

CONFIDENTIAL INFORMATION

File No. ET-2018-0132

Ameren Missouri Charge Ahead Quarterly Report

Electric Vehicle Charging – Corridors and Local Charging Incentive Program

Report for March 31, 2022

This report comprises the eighth 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.

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 accommodated three more sites (Eureka, Ironton, and Sikeston) in 2021, which resulted in a total of 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. This is updated as Ameren Missouri developments are completed as well as those occurring through the MDNR VW Trust process:
<https://www.ameren.com/missouri/residential/electric-vehicles/resources>

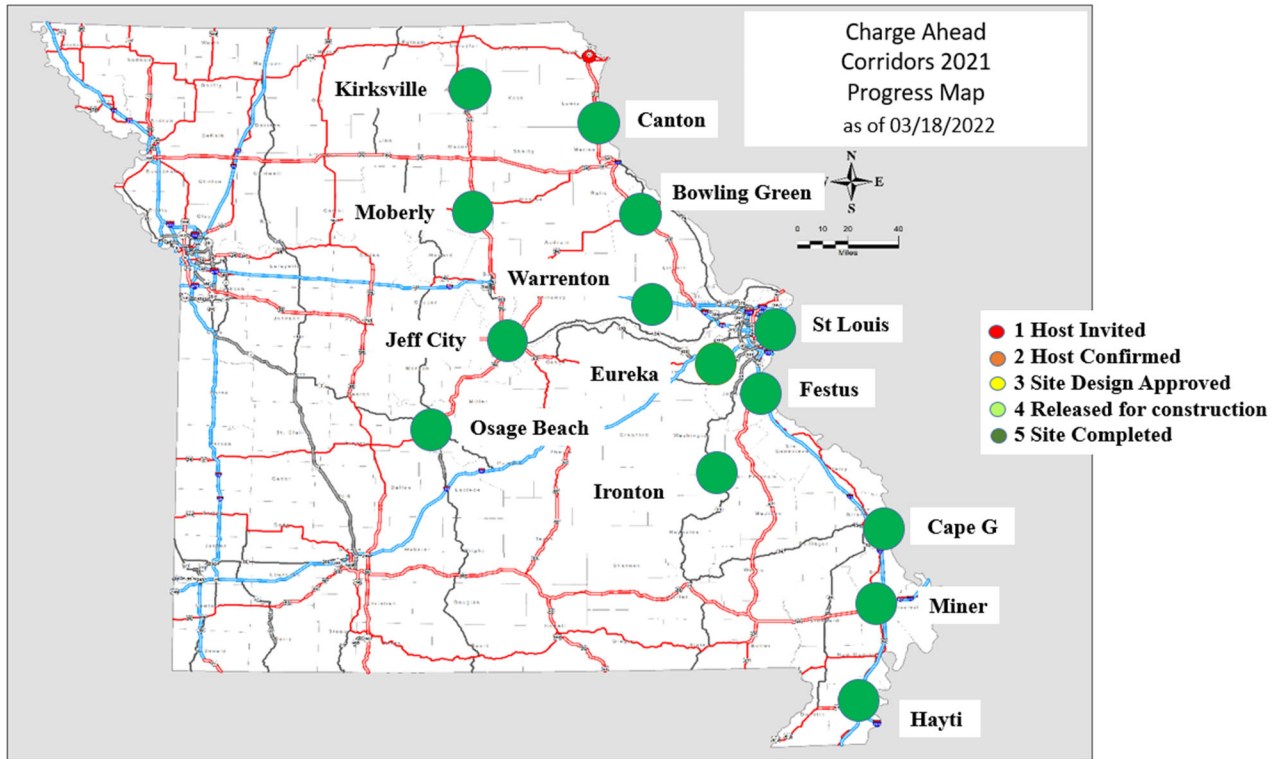
Costs

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. The cost for the 14 sites developed through the Charge Ahead – Corridor program is \$3,656,063 which is under the \$4,000,000 budget allocated for this program. The 14th site in Eureka represents the most recent site.

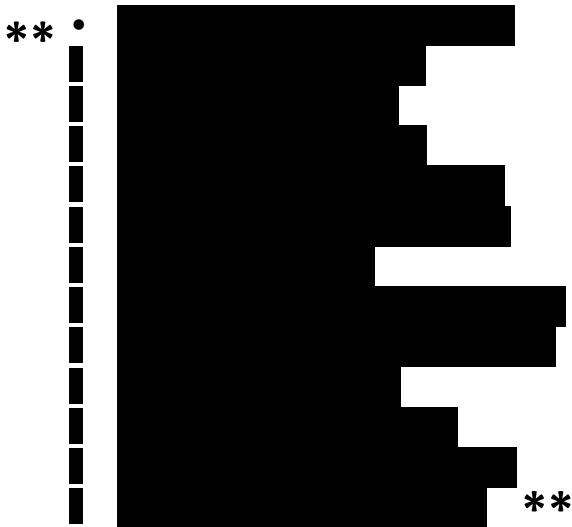
Charge Ahead Corridors – Sites Status and Costs Table (CONFIDENTIAL)

Location	Customer-Host	Status	Cost	Line Extension	Construction Allowance	Price to Charge (set by Customer-Host)
Warrenton	** [REDACTED]	Completed Dec 2019	\$272,202	\$18,324	\$7661	L2 Free; DC \$.25/kWh
St. Louis	[REDACTED]	Completed Jun 2020	\$307,897	\$27,808	\$7661	L2 \$.20/kWh; DC \$.25/kWh
Moberly	[REDACTED]	Completed Jun 2020	\$287,966	\$16,366	\$11,539	L2 \$.23/kWh; DC \$.25/kWh
Festus	[REDACTED]	Completed Aug 2020	\$313,153	\$25,719	\$7661	L2 Free; DC \$.25/kWh
Canton	[REDACTED]	Completed Aug 2020	\$275,815	\$14,261	\$11,539	L2 \$.22/kWh; DC \$.25/kWh
Hayti	[REDACTED]	Completed Aug 2020	\$267,207	\$5543	\$11,539	L2 \$.22/kWh; DC \$.30/kWh
Cape Girardeau	[REDACTED]	Completed Oct 2020	\$304,385	\$12,141	\$11,539	L2 Free; DC \$.25/kWh
Jefferson City	[REDACTED]	Completed Oct 2020	\$289,274	0	0	L2 \$.20/kWh; DC \$.25/kWh
Osage Beach	[REDACTED]	Completed Oct 2020	\$333,060	\$38946	\$11,539	L2 \$.22/kWh; DC \$.25/kWh
Bowling Green	[REDACTED]	Completed Jul 2020	\$308,708	\$21,557	\$11,539	L2 \$.22/kWh; DC \$.25/kWh
Kirksville	[REDACTED]	Completed Dec 2020	\$268,925	\$9021	\$11,539	L2 \$.22/kWh; DC \$.25/kWh
Minor	[REDACTED]	Completed Oct 2021	\$100,000	\$8,464	\$11,539	L2 \$.25/kWh; DC \$.30/kWh
Ironton	[REDACTED]	Completed Nov 2021	\$241,030	\$13,275	\$11,539	L2 \$.25/kWh; DC \$.30/kWh
Eureka	[REDACTED] **	Completed Dec 2021	\$239,472	\$14,261	\$11,539	L2 \$.25/kWh; DC \$.30/kWh

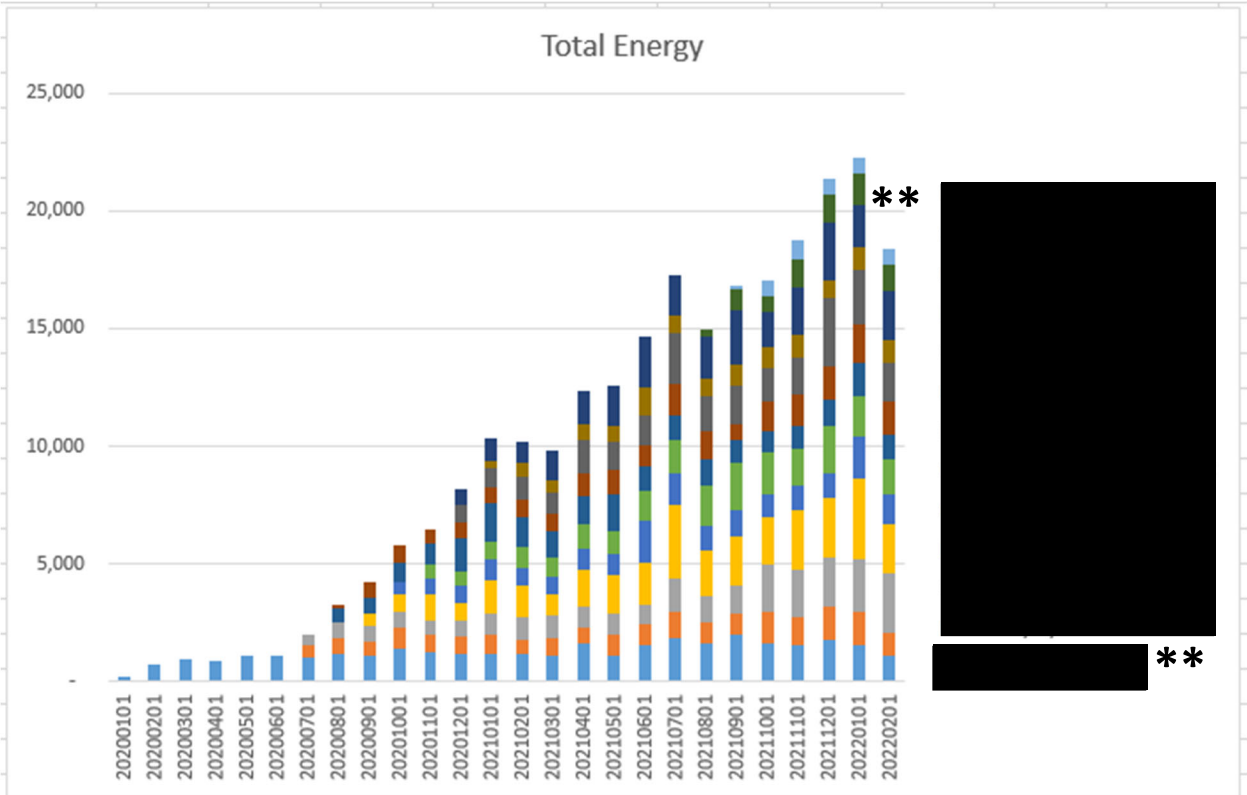
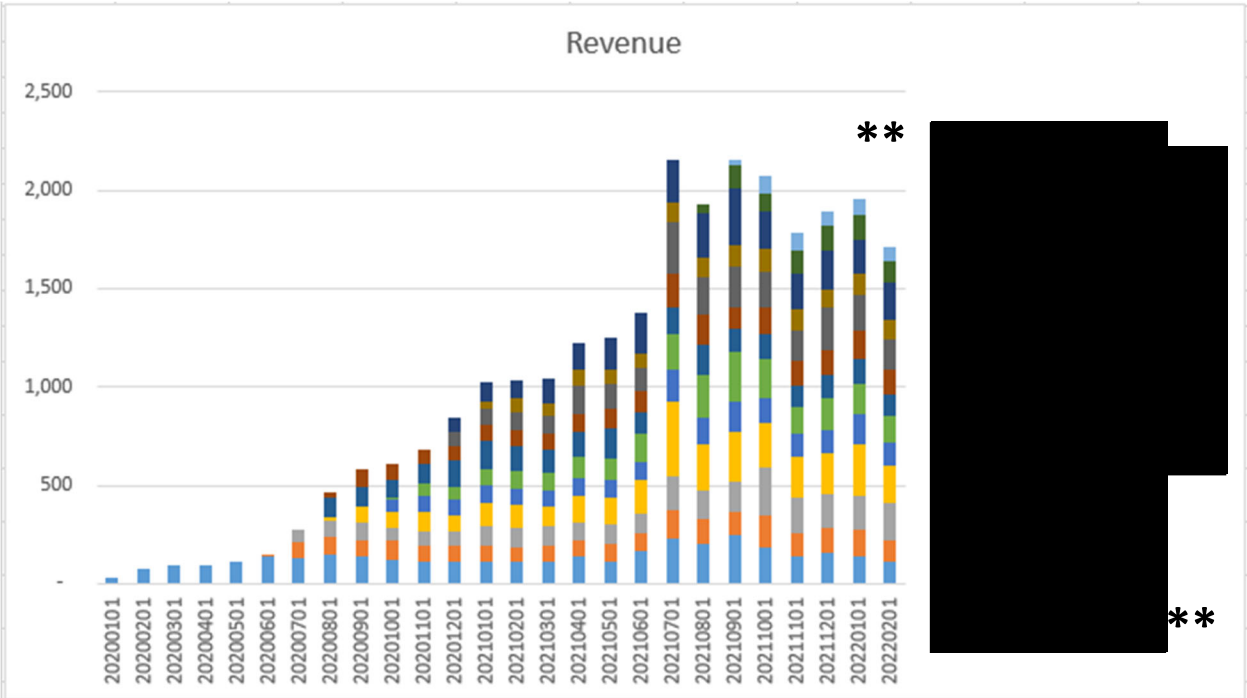
Charge Ahead Corridors – Progress Map

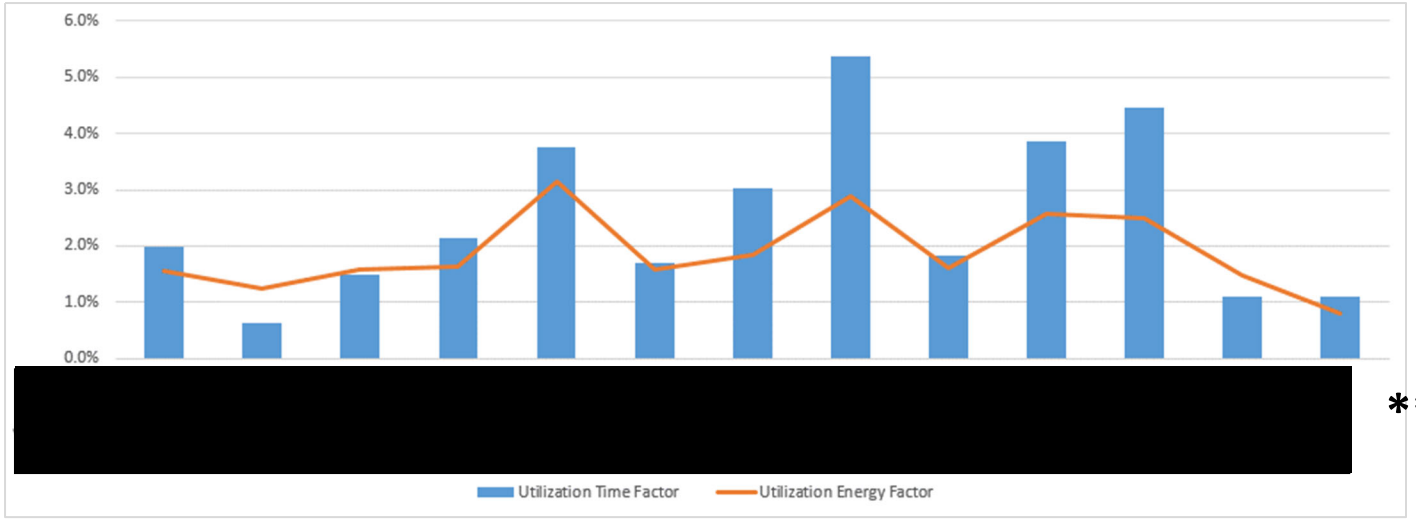


The charts below show the **revenue, energy, and number of sessions** by month for the following locations:



More usage reporting will be developed for the additional sites in subsequent quarterly reports. Note the Revenue is in dollars and Total Energy is in kWh.





**

**

The charts below represent the ChargePoint-recorded "Uptime" in 2021 Q4 for the following locations:

** [Redacted] **

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
[Redacted]	54	19	\$ 12.17	7	23	1	2	100.00%
[Redacted]	237	7	\$ 53.28	30	99	4	4	100.00%
[Redacted]	0	0	\$ 0.00	0	0	0	0	100.00%
[Redacted]	1,149	60	\$ 258.41	144	482	22	24	100.00%
[Redacted]	1,273	54	\$ 286.36	160	535	23	24	100.00%
[Redacted]	115	17	\$ 0.00	14	48	19	19	100.00%
[Redacted]	424	17	\$ 95.37	53	178	9	10	96.99%
[Redacted]	904	36	\$ 203.40	113	380	22	23	100.00%
[Redacted]	127	14	\$ 24.56	16	53	27	29	100.00%

** [Redacted] **

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
[Redacted]	1,099	40	\$ 296.77	138	462	24	25	100.00%
[Redacted]	688	39	\$ 185.89	86	289	12	13	100.00%
[Redacted]	77	17	\$ 15.29	10	33	14	21	100.00%

** [Redacted] **

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
[Redacted]	539	48	\$ 121.30	68	226	18	31	100.00%
[Redacted]	1,628	82	\$ 366.35	204	684	43	54	100.00%
[Redacted]	1,492	90	\$ 267.50	187	627	306	412	100.00%

** [Redacted] **

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
[Redacted]	2,948	131	\$ 660.81	370	1,238	89	103	100.00%
[Redacted]	1,244	61	\$ 279.86	156	522	30	51	100.00%
[Redacted]	150	30	\$ 27.00	19	63	25	30	100.00%

** [REDACTED] **

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
[REDACTED]	97	5	\$ 0.00	12	41	16	17	100.00%
[REDACTED]	641	114	\$ 0.00	80	269	113	132	100.00%
[REDACTED]	1,730	108	\$ 389.22	217	727	45	52	100.00%
[REDACTED]	2,517	160	\$ 566.46	316	1,057	55	60	100.00%
[REDACTED]	1,969	131	\$ 442.96	247	827	52	55	100.00%
[REDACTED]	2,872	161	\$ 646.16	360	1,206	65	68	100.00%
[REDACTED]	1,147	156	\$ 0.00	144	482	206	251	100.00%
[REDACTED]	901	79	\$ 202.73	113	378	20	24	100.00%
[REDACTED]	1,373	76	\$ 308.94	172	577	28	30	100.00%
[REDACTED]	94	29	\$ 0.00	12	39	16	26	100.00%

** [REDACTED] **

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
[REDACTED]	828	38	\$ 186.22	104	348	19	20	99.98%
[REDACTED]	1,165	48	\$ 262.19	146	489	22	23	100.00%
[REDACTED]	58	22	\$ 11.94	7	24	10	11	100.00%

** [REDACTED] **

Station Name	Total Energy (kWh)	Total Sessions	Total Fees (\$)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
[REDACTED]	1,507	79	\$ 338.99	189	633	48	52	100.00%
[REDACTED]	1,465	89	\$ 329.57	184	615	43	49	100.00%
[REDACTED]	41	16	\$ 8.00	5	17	11	13	100.00%

Direct Revenues from Corridors

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

Revenue														
20200101	33													
20200201	78													
20200301	96													
20200401	92													
20200501	110													
20200601	138	4												
20200701	129	79	64											
20200801	148	89	87	15			96	27						
20200901	135	86	91	75			102	92						
20201001	121	96	69	81	66	3	97	79						
20201101	117	79	66	106	76	66	104	71						
20201201	113	77	73	81	80	71	128	74	78		72			
20210101	112	84	94	119	95	76	150	75	85	35	98			
20210201	113	71	99	115	81	57	122	78	96	69	91			
20210301	110	87	97	97	86	89	112	81	97	63	127			
20210401	138	81	90	136	95	106	122	98	141	78	136			
20210501	115	92	95	139	92	104	154	104	121	75	164			
20210601	163	96	94	170	96	144	105	109	121	71	207			
20210701	230	145	174	376	160	184	139	167	264	98	220			
20210801	201	127	142	239	140	216	146	158	189	102	221	49		
20210901	246	120	156	254	153	247	123	101	208	114	285	118	29	
20211001	180	163	250	222	130	194	127	141	178	122	184	92	88	
20211101	142	117	177	212	116	137	107	128	149	105	182	117	94	
20211201	154.41	131.12	166.77	214.53	111.04	163.47	116.33	128.86	219.24	90.23	202.02	118.9	79.23	
20220101	143.02	129.91	174.59	265.33	152.03	148.44	129.58	140.97	186.67	106.88	167.9	127.21	81.69	
20220201	111.01	109.39	189.61	187.27	120.94	133.65	111.11	124.98	150.68	104.66	183.63	111.91	75.52	

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. We partnered with Reach Strategies to implement a marketing plan to educate customers and bring awareness to the Local Charging Incentive Program. The cost to-date through December 2021 for total administrative and educational costs is approximately **\$555,701** and includes the following costs:

- AEG administrative costs \$203,832
- 2020 Auto Show (event facilitated by Reach) \$64,835
- 2020 Auto Show (charging station exhibits) \$9,064
- 2022 Auto Show (event facilitated by Reach) \$45,758
- Reach Strategies marketing costs \$220,052
- Contractor Support Role for Portal Management \$5,040
- Watt Time Pilot \$7,120

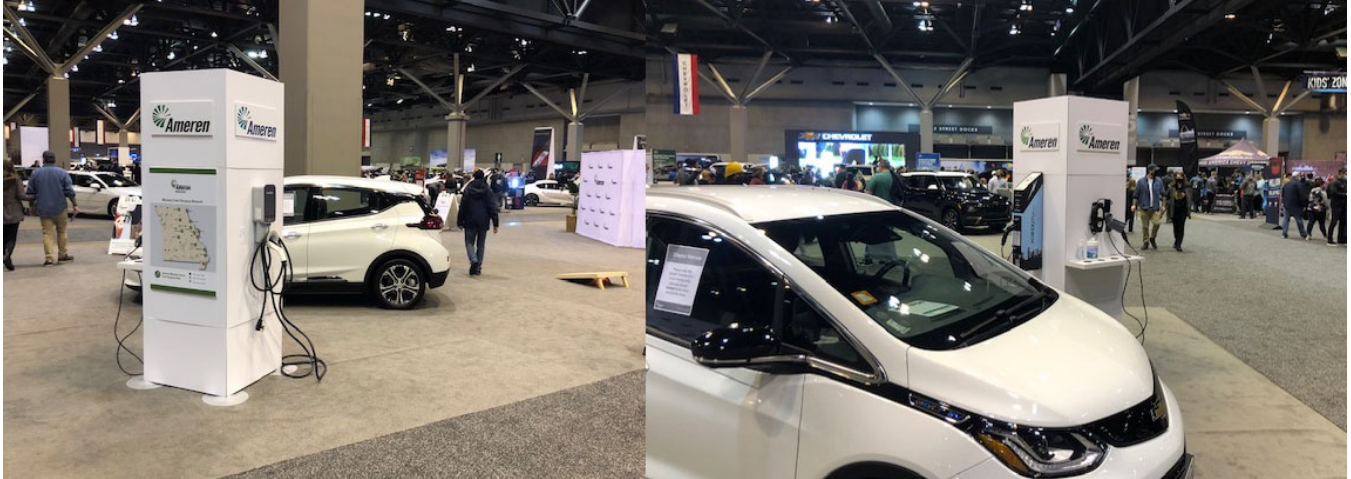
Education and Outreach Activities

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

- 2022 Auto Show
- Virtual Community Events – EV 101: An Introduction to Electric Vehicles
- Virtual Community Events – EV 201: Finding the EV for You
- Electric Vehicle Partners (EVP) Network – monthly training sessions offered to EVPs
- 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.)

2022 STL Auto Show - Jan 2022

Reach Strategies, marketing partner, hosted the event on behalf of Ameren MO and Ameren IL. Approximately 30,000 attended the show and had the opportunity to view 14 EV models, including our Chevy Bolt, Security's Mach E and a rented Tesla Model 3 which were displayed in the Ameren booth. Overall, this was a great opportunity to bring awareness and continuing to educate our community on the benefits of EVs.



Investment in Infrastructure Expo – Feb 2022

Ameren Missouri EV Team joined our marketing partner, Reach Strategies, to sponsor and host a booth at the Infrastructure Expo at the St. Charles Convention Center. This was our first time attending this annual expo that focused on investing in infrastructure throughout the state for businesses that require reliable infrastructure services to operate their facilities, ship their goods, and bring their employees to and from work. At the Ameren Missouri booth we focused on the Charge Ahead - Local incentives, Fleet Electrification and Off-Road incentives.

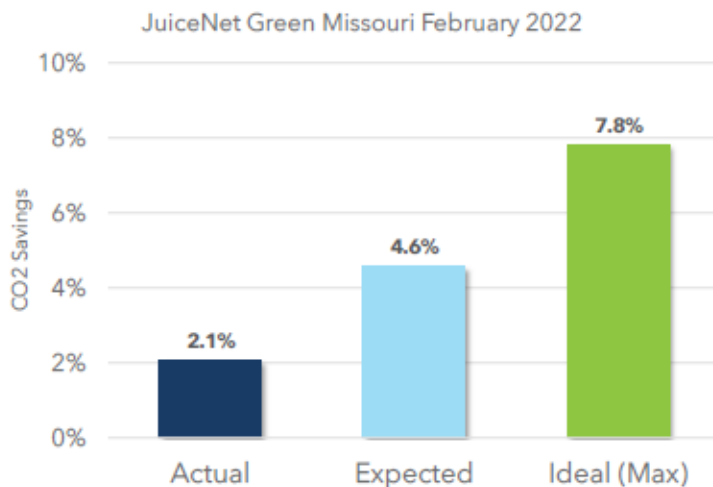


Automated Emissions Reduction (AER)

The pilot of Automated Emissions Reduction for EVs as implemented by Enel X with their JuiceNet Green product is now being evaluated for a larger population of about 50 users. The larger population includes EV drivers that live outside of Ameren Missouri's territory, and some are in grid regions that have different marginal emissions rates. So far, drivers charging in SPP (Kansas City and Springfield) are achieving much higher levels of avoided CO2. In February 2022, there were 37 active drivers and 208 pounds of CO2 avoided by JuiceNet Green. The total monthly carbon savings was 2.1%, with the highest individual session savings of 99.6%, and the population achieved 48% of the available opportunity for savings compared to expected. Participants who aren't actively engaging with the JuiceNet app have lower than expected performance and bring the average down, while users in SPP regions raise the average performance.

Pilot Update: Results (Feb only)

Monthly Savings Summary



Key Results Last Month

Metric	Value
# of Active Users	37
# of Sessions	607
Highest Actual Savings in a Session	99.6%
CO2 saved in month	218 lbs

JuiceNet Green was deactivated for December and January, so performance was not evaluated

Charge Ahead – Local Incentives Dashboard Statistics Snapshot 3-25-2022



Data refreshed (EST): 03/25/2022 07:24:04

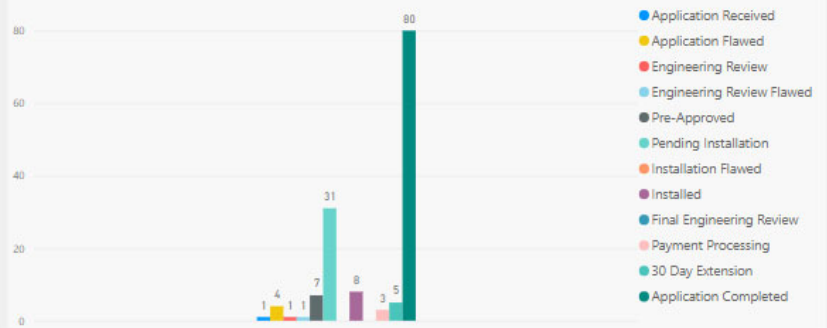
EV Charge Ahead Dashboard

Remaining Incentive Budget

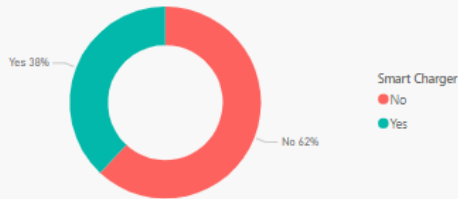
\$899,952 Multi-Family	\$2,683,314 Public Charging	\$1,506,867 Workplace	\$5,090,134 Total
141 Applications Received	80 Applications Completed	\$1,001,359 Incentives Committed	\$909,846 Incentives Paid

Geographic Heat Map

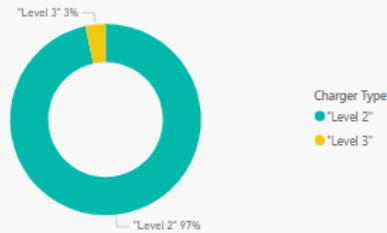
Project Pipeline



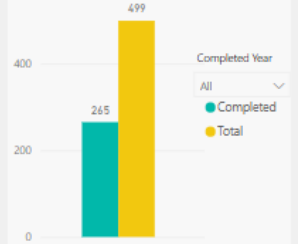
Monitored Smart Charger Applications



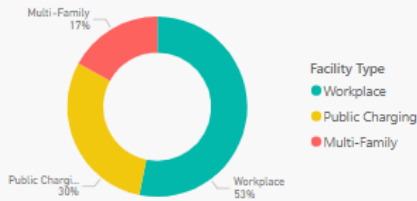
Charger Speed of Ports (% of ports)



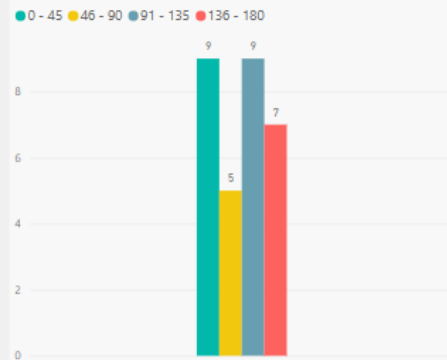
Number of Ports (Total)



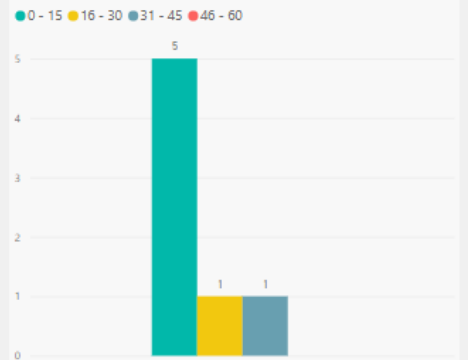
Property Type



Projects Pending Installation



Pre-Approved Projects



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" during the application process and that they would be monitoring their charging. Ameren Missouri is actively engaging these customers to collect utilization data. Ameren Missouri will continue to communicate with customers about their data collection.

Completed Projects	Smart Charging Equipment	Completed Projects	Smart Charging Equipment
**	Siemens/VCSG30GCPUW *		ENEL X JUICE BOX PRO 40
	LilyPad/EV CT4000		ChargePoint CT4021-GW1
	Charge Point/CT4021-GW1		CHARGEPOINT CT4021-GW1
	Leviton/EVR-GREEN 4000		JuiceBox 32
	Charge Point/ CT4021 & CT4025		Charge Point CT4021-GW1
	Charge Point/CT4023-GW1		CHARGEPOINT CT4021
	Siemens/VCSG30GCPUW		ChargePoint CT4013
	Enel x/pro 40 c		EVBox Business Line
	ChargePoint 40amps ChargePoint Home Flex, NEMA 14-50 Plug		EVBox Business Line
	DELTA EVDU25U4CUM, ChargePoint CT-4023		Leviton CPHU2-CPMBX-CPCAP- CPCBX-CPCMK
	Charge Point CPF25	**	Charge Point CT4021-GW1
	Charge Point CPF50		
	ChargePoint CT4021		
**	ChargePoint CT4023		

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 258 installed charging ports (at 77 locations) through 3-1-22, Ameren Missouri estimates a total annual direct load/revenue of \$153,586 to \$210,130 and a total annual direct energy consumed of approximately 2,333,210 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 Q4-2021 that reflects numbers for Ameren Missouri territory. See Power BI visual depiction shown at end of this report.

Attachment, "AMO Charge Ahead – Revenue Workbook 3-1-22," to this report, 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.

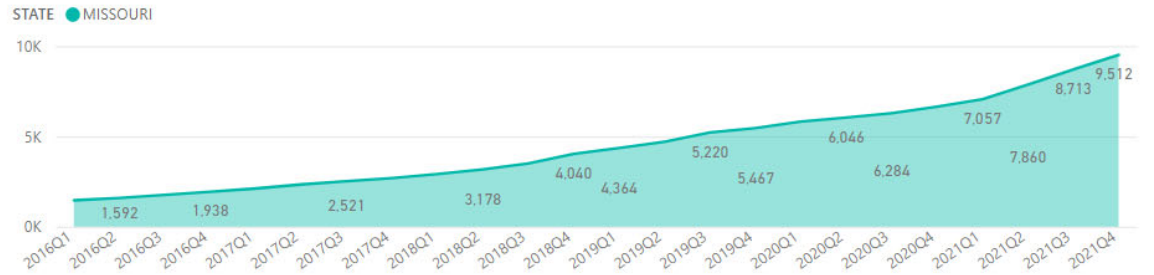
Ameren Missouri estimates indirect energy load of 38,904,080 kWh and indirect revenue in a range of \$3,293,683 to \$3,486,255. The variability in revenue range relates to a variable estimate of where charging is occurring (Multifamily, Workplace, or Public).

EV Registration Data as Power BI Visuals (includes snapshot as of 3/18/22)

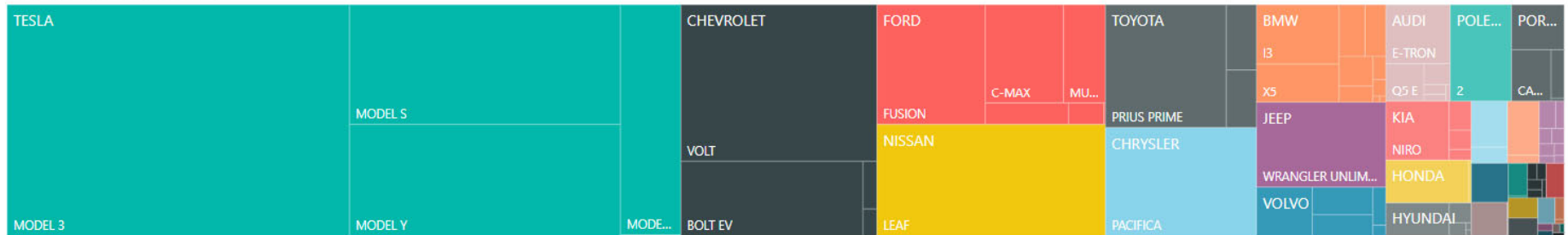
9,512
AMO EV Total

Year	Quarter	Ameren EV Total	Quarterly Change
2021	Qtr 4	9,512	799
2021	Qtr 3	8,713	853
2021	Qtr 2	7,860	803
2021	Qtr 1	7,057	412
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

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



Current EVs by MAKE and MODEL



Ameren PHEV Total Ameren BEV Total

