CONFIDENTIAL INFORMATION

File No. ET-2018-0132
Ameren Missouri Charge Ahead Quarterly Report
Electric Vehicle Charging – Corridors and Local Charging Incentive Program
Report for September 2021

This report comprises the sixth 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 September.

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 three more sites (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. 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

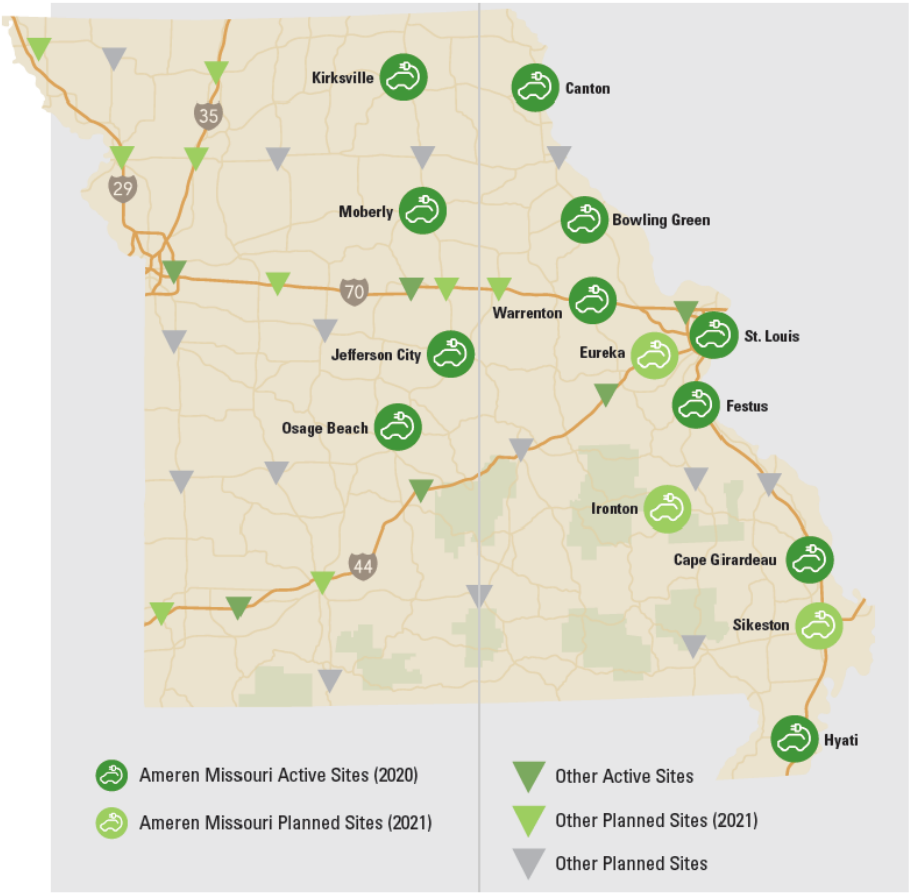
Costs

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 total number of sites (14) that will be developed through 2021 will be just under the total $4,000,000 budget allocated for this program.

Charge Ahead Corridors – Sites Status and Costs Table

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:

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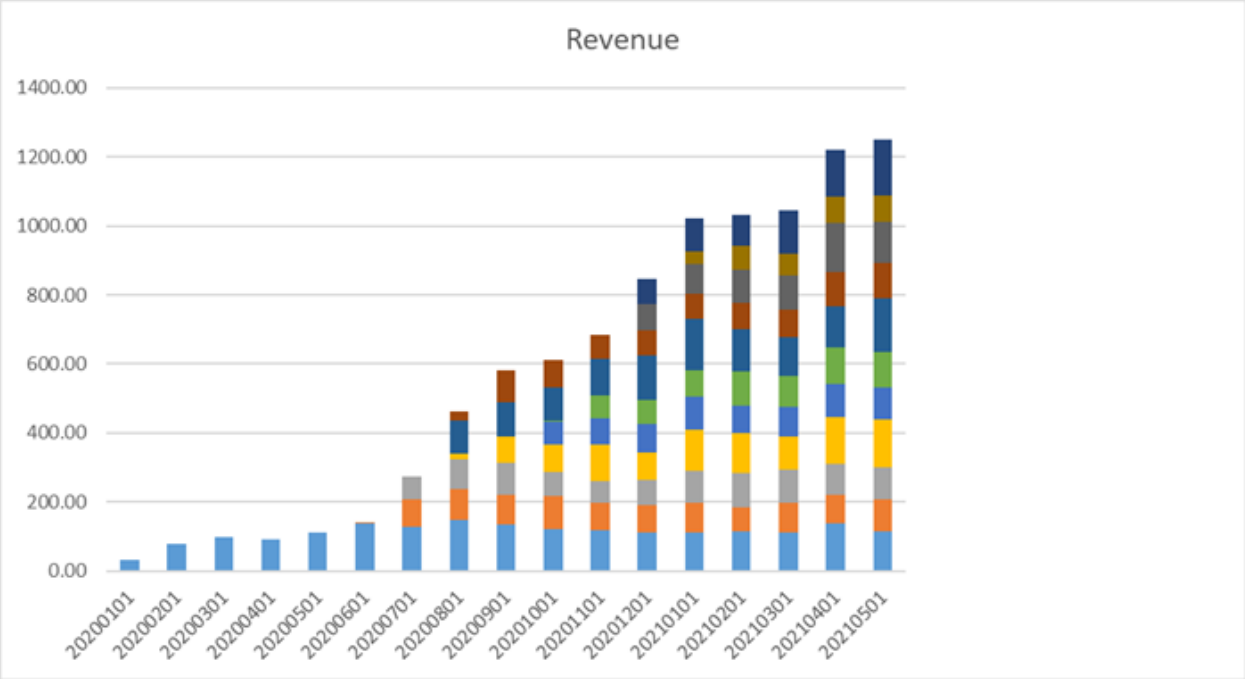
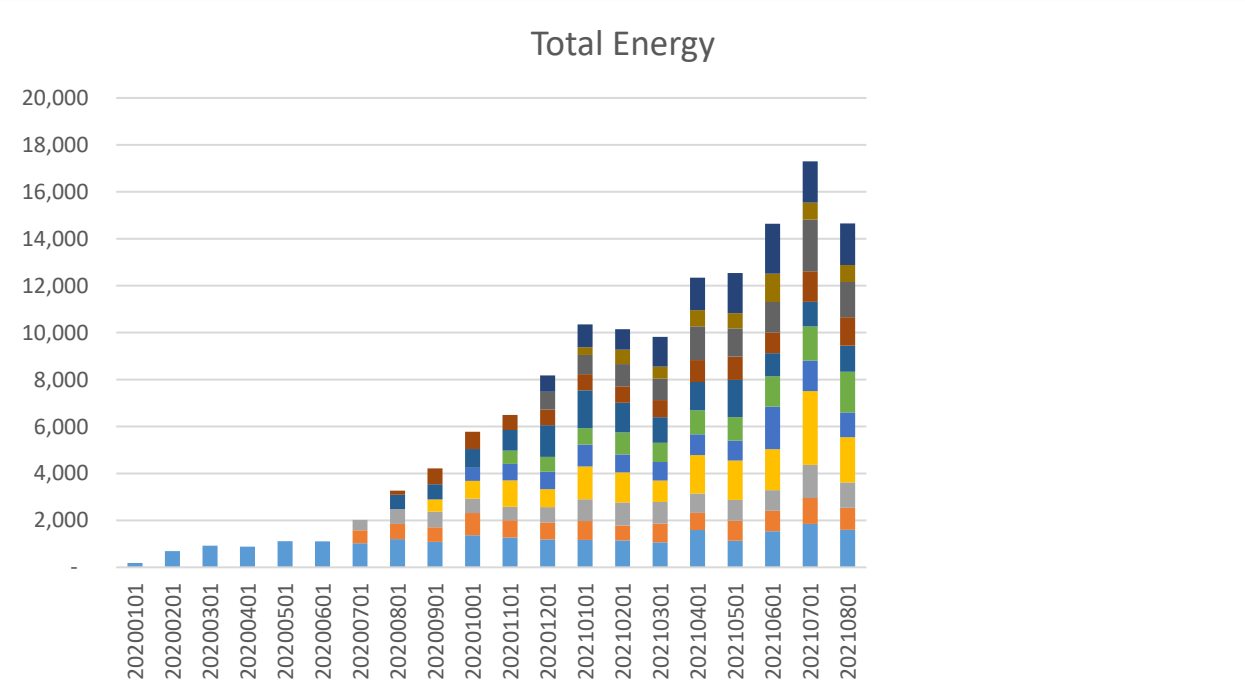
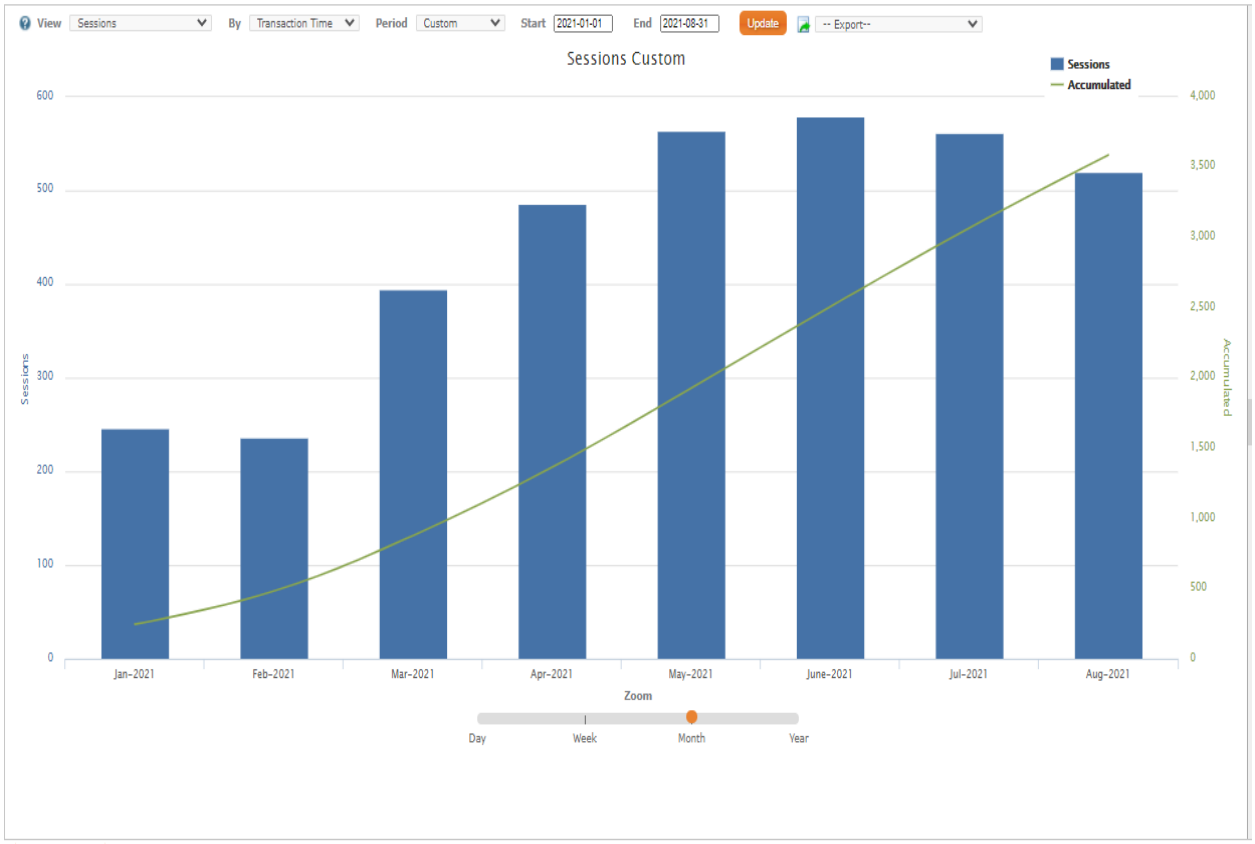
More usage reporting will be developed for the additional sites in subsequent quarterly reports. Note the Revenue is in dollars and Total Energy is in kWH.







The charts below represent the **"Uptime" in 2021 Q2** for the following locations:

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Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	772	50	$ 173.62	97	324	17	18	100.00%
	430	33	$ 96.68	54	180	9	10	100.00%
	52	22	$ 0.00	6	22	11	12	100.00%
	431	21	$ 97.07	54	181	9	10	96.99%
	1,128	54	$ 253.90	142	474	26	31	100.00%
	275	34	$ 54.32	35	116	46	57	100.00%

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Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	723	60	$ 195.15	91	304	16	18	100.00%
	464	44	$ 125.29	58	195	10	11	100.00%
	93	27	$ 18.32	12	39	16	17	100.00%

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Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	423	39	$ 95.09	53	177	12	23	100.00%
	1,945	114	$ 437.66	244	817	53	60	91.78%
	900	97	$ 157.21	113	378	209	292	100.00%

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Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	655	53	$ 147.40	82	275	12	14	100.00%
	512	46	$ 115.22	64	215	11	13	100.00%
	174	28	$ 31.28	22	73	34	39	100.00%

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Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	36	4	$ 0.00	5	15	7	8	100.00%
	400	101	$ 0.00	50	168	77	89	100.00%
1	876	96	$ 197.15	110	368	23	25	100.00%
2	1,666	144	$ 374.83	209	700	41	45	100.00%
	720	53	$ 161.94	90	302	18	20	100.00%
	2,957	160	$ 665.38	371	1,242	73	77	100.00%
	199	101	$ 0.00	25	83	37	40	100.00%
1	871	60	$ 195.89	109	366	25	27	100.00%
2	779	56	$ 175.37	98	327	21	22	100.00%
	292	44	$ 0.00	37	123	52	89	100.00%

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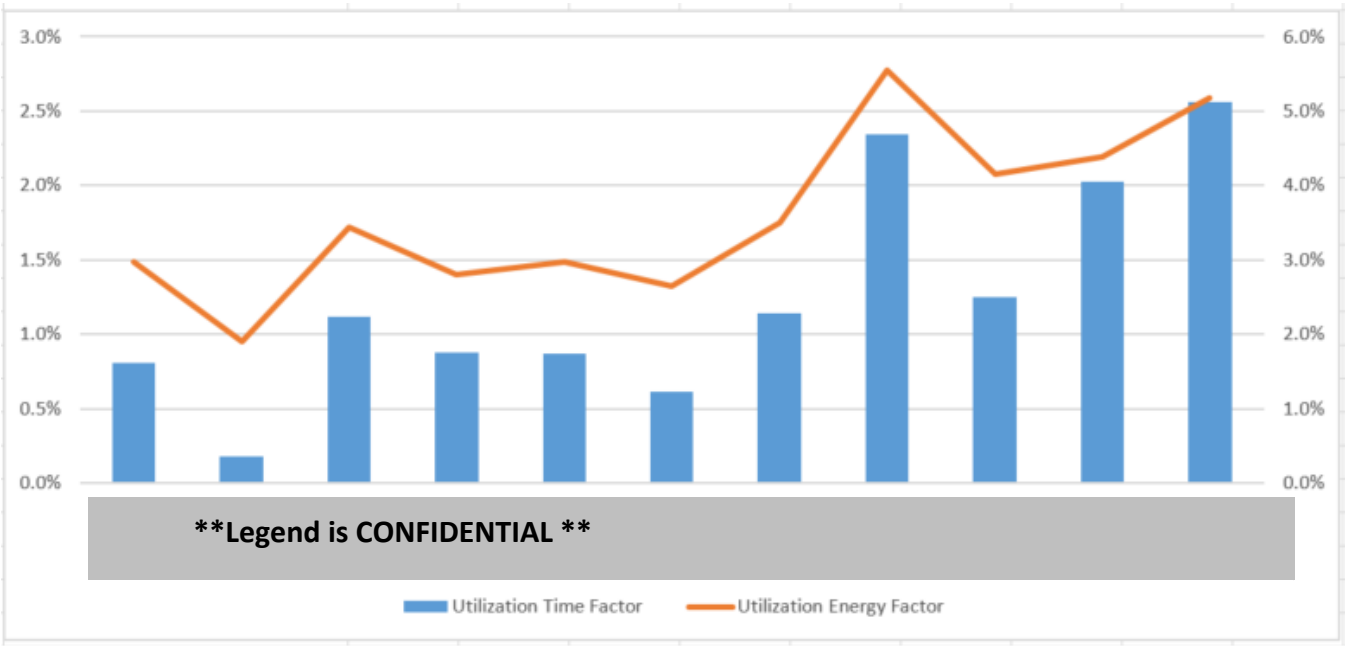
Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	348	27	$ 78.30	44	146	10	11	99.98%
	655	29	$ 147.30	82	275	10	11	100.00%
	29	9	$ 6.03	4	12	5	5	100.00%

The charts below represent the **"Utilization Factor"** for the following locations:



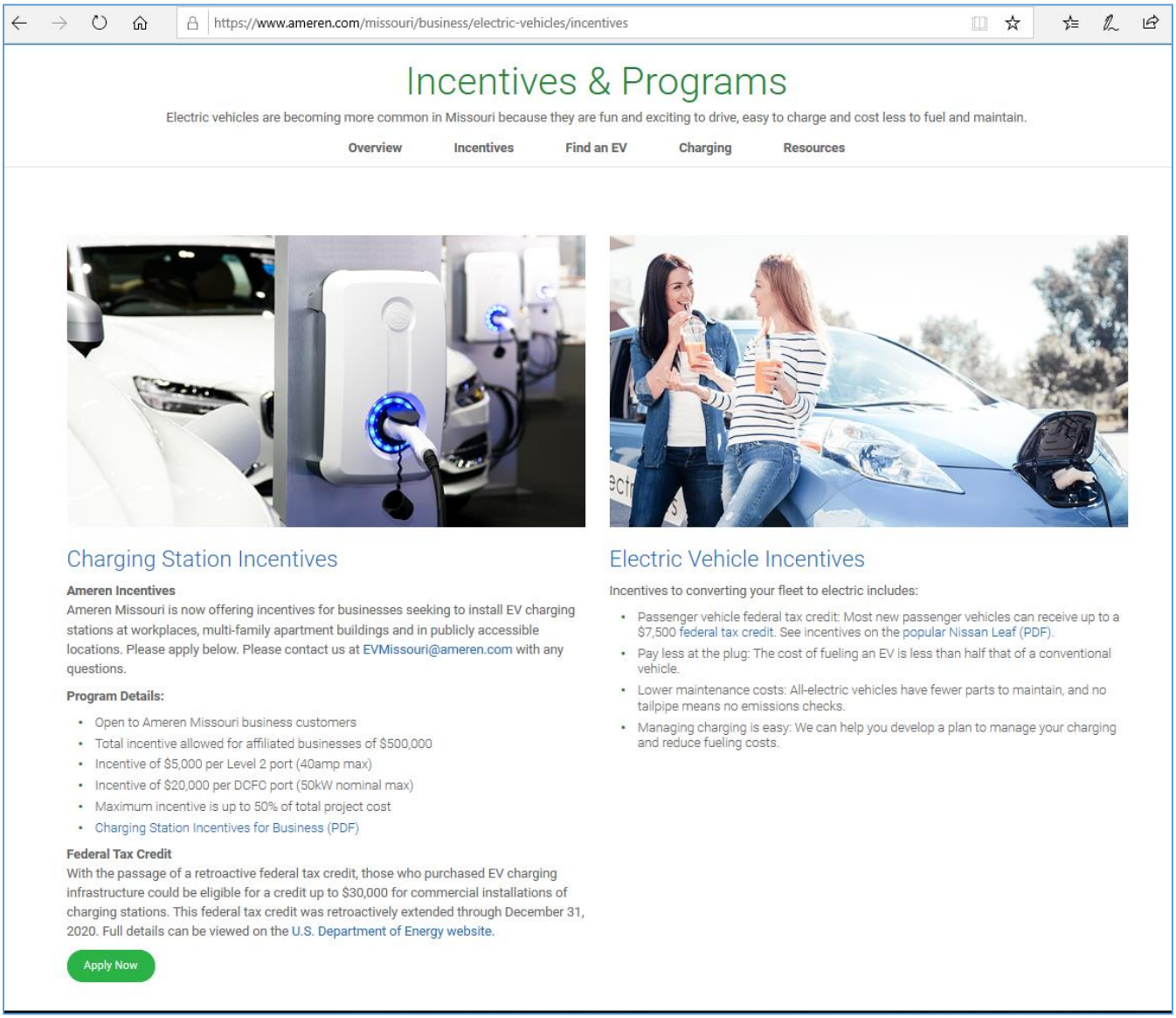
Direct Revenues from Corridors

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

Revenue											
	**										**
20200101	32.55										
20200201	78.14										
20200301	96.32										
20200401	92.05										
20200501	110.40										
20200601	137.69	3.99									
20200701	128.85	79.05	64.35								
20200801	147.79	89.27	87.46	15.32			96.04	27.05			
20200901	135.35	86.17	90.85	75.43			101.77	92.24			
20201001	120.97	96.11	68.64	80.69	65.54	2.67	96.86	78.79			
20201101	116.57	79.09	65.85	106.08	76.34	65.55	104.22	71.47			
20201201	112.7	77.33	73.25	81.19	79.74	70.52	128.25	73.71	77.53		71.56
20210101	111.79	84.23	94.33	119.1	94.97	75.55	149.9	75.08	85.43	35.2	97.78
20210201	113.4	70.86	99.13	115.34	81.19	97.24	122.11	77.51	96.44	69.31	90.59
20210301	109.77	86.89	97.08	97.23	85.89	88.81	111.79	81.24	96.9	63.03	126.52
20210401	138.05	81.24	89.66	136.4	94.96	105.98	121.55	98.32	141.22	78.05	136.27
20210501	114.67	91.67	94.71	138.6	91.77	103.54	153.61	103.8	121.04	74.69	163.78
20210601	163.01	96.41	94.45	169.51	96.39	144.12	105.46	108.9	121.05	70.9	206.81
20210701	229.82	144.91	173.5	375.71	160.09	184.38	139.02	167.35	263.9	98	219.51
20210801	200.91	127.11	141.62	238.66	140.03	216.1	145.82	158.07	189.46	102.06	220.97

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:



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 August 2021 for total administrative and educational costs is approximately $311,602 and includes the following costs:

- AEG administrative costs $154,505
- Auto Show (event facilitated by Reach) $64,835
- Auto Show (charging station exhibits) $9,064
- Reach Strategies marketing costs $71,038
- 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:

- Virtual Community Events – EV 101: An Introduction to Electric Vehicles
- 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.)

The Ameren MO Electrification Team partnered with Reach Strategies to promote monthly Charge Ahead Training sessions via LinkedIn to business customers within Ameren MO Service Territory. The purpose of the LinkedIn ad is to bring awareness to the benefits of the Charge Ahead Incentive Program and provide a link for business customers to register for the monthly training sessions.

As of 8/20/21, **One Million Dollars of Charge Ahead** - **Local incentives** has been paid and/or committed to our business customers (exact number is $1,004,818). This is a major internal milestone, the $1M figure is about 17% of the total $6M of available and we'll continue to raise awareness with our business customers about the benefits of the Charge Ahead Incentive Program.

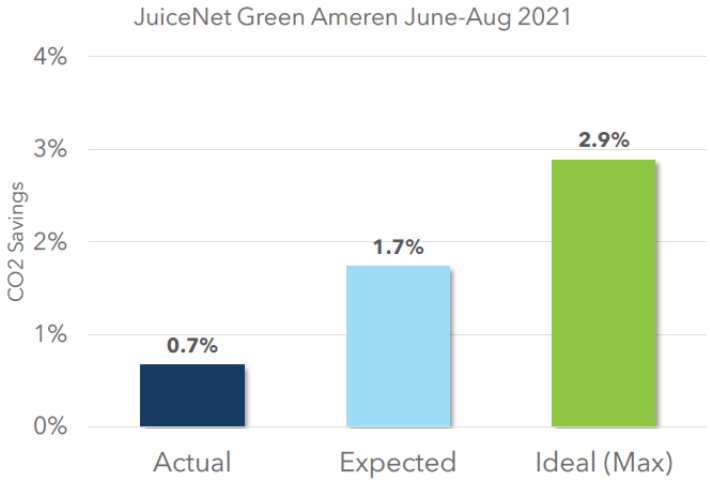
Automated Emissions Reduction (AER)

The small pilot of Automated Emissions Reduction for EVs as implemented by Enel X with their JuiceNet Green product is now in month six of the Phase 2 evaluation. Performance has been relatively steady since the JuiceNet Green version 3 update. In the period from June to August, there were 67 pounds of CO2 avoided by JuiceNet Green for the 10 participating users. Monthly performance has ranged from 0.4%-0.8% carbon savings, and the software has captured from 13%-30% of the available opportunity for savings. The performance improvements to the app are still in development and are not expected before the end of 2021. User engagement has started to slip and we expect performance to decrease if users are not engaged with the app. Enel X and WattTime are expanding this pilot to JuiceBox owners in Missouri by giving them free upgrades to JuiceNet Green. Outreach to approximately 200 users will happen in September, with target participation of 50 to 75 users.

While the WattTime product shows some promise and the intentions are positive, the results and user experience is not yet good enough to warrant Ameren Missouri promoting this to customers.

Preliminary Results: June – Aug 2021

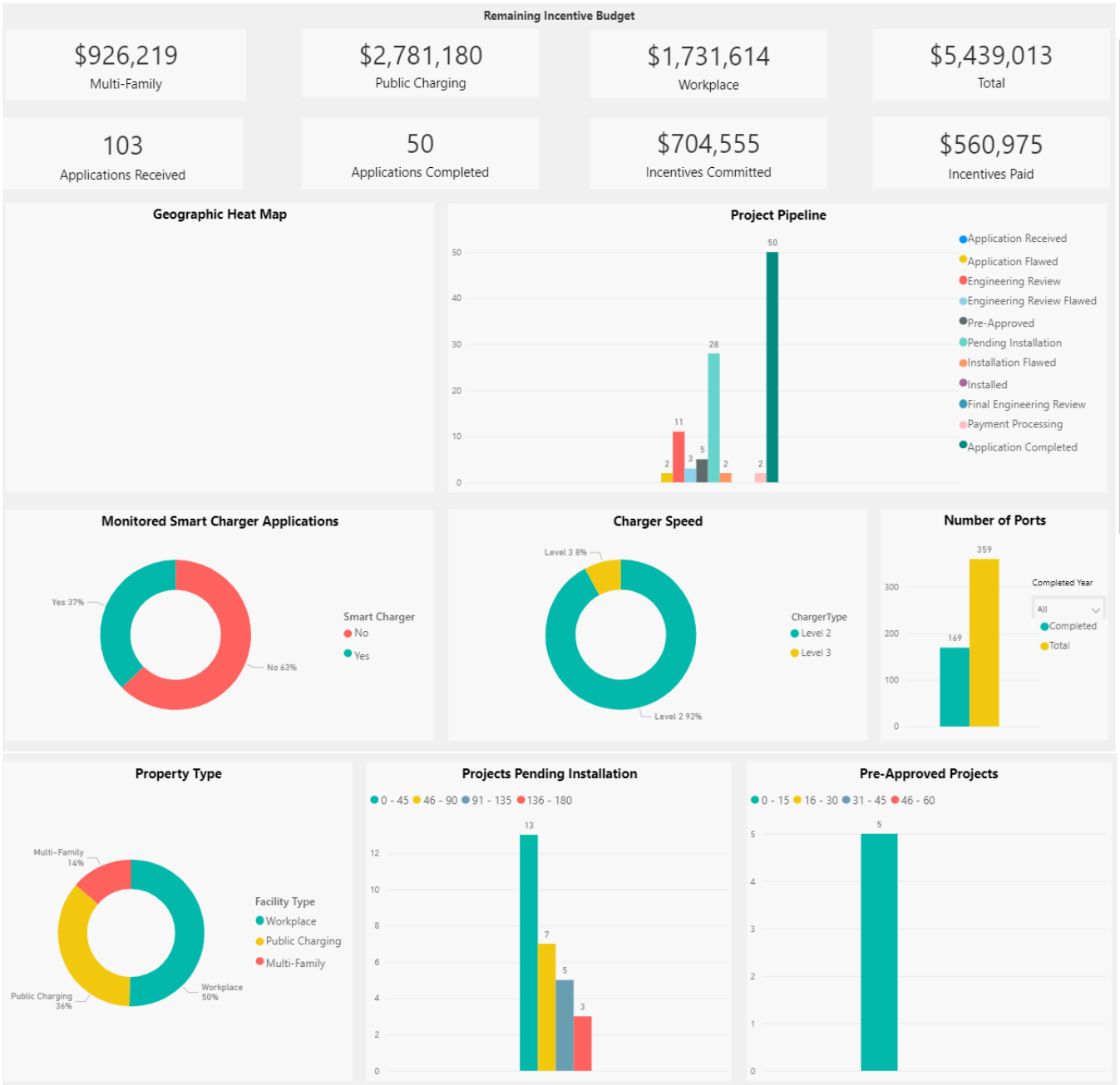
CO2 Savings Summary



Performance Results

Metric	Value
Highest Actual Savings in a Session	11.6%
# of Sessions	626
CO2 saved	67 lbs

Charge Ahead – Local Incentives Dashboard Statistics – Snapshot 9-16-2021



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" during the application process and that they would be monitoring their charging. Ameren Missouri has contacted these customers to collect data from them, however, none of the customers are actually monitoring their smart chargers or collecting any utilization data from the charging equipment. Ameren Missouri will continue to communicate with customers about their data collection.

Completed Projects	Smart Charging Equipment
**	Siemens/VCSG30GCPUW
	LilyPad/EV CT4000
	Charge Point/CT4021-GW1
	Leviton/EVR-GREEN 4000
	Charge Point/ CT4021 & CT4025
	Charge Point/CT4023-GW1
	Siemens/VCSG30GCPUW
	Enel x/pro 40 c
	Chargepoint 40amps ChargePoint Home Flex, NEMA 14-50 Plug
	DELTA EVDU25U4CUM, Chargepoint CT-4023
	Charge Point CPF25
	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 156 installed chargers (at 45 locations) through 8-26-21, Ameren Missouri estimates a total annual direct load/revenue of $83,633 to $115,331 and a total annual direct energy consumed of approximately 1,358,607 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 Q2-2021 that reflects numbers for Ameren Missouri territory. See Power BI visual depiction shown at end of this report.

Attachment, "AMO Charge Ahead – Revenue Workbook 9-10-21," 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 30,216,920 kWh and indirect revenue in a range of $2,340,567 to $2,492,398. 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 August 2021)