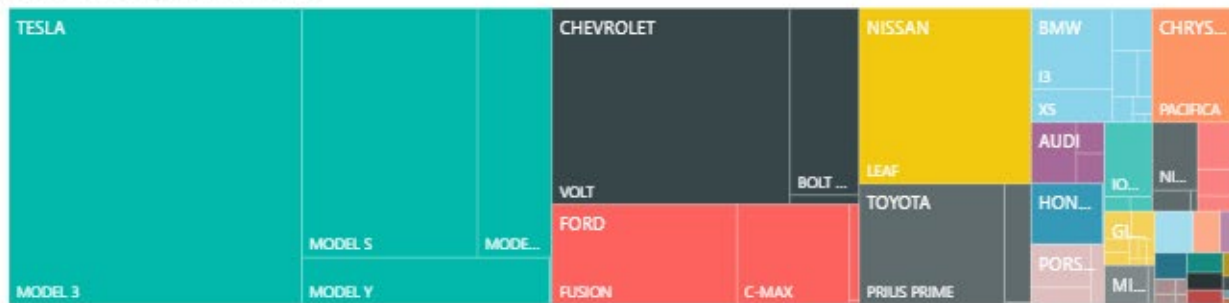
Ameren EV Total, Ameren PHEV Total and Ameren BEV Total by DATE and STATE



State*County



Ameren EV Total by MAKE and MODEL



Ameren EV Total by COUNTY and DATE

