CONFIDENTIAL INFORMATION

File No. ET-2018-0132
Ameren Missouri Charge Ahead Quarterly Report
Electric Vehicle Charging – Corridors and Local Charging Incentive Program
Report for June 2022

This report comprises the ninth 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 June.

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.

P

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

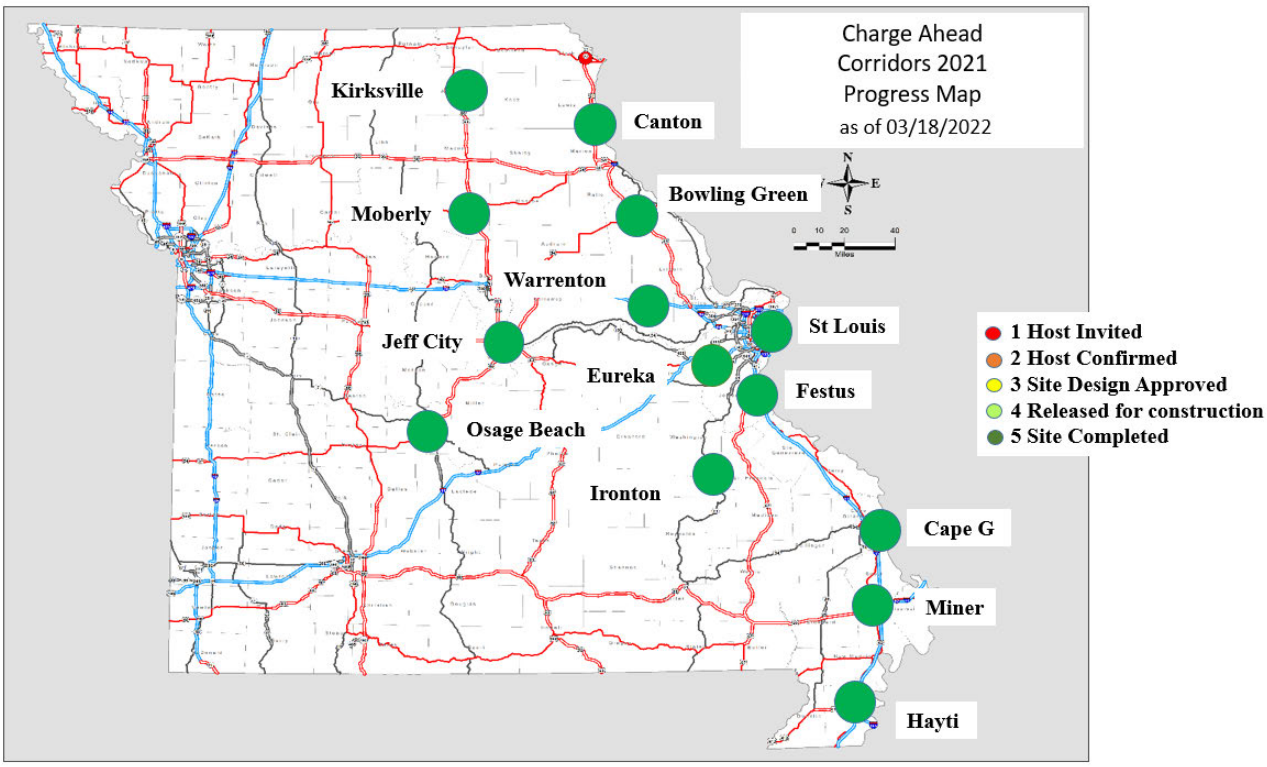
The table below contains basic project information, including site status and costs. Program costs have been on-target with assumptions made in development of the program. The cost for the 14 sites developed through the Charge Ahead – Corridor program is $3,656,063 which is under the $4,000,000 budget allocated for this program. The 14th site in Eureka represents the most recent site.

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

Table is Confidential in its Entirety

P

Charge Ahead Corridors – Progress Map

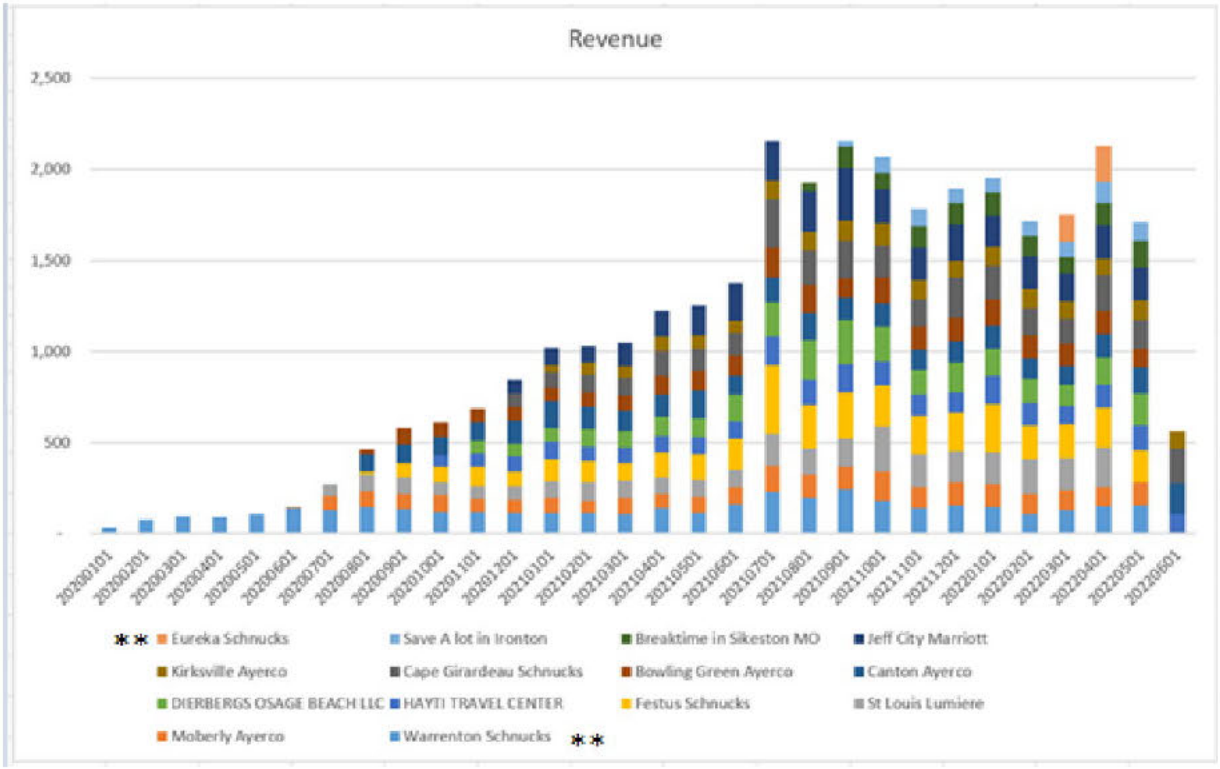


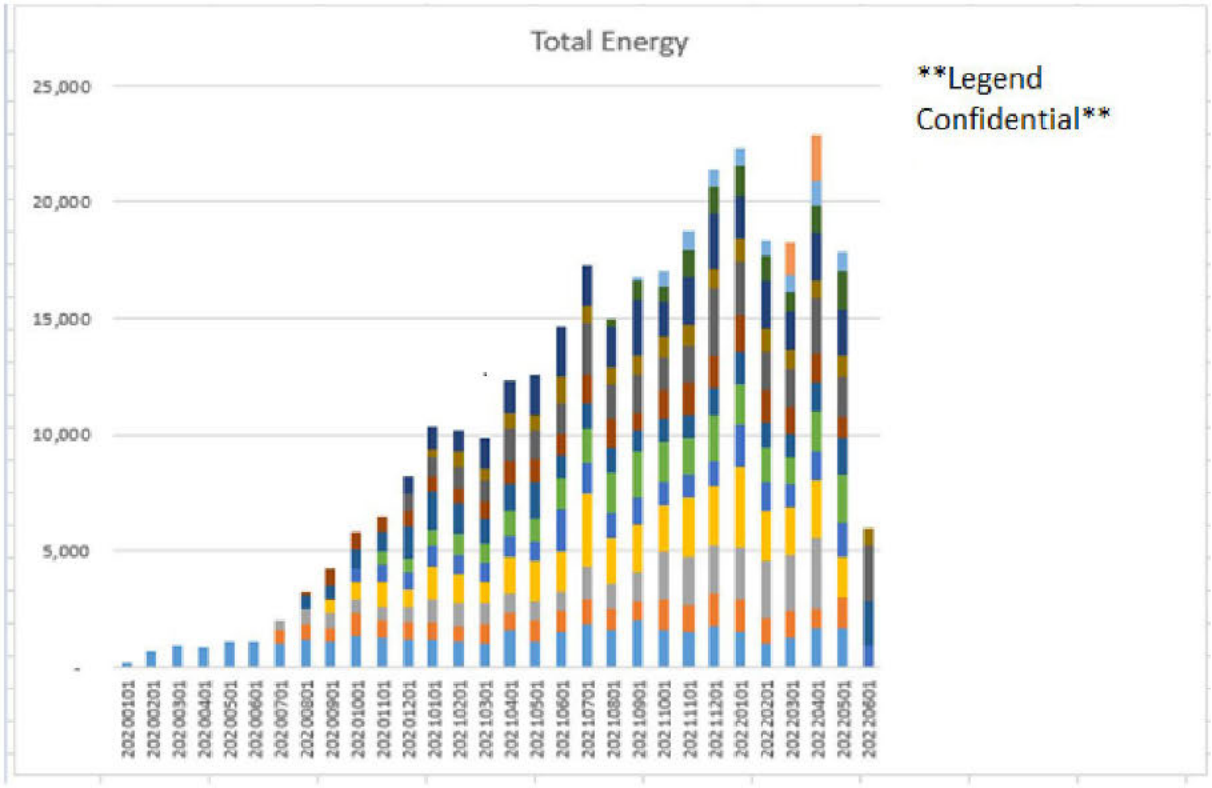
The charts below show the **revenue, energy, and number of sessions** by month for the following locations:

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

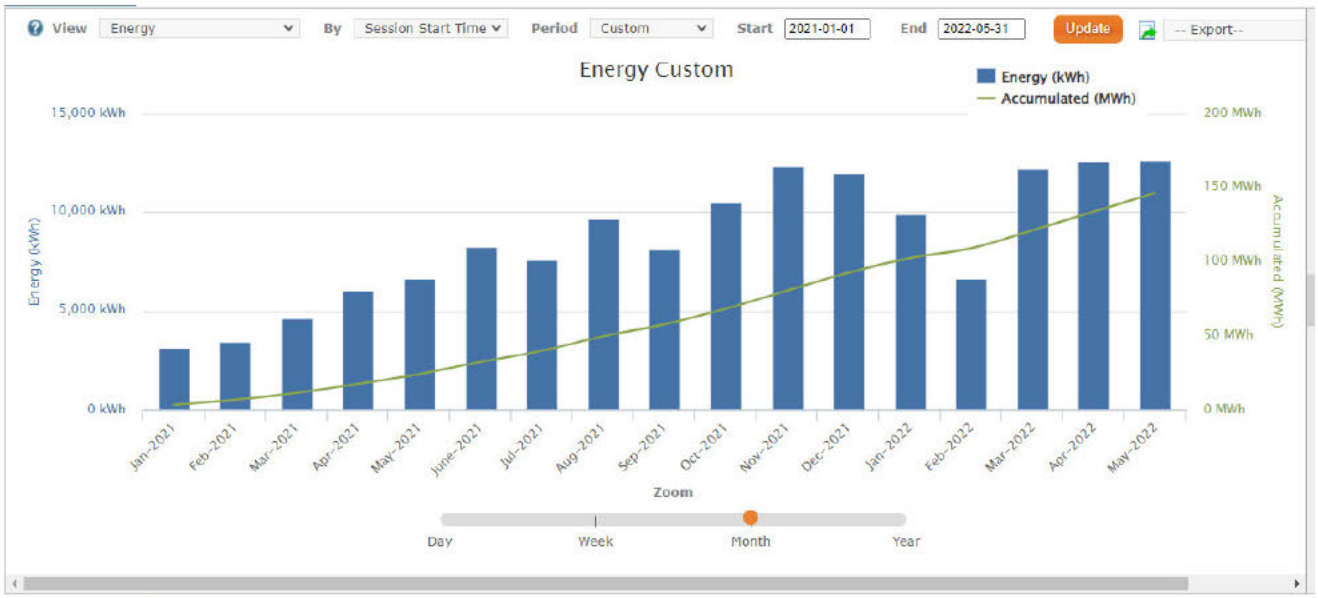
P

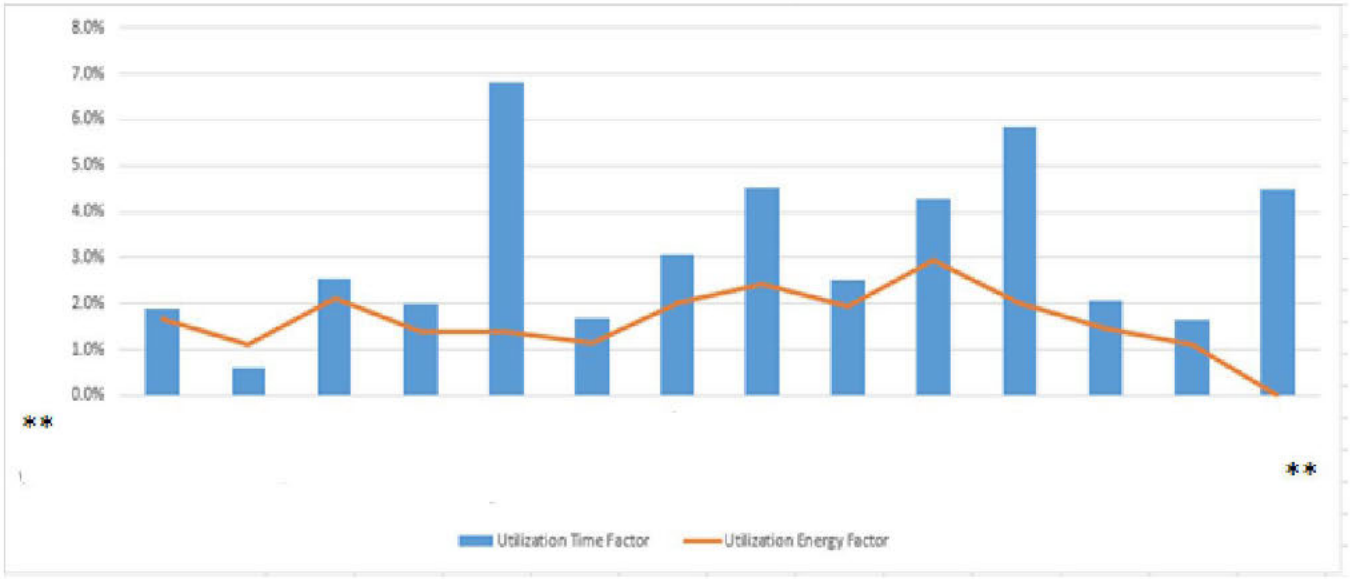
More usage reporting will be developed for the additional sites in subsequent quarterly reports. Note the Revenue is in dollars and Total Energy is in kWH.





P


View
Energy
By
Session Start Time
Period
Custom
Start
2021-01-01
End
2022-05-31
Update
-- Export--
Energy Custom
Energy (kWh)
Accumulated (MWh)
15,000 kWh
10,000 kWh
5,000 kWh
0 kWh
200 MWh
150 MWh
100 MWh
50 MWh
0 MWh
Energy (kWh)
Accumulated (MWh)
Jan-2021
Feb-2021
Mar-2021
Apr-2021
May-2021
June-2021
Jul-2021
Aug-2021
Sep-2021
Oct-2021
Nov-2021
Dec-2021
Jan-2022
Feb-2022
Mar-2022
Apr-2022
May-2022
Zoom
Day
Week
Month
Year


8.0%
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
**
**
Utilization Time Factor
Utilization Energy Factor

P

The charts below represent the **"Uptime" in 2022 Q1** for the following locations.

Note: Breaktime located in Sikeston is missing from charts below, we're working with the manufacturer to obtain uptime information for that location.

_____

Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	73	10	$ 16.35	9	31	2	2	100.00%
	278	13	$ 60.17	35	117	5	7	100.00%
	25	3	$ 5.03	3	11	8	8	100.00%
	907	79	$ 204.04	114	381	21	27	100.00%
	873	86	$ 196.54	110	367	20	24	100.00%
	48	18	$ 0.00	6	20	8	9	100.00%
	326	18	$ 71.90	41	137	8	9	93.97%
	938	57	$ 210.99	118	394	20	22	100.00%
	82	10	$ 16.25	10	34	15	17	100.00%

_____

Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	495	30	$ 133.55	62	208	11	12	100.00%
	774	42	$ 208.96	97	325	15	16	100.00%
	111	25	$ 21.93	14	47	18	19	100.00%

_____

Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	799	67	$ 179.83	100	336	28	34	100.00%
	1,809	110	$ 407.12	227	760	46	63	100.00%
	908	116	$ 162.48	114	381	188	256	100.00%

_____

Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	3,149	179	$ 706.19	395	1,323	76	160	100.00%
	2,317	147	$ 521.33	291	973	63	94	100.00%
	72	48	$ 12.95	9	30	13	22	100.00%

_____

Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	295	15	$ 79.70	37	124	8	8	100.00%
	214	11	$ 57.86	27	90	5	5	100.00%
	9	13	$ 0.47	1	4	1	2	100.00%

P

_____

Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	360	12	$ 0.00	45	151	59	63	100.00%
	245	100	$ 0.00	31	103	64	79	100.00%
	1,936	121	$ 435.64	243	813	51	57	100.00%
	1,707	129	$ 384.08	214	717	48	55	100.00%
	2,447	184	$ 550.57	307	1,028	80	92	100.00%
	2,003	177	$ 450.68	251	841	60	94	100.00%
	169	40	$ 0.00	21	71	33	39	100.00%
	717	79	$ 159.10	90	301	17	22	100.00%
	625	76	$ 140.51	78	262	15	18	100.00%
	57	55	$ 0.00	7	24	11	16	100.00%

_____

Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	537	32	$ 120.85	67	226	13	14	99.98%
	510	39	$ 114.76	64	214	11	12	100.00%
	13	17	$ 2.62	2	5	2	3	100.00%

_____

Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	953	60	$ 214.40	120	400	30	33	100.00%
	849	66	$ 190.99	107	357	24	27	100.00%
	34	17	$ 6.83	4	14	10	13	100.00%

_____

Station Name	Total Energy (kWh)	Total Sessions	Total Fees ($)	Gasoline Saved (Gal)	GHG Savings (kg)	Charging Hours	Occupied Hours	Uptime (%)
	370	26	$ 99.94	46	155	8	9	100.00%
	736	55	$ 198.83	92	309	18	20	100.00%
	29	21	$ 6.44	4	12	6	11	100.00%

P

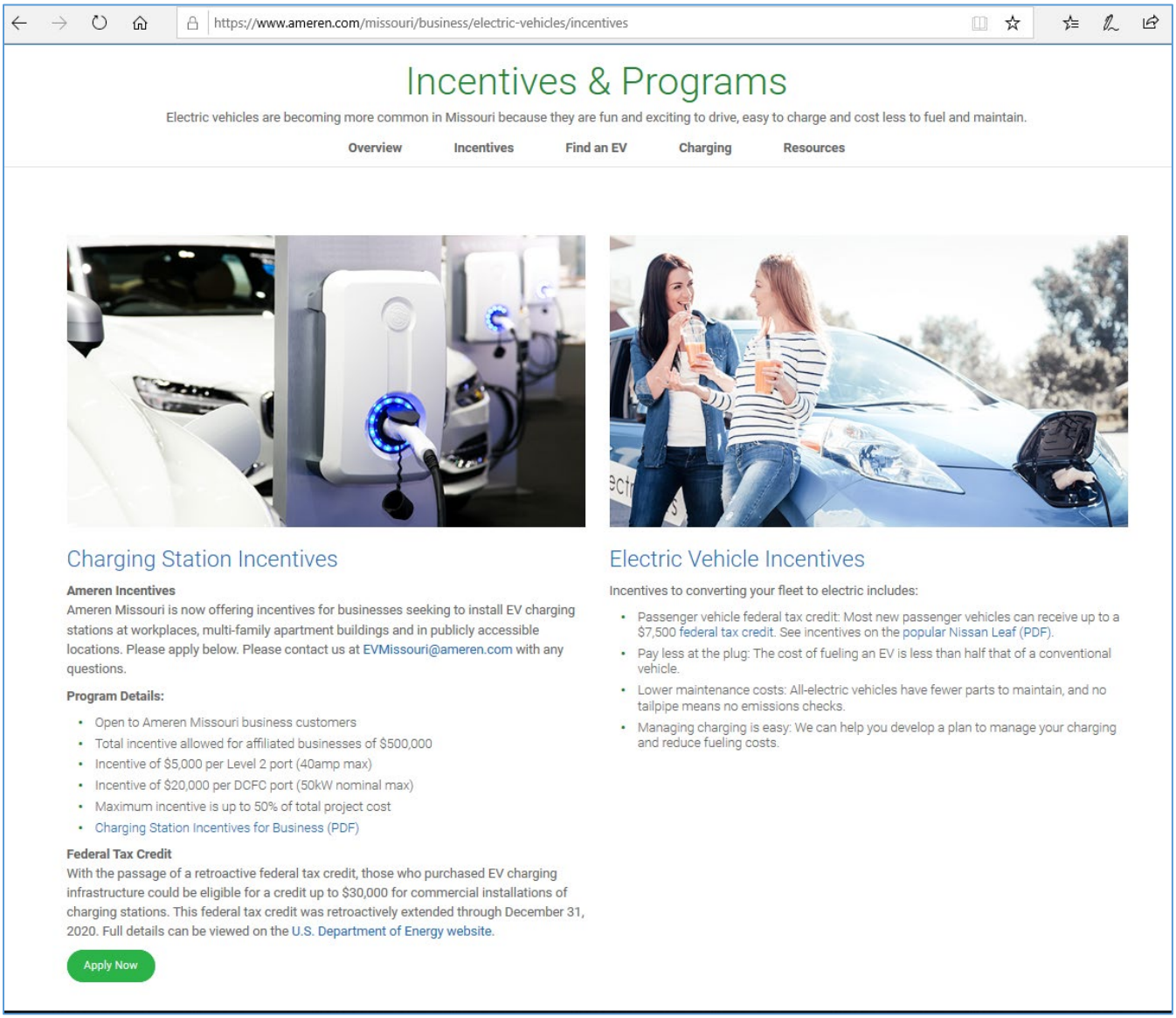
Direct Revenues from Corridors

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	19	64											
20200801	149	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	54	119	95	76	150	75	65	35	98			
20210201	113	71	99	115	61	97	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	245	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	143	105	162	117	94	
20211201	154.41	131.12	166.77	214.53	111.04	163.47	116.33	128.66	219.24	90.23	202.02	118.9	79.29	
20220101	143.02	129.51	174.59	265.33	152.00	148.44	129.58	140.97	186.67	106.88	167.9	127.21	81.69	
20220201	111.01	109.39	169.61	187.21	120.94	133.65	111.11	124.98	150.68	104.66	163.63	111.91	75.52	
20220301	126.3	111.72	175.69	187.25	98.05	116.34	103.77	120.45	140.41	91.77	154.57	92.47	85.08	148.02
20220401	153.4	101.51	221.42	218.2	125.22	150.22	125.03	128.29	193.32	90.99	184.93	124.43	116.35	197.45
20220501	155.69	121.8		176.24	138.82	172.52	141.82	102.78	160.29	103.96	180.85	141.66	91.63	
20220601					106.94		159.87		131.19	95.09				

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 May 2022 for total administrative and educational costs is approximately **$600,000** and includes the following costs:

- AEG administrative costs $209,235
- Reach Strategies marketing costs $333,143
- 2020 Auto Show (event facilitated by Reach) $27,562
- EV Registration Data $7,850
- Contractor Support Role for Portal Management $11,340
- Watt Time Pilot $10,870

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
- Charge Ahead Orientation webinars; offered twice a month
- 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 and social media marketing to large and mid-size business customers
- Traditional and earned media (TV, print publications, radio) and social media (Twitter, Facebook, etc.)

Earth Day St. Louis Festival - Ameren MO Electrification Team in partnership with Reach Strategies hosted a tent at this event. There was strong turnout and lots of customer engagement at the festival. Educating customers about EVs was the focus of our booth, which featured the Ameren Security Mach-E as well as the Bolt EV. Notable is the new "easy setup" fully operational charging station display that Reach Strategies developed and is a great way to help customers get a hands-on demonstration of how to charge an EV.

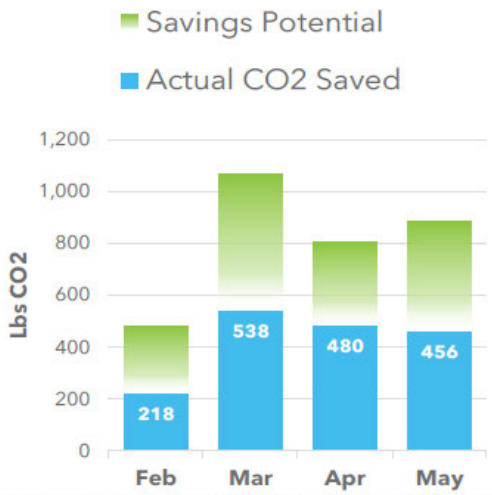
Below is a picture of the operating charging station display.

Automated Emissions Reduction (AER)

The pilot of Automated Emissions Reduction for EVs, as implemented by Enel X with their JuiceNet Green product, has concluded the Phase 2 evaluation period. Results and user surveys are still being compiled, but preliminary results are summarized here. While Phase 1 confirmed that JuiceNet Green was functional, Phase 2 included more users to better measure performance. During the four months of Phase 2, JuiceNet Green saved 1,692 pounds of CO2, or 3.7% of the total baseline impact. The best individual session avoided 87.2% of its baseline CO2 emissions. Based on ten user surveys, "charging cleanly" is the highest rated priority, tied with "charging quickly" (third is "charging cheaply"). Participants were asked if they would recommend this program, on a scale of 1-10 (1 = very unlikely, 10 = very likely), the average participant rating is 6.1. If this program was expanded to 10,000 EV drivers in Missouri, WattTime estimates that it would save between 1,096 – 2,385 metric tons of CO2 per year.

Pilot Update: Phase 2 Preliminary Results

Monthly Savings Summary

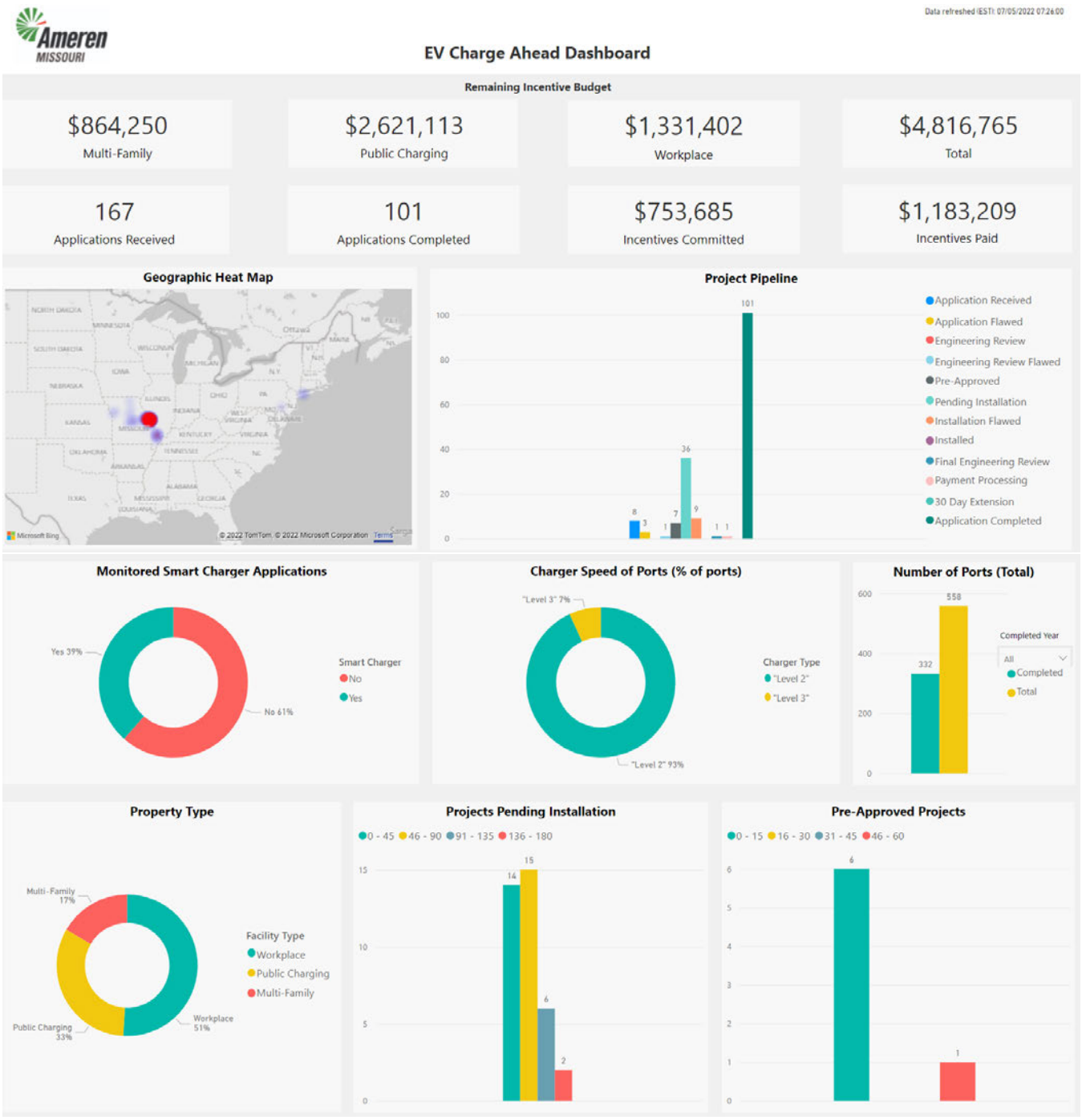


Key Results from Phase 2

Metric	Value
# of Active Users	38
# of Sessions	2,393
Total CO2 avoided	1,692 lbs
...equivalent to:	1,905 miles driven by a gas-powered car
Total CO2 avoided	3.7%
CO2 avoided in the Best Individual Session	87.2%

"Savings Potential" means the performance that could have been achieved under the encountered circumstances and constraints (extrapolates the normalized performance of the highest performing users in the population). This accounts for the degradations from optimal performance which include: WattTime emissions forecast performance, JuiceNet Green algorithm/constraints.

Charge Ahead – Local Incentives Dashboard Statistics Snapshot 7-5-2022



Smart Charging vs. Basic Charging

For each of the completed projects listed below, the customers identified their charging equipment as a "smart charger" and agreed to monitor their energy usage. Ameren Missouri EV Team is working closely with the charging manufacturer and has reached out to customers to obtain charger utilization details.

**** All items in the Completed Projects columns are Confidential****

Completed Projects	Smart Charging Equipment	Completed Projects	Smart Charging Equipment
[redacted]	Siemens/VCSG30GCPUW	[redacted]	ENEL X JUICE BOX PRO 40
[redacted]	LilyPad/EV CT4000	[redacted]	ChargePoint CT4021-GW1
[redacted]	Charge Point/CT4021-GW1	[redacted]	CHARGEPOINT CT4021-GW1
[redacted]	Leviton/EVR-GREEN 4000	[redacted]	JuiceBox 32
[redacted]	Charge Point/ CT4021 & CT4025	[redacted]	Charge Point CT4021-GW1
[redacted]	Charge Point/CT4023-GW1	[redacted]	CHARGEPOINT CT4021
[redacted]	Siemens/VCSG30GCPUW	[redacted]	ChargePoint CT4013
[redacted]	Enel x/pro 40 c	[redacted]	EVBox Business Line
[redacted]	ChargePoint 40amps ChargePoint Home Flex, NEMA 14-50 Plug	[redacted]	EVBox Business Line
[redacted]	DELTA EVDU25U4CUM, ChargePoint CT-4023	[redacted]	Leviton CPHU2-CPMBX-CPCAP-CPCBX-CPCMK
[redacted]	Charge Point CPF25	[redacted]	Charge Point CT4021-GW1
[redacted]	Charge Point CPF50	[redacted]	ChargePoint CT4023, ABB ABB24KW DC
[redacted]	ChargePoint CT4021	[redacted]	Siemens SI 8EM1310-4CF14-0GA0 Siemens SI 8EM1310-5CF14-1GA1

P

[redacted]	ChargePoint CT4023	[redacted]	Charge Point Ct4021-GW1 Charge Point CPF50-L23
[redacted]	ChargePoint CPICPF50-L23, ABB CPIABB24W	[redacted]	ChargePoint Home Flex

**** All items in the Completed Projects columns are Confidential****

P

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 318 installed charging ports (at 97 locations) through 5-31-22, Ameren Missouri estimates a total annual direct load/revenue of $207,103 to $276,461 and a total annual direct energy consumed of approximately 3,121,915 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 Q1-2022 that reflects numbers for Ameren Missouri territory. See Power BI visual depiction shown at end of this report.

Attachment, "AMO Charge Ahead – Revenue Workbook 6-1-22," 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 41,435,790 kWh and indirect revenue in a range of $3,686,258 to $3,481,154. 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 5/25/22)