BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of Evergy Metro, Inc., Evergy Kansas Central, Inc., and Evergy Kansas South, Inc. for Approval of its Phase 2 Transportation Electrification Portfolio.	))))	25-EKCE-169-TAR

EVERGY KANSAS METRO AND EVERGY KANSAS CENTRAL
APPLICATION FOR APPROVAL OF ITS
PHASE 2 TRANSPORTATION ELECTRIFICATION PORTFOLIO

COME NOW, Evergy Metro, Inc. ("Evergy Kansas Metro"), Every Kansas Central, Inc. and Evergy Kansas South, Inc. (together as "Evergy Kansas Central") (collectively referred to herein as "Evergy" or the "Company") and file this *Application for Approval of its Phase 2 Transportation Electrification Portfolio* ("Application") with the State Corporation Commission of the State of Kansas ("Commission"). In support of its Application, the Company states as follows:

I. GENERAL INFORMATION

1. Evergy Kansas Metro and Evergy Kansas Central are vertically integrated electric public utility companies under the jurisdiction of the Commission that are engaged in the production, transmission, delivery and furnishing of power within the meaning of K.S.A. 66-104, in legally designated areas of Kansas. Evergy Kansas Metro and Evergy Kansas Central hold certificates of convenience and authority issued by the Commission, authorizing them to engage in such utility business. Evergy Kansas Metro and Evergy Kansas Central have previously filed with the Commission certified copies of their Articles of Incorporation under which they were organized, their Certificate of Registration as a Foreign Corporation authorized to do business in

Kansas, and all amendments thereto and restatements thereof, and the same are incorporated herein by reference.

2. In addition to serving counsel named below, all correspondence, pleadings, notices, orders and other communications regarding this proceeding should also be sent to:

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3. By this Application, Evergy seeks an order from the Commission allowing the Company to implement its Phase 2 Transportation Electrification Portfolio ("Portfolio") comprised of a Fleet Advisory Services ("FAS") Program and a Residential Managed Charging ("RMC") Pilot. Transportation Electrification ("TE") refers to the transition from vehicles powered by an internal combustion engine ("ICE") to those powered partially or fully by electricity. Evergy proposes to launch a new phase of TE programs that focus on delivering benefits to all ratepayers by shaping electric vehicle ("EV") charging load to make the best use of existing electric system capacity.

4. This new phase will build on the first phase of Evergy's programs approved by the Commission in Docket No. 21-EKME-320-TAR[1] ("21-320 Docket"). The 21-320 Docket

[1] "In the Matter of the Application of Evergy Kansas Metro, Inc. and Evergy Kansas Central, Inc. for Approval of Transportation Electrification Portfolio", Commission Order issued December 6, 2021.

identified potential benefits of managed charging and other efforts to shift EV charging activity to off-peak periods. But with few EVs in the market at the time and limited industry experience with managed charging, only limited educational efforts were planned, and the benefits of managed charging were not included in the associated benefit-cost analysis. While grid management activities were deferred in the 21-320 Docket pending further information and the development of supporting technologies, new data from Evergy's portfolio and the broader utility industry now enables Evergy to effectively pursue and assess the incremental benefits of managing the system impacts of TE.

5. As shown in the 21-320 Docket, the growth in EV adoption delivers societal benefits through fuel cost savings and emission reductions. Yet, more opportunity remains. Interactions with fleet customers in Evergy's commercial charging program show growing interest in adopting EVs but limited understanding of how to plan for lower charging infrastructure and operating costs. Evergy's analysis presented in this case shows how delivering fleet electrification advisory services to help fleet customers plan optimal charging can increase benefits.

6. Although a growing number of fleets are signaling their intent to begin electrifying, Evergy has learned through industry studies and implementation of the Company's Commercial EV Charging Rebate Program that few customers are prepared for a successful transition that right-sizes infrastructure and includes charge plans to minimize grid upgrades. In response to this growing need, Evergy is proposing a new, five-year FAS Program that will provide technical assistance to fleets and will shape their charging plans for many years ahead.

7. Similarly, Evergy's existing TE Portfolio offerings have encouraged some residential customers to adopt time-of-use ("TOU") rates and charge off-peak, but other customers need more guidance and support. The Company proposes a pilot that will test two promising

methods for residential managed charging to reveal how each can be used to provide cost effective load shaping. Evergy is proposing a new, three-year pilot program that will incentivize residential customers to charge their EVs at home during off-peak periods. The pilot's goal is to gather information about customer preferences related to managed charging and to quantify the load shaping impacts of different approaches on different customer groups. These pilot learnings will inform the decision whether to offer future residential-focused managed charging programs and, if so, the design of those programs.

8. Included with this Application as **Attachment 1 is** the Evergy Transportation Electrification Portfolio Filing Report dated September 2024 ("2024 Report") which supports the Application and explains the projects in detail. **Appendix E** of the 2024 Report includes the tariff sheets reflecting the terms of the proposed Portfolio. Additionally, Evergy is filing the Direct Testimony of Company witness, Kimberly H. Winslow, which explains and supports the 2024 Report and the proposed Portfolio.

II. DESCRIPTION OF EVERGY'S ELECTRIFICATION PORTFOLIO

9. Evergy proposes to deploy a FAS Program and a RMC Pilot that will shape non-residential and residential EV charging loads with benefits to all customers. Detailed descriptions of the programs are set out in **Appendix A** of the 2024 Report. The following is a high-level overview of the programs:

Fleet Advisory Services Program:

10. In developing the FAS Program, Evergy considered how other utilities are addressing fleet services and conducted a survey to identify which services are most needed by fleets operating in the Kansas territory. The complete results of the survey are included in

Appendix D of the 2024 Report. Data from this survey resulted in the development of the following program objectives:

- Enable informed fleet management choices.
- Facilitate grid-friendly EV transition planning for fleet operators.
- Serve as a trusted energy advisor for TE.

11. Economic benefits derived from the FAS Program focus on developing customer charging plans that will meet fleet needs while avoiding capacity upgrades and minimizing energy supply costs. The baseline scenario is that fleets are electrifying with limited insight on the associated infrastructure and ongoing operating costs, which leads to faster and more immediate charging than optimal. This program serves to shape the resulting charging load. In general, this means a reduced site demand for each participating fleet and more charging occurring during off-peak hours. The program provides education and technical assistance, offered at no cost to participants, and it delivers infrastructure and operating costs savings to both customers and the utility. As such, the cost effectiveness results are forecasted to be overwhelmingly positive. The Cost Effectiveness Evaluation for the proposed FAS Program is contained in **Appendix B** of the 2024 Report. Notably, there are additional benefits that are difficult to quantify and not included in the cost effectiveness analysis. For example, Evergy's system planning efforts will benefit from the detail Evergy receives about the scale and timing of customer fleet electrification plans.

12. Since customer fleets are at various levels of development, Evergy's program must be structured to address those varying situations. The FAS Program will have three levels:

Level 1: Introductory Fleet Assessment

13. This first service level will cater to customers who are new to fleet electrification and need a foundational understanding of the process. Utilizing Evergy's existing online fleet

calculator, Evergy will provide customers a high-level analysis of their fleet, including an assessment of which vehicles are suitable for electrification, rate education, potential cost savings, and environmental benefits. Customers will also receive basic education about how the time and speed of charging impacts operating costs. This will enable customers to evaluate the feasibility of fleet electrification and determine if they require the more comprehensive support offered in Levels 2 and 3.

Level 2: Enhanced Fleet Electrification Planning

14. Evergy will provide additional planning support to customers who have made a commitment to electrify. This will build on the support provided to customers in Level 1. Level 2 provides a customized total cost of ownership and high-level site assessment, which includes items such as incorporating vehicle usage patterns, initial purchase prices, energy, maintenance, and repair costs, resale value, operating costs, and infrastructure requirements. This data will be used to develop an optimized vehicle replacement schedule and charging plan that minimizes both participant and utility cost impacts over time.

15. In addition, to ensure a strategic, grid-friendly, and efficient transition to an electrified fleet, Evergy's experts will work closely with the customer to develop a personalized charging and implementation plan. This plan will meet the customer's unique needs and requirements while ensuring a strategic, grid-friendly, and efficient transition to an electrified fleet.

Level 3: Comprehensive Fleet Electrification Assessment

16. For customers who require more comprehensive advisory solutions, Evergy will offer a third service level. This solution extends beyond the services offered in Levels 1 and 2, incorporating conceptual infrastructure site designs and associated preliminary construction cost estimates, ensuring that a holistic approach to the electrification process is supported.

17. Level 3 supports an integrated and collaborative approach between customers and Evergy, providing a more comprehensive level of planning and design pertaining to project-specific infrastructure and costing considerations. Specific focus will be given to solutions that minimize the need for grid infrastructure upgrades.

18. Any Evergy customer with fleet vehicles will be allowed to participate in the program at no cost. Evergy will provide focused outreach to public agencies (e.g., schools and transit agencies), as well as to small and medium business fleets, especially those in disadvantaged communities, to support awareness of the program and ensure an opportunity to participate.

Residential Managed Charging Pilot:

19. The Residential Managed Charging ("RMC") Pilot is intended to optimize the charging patterns of EV drivers who charge at home; gather information about customer preferences related to managed charging; and quantify the load shaping impacts and costs of different approaches (passive vs. active) on different customer groups. The target audience for the pilot are customers who charge at home utilizing Level 2 ("L2") charging typically at 240-volts. Eligible customers will be identified using a combination of methods including advanced metering infrastructure ("AMI") data disaggregation analysis. The majority of identified EV customers will be automatically enrolled in the passive managed charging ("PMC") approach. The PMC approach provides participants with educational and motivational communications to shape their charging behaviors. Customers may opt-out at any time if they do not wish to continue participating. Customers enrolled in the PMC approach will not receive any direct financial incentives, but some with time-varying rates may see bill savings due to modified charging patterns.

20. The RMC Pilot will also encourage some EV customers to participate in an active managed charging ("AMC") approach. Unlike PMC, customers must opt-in to the AMC approach.

For the AMC approach, Evergy will initiate EV charging at the time of its choosing, subject to customer-defined requirements for the vehicle charge level at the beginning of each driving day. Evergy will manage EV charging through a customer-authorized connection between the AMC platform and the customer's electric vehicle supply equipment ("EVSE") or EV telematics. Customers who choose to enroll in the AMC approach will receive an up-front payment of $50.00 upon completion of enrollment as an incentive for enrolling. This financial incentive will be used to motivate customers to join the AMC program which will help ensure a large enough participation for evaluation of pilot data. Once enrolled, participants will also receive $10 per month as long as they charge at home at least once per month and do not override Evergy's charging schedule more than twice per month.

21. The proposed RMC Pilot is a continuation of Evergy's proactive efforts to maximize customer benefits from growing EV adoption. TOU rates laid the groundwork. Since then, the Residential Customer EV Outlet Program has encouraged the adoption of L2 charging, which increases charging schedule flexibility. Associated promotion of the TOU rate and other customer education activities have succeeded in enrolling nearly half of our rebate program participants in TOU rates. The proposed RMC Pilot will further promote off-peak charging for customers on time-varying rates and encourage off-peak charging by customers on standard rates.

III. IMPLEMENTATION AND REPORTING

22. Evergy proposes to administer the RMC Pilot over a three-year period beginning in 2025 and ending in 2028. Due to the longer timelines associated with fleet electrification, Evergy proposes to administer the FAS Program over a five-year period beginning in 2025 and concluding in 2030. Both programs will require a ramp-up period to establish key processes,

strategies, and operating protocols prior to launch. The FAS and RMC ramp-up periods are expected to be three and six months, respectively.

23. Evergy proposes to follow a reporting structure similar to the 21-320 Docket reporting standards, as outlined in **Section 5** of the 2024 Report. Evaluation activities will be completed and filed with the Commission within six months of the conclusion of each program.

IV. BUDGETS AND COST RECOVERY

24. Evergy proposes to record the program costs for the FAS Program and RMC Pilot to the regulatory asset approved in the Commission's December 6, 2021, Order in the 21-320 Docket for recovery through the general rate case process. The program budgets to be recorded to the regulatory asset for cost recovery are shown for each territory in **Section 4** of the 2024 Report, Tables 6 and 7.

WHEREFORE, Evergy respectfully requests that the Commission approve its proposed tariffs related to Evergy's Phase 2 Transportation Electrification Portfolio, approve its proposed budgets and cost recovery methodology for the programs, and for such other order(s) as the Commission deems necessary to the successful implementation of the proposals in this Application.

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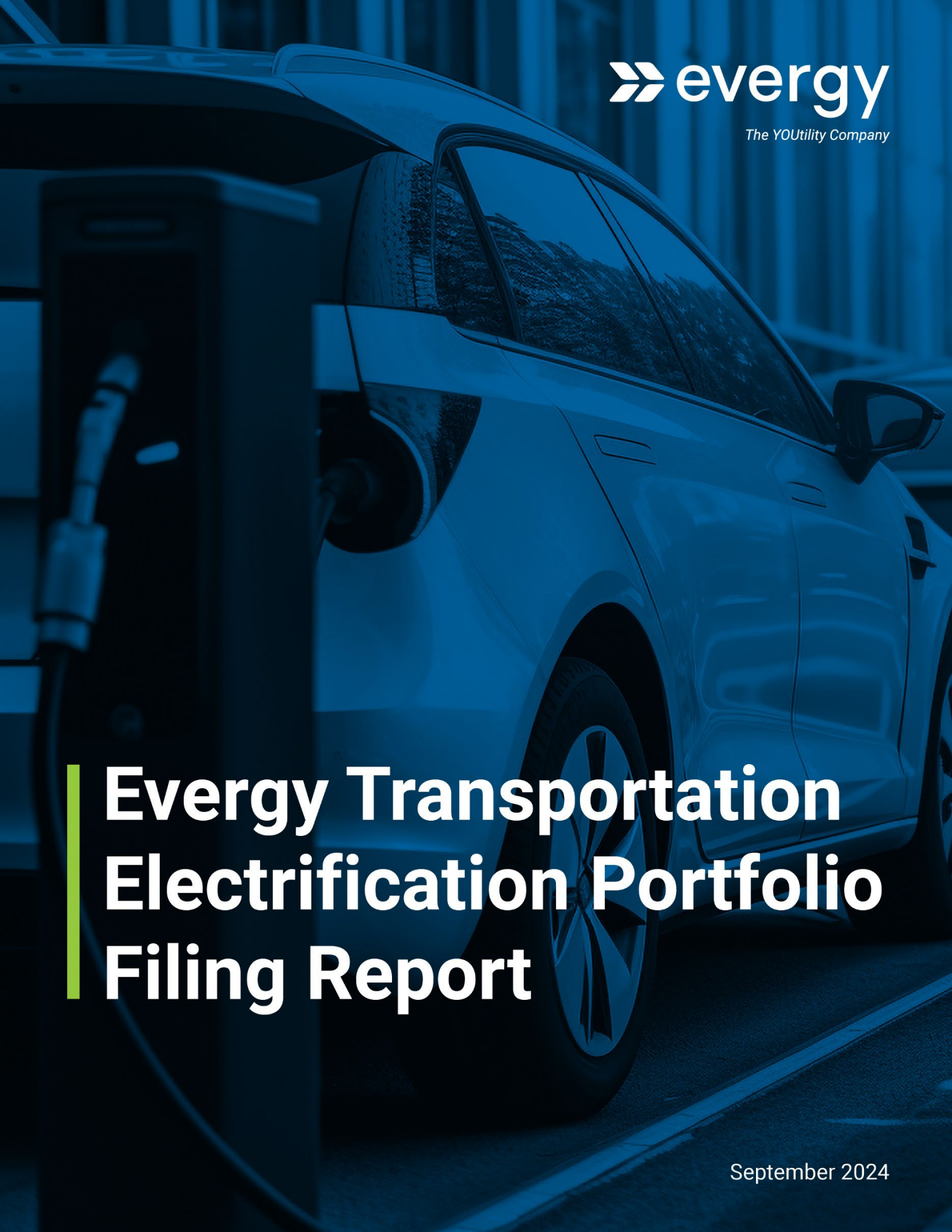
ATTORNEYS FOR EVERGY

ATTACHMENT 1

EVERGY TRANSPORTATION ELECTRIFICATION PORTFOLIO FILING REPORT

SEPTEMBER 2024



evergy

The YOUtility Company

Evergy Transportation Electrification Portfolio Filing Report

September 2024

Shaping Growing EV Charging Demand to Maximize Customer Benefits

Across the Evergy service territory, a growing number of customers own and drive EVs. The Residential Managed Charging Pilot Program and Fleet Advisory Services Program detailed in this filing explore two broad strategies for managing this new and growing source of electric load. Evergy's proposed approaches to fleet advisory and residential managed charging will lay the groundwork for shaping current and future EV demand, with both near term and lasting benefits for all customers.

By the Numbers

PROJECTED MANAGED CHARGING PARTICIPANTS	21,000
TARGET FLEET ADVISORY SERVICES PARTICIPANTS	60
EXPECTED CUSTOMER BENEFITS	>$8.95M
MANAGED CHARGING PILOT DURATION	3 years
FLEET ADVISORY SERVICE PROGRAM	5 years

OF EVS ESTIMATED IN TERRITORY:

2021	NOW
7,500	17,000

Benefits of Proposed Programs

- PEAK LOAD REDUCTION
- COST SAVINGS FOR CUSTOMERS
- ALIGN WITH RENEWABLE GENERATION TO REDUCE EMISSIONS AND SUPPLY COSTS
- REDUCE NEED FOR FUTURE T&D INVESTMENTS
- MAINTAIN GRID RELIABILITY AND FLEXIBILITY

Evergy's proposed filing provides a broad range of services to meet transportation electrification customer needs:

RESIDENTIAL MANAGED CHARGING PILOT ELEMENTS

- AMI Disaggregation
- Passive, Behavioral Charging
- EV and EVSE Active Charging
- Customer Support and Incentives

FLEET ADVISORY SERVICE PROGRAM ELEMENTS

- Site Selection & Distribution System Capacity
- Charger Utilization/ Load Management
- Charger Selection
- Site Design
- Rate Selection

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Terminology

Abbreviations

AMC	Active managed charging
AMI	Advanced metering infrastructure
BEVCS	Business Electric Vehicle Charging Service (rate)
CCN	(Evergy) Clean Charge Network
DSM	Demand-side management
EM&V	Evaluation, measurement, and verification
EPRI	Electric Power Research Institute
EV	Electric vehicle, including plug-in hybrid and full battery electric
EVSE	Electric vehicle supply equipment
FAS	Fleet Advisory Services
ICE	Internal combustion engine
KCC	Kansas Corporation Commission
kW	kilowatt
kWh	kilowatt-hour
PMC	Passive managed charging
L2	Level 2 EVSE at 240 volts alternating current (VAC)
RCT	Randomized control trial
RED	Randomized encouragement design
RMC	Residential managed charging
TCO	Total cost of ownership
TE	Transportation electrification
TOU	Time-of-use (rate)
VAC	volts alternating current

Definitions

2021 Filing – May 2021 Evergy Transportation Electrification Filing Report in Docket No. 21-EKME-320-TAR

Active Platform – active residential managed charging program platform, similar to a distributed energy resource management system

Charge Management Plan – a documented approach to charging infrastructure, scheduling, and demand management that will meet a fleet's operational needs at the lowest cost to the fleet and ratepayers

Control Group – a group of customers that does not receive a program intervention and is compared to customers who do receive the intervention to measure a program's impact

Electric Vehicle Supply Equipment – equipment that communicates with and supplies electric power to the electric vehicle

Make-Ready – Customer-side facilities between the utility meter and EVSE required to install new EV charging equipment

Managed Charging – influencing the time or rate of EV charging to provide grid benefits

> Passive Managed Charging – managed charging that relies on customer behavior to affect charging patterns; charging is customer initiated
>
> Active Managed Charging – managed charging that uses direct communication to the customer's EV or EVSE; charging is utility initiated

Networked EVSE – internet-connected EVSE devices that can communicate with the system that manages the charging network, and other systems such as an Active Platform

Randomized Control Trial – measurement approach whereby participants are randomly assigned to intervention or a control and then the groups compared to estimate impacts of the program

Randomized Encouragement Design – measurement approach whereby participants are randomly selected to be encouraged to receive the program intervention and the groups encouraged and not encouraged are compared to estimate impacts of the program

State of Charge – the amount of energy contained in an EV battery at a point in time, represented as a percentage of usable battery capacity

Telematics – communication of data between a data center (or cloud) and an EV, including sending control commands and retrieving charging session data

Time-Varying Rate – a price structure in which the customer experiences a different cost for electricity usage at different times of the day, with possible variation by day type and season

1. Introduction and Portfolio Summary

Evergy proposes to launch a second phase of its transportation electrification ("TE") programs that continue to deliver benefits to all ratepayers by aligning electric vehicle ("EV") charging demand with electric grid capacity. Evergy presents in this report ("Report") two new programs that include a Residential Managed Charging Pilot and a Fleet Advisory Services Program.

The second phase of TE programs proposed herein builds on data and other insights from the first phase of Evergy's programs filed in the May 2021 Evergy Transportation Electrification Filing Report[1] ("2021 Filing") and authorized in July 2021 by the Kansas Corporation Commission ("KCC") through approval of the Non-Unanimous Partial Settlement Agreement ("2021 Settlement Agreement").[2] The first phase included rebates for commercial and residential charging infrastructure, EV charging rates, and customer outreach and education. These offerings continue to support "grid friendly" EV adoption by promoting off-peak charging and encouraging investment in charging infrastructure.

TE refers to the transition from vehicles powered by internal combustion engines ("ICE") to vehicles powered partially or fully by electricity.[3] EVs produce significantly less emissions than ICE vehicles and increasingly present a favorable total cost of ownership ("TCO") as more affordable EV models are offered. Despite these advantages, several market barriers have slowed adoption of EVs. Important barriers include higher upfront costs, lack of awareness and understanding of vehicle operability, and limited available charging infrastructure. As automakers address the upfront cost barrier by increasing EV models at more accessible price points, Evergy has systematically addressed awareness and charging barriers for its customers. The population of light-duty EVs in Evergy's Kansas Metro and Kansas Central jurisdictions has increased from approximately 7,500 in 2021 to 17,000 today.[4]

As presented in Evergy's 2021 Filing, EV adoption delivers societal benefits through fuel cost savings and emission reductions. In addition, when utility revenues from EVs exceed the costs to serve, EV adoption benefits *all* Evergy customers through downward pressure on rates. Driven by this opportunity, Evergy proposes to further pursue EV-related benefits for all customers through the following two programs summarized below. Detailed descriptions are included in Appendix A:

- **Residential Managed Charging Pilot –** Evergy proposes a Residential Managed Charging ("RMC") Pilot to optimize the charging patterns of EV drivers who charge at home. The RMC Pilot will test two methods of load shaping, passive and active, and will inform a future full-scale program.
- **Fleet Advisory Services Program –** Evergy proposes a Fleet Advisory Services ("FAS") Program that provides fleet electrification customers with the information and insights needed to implement optimized infrastructure and charging strategies. As shown in the cost effectiveness evaluation provided as Appendix B of this report,

[1] Evergy (2021), Evergy Transportation Electrification Portfolio Filing Report; Updated May 5, 2021, filed in Docket No. 21-EKME-320-TAR, May 5, 2021.
[2] Evergy (2021), Motion to Approve Non-Unanimous Partial Settlement Agreement, filed in Docket No. 21-EKME-320-TAR, July 29, 2021.
[3] The term "electric vehicle" encompasses both Battery Electric Vehicles and Plug-in Hybrid Vehicles
[4] EPRI (2024), Vehicles in Operation Actuals All Jurisdictions, Microsoft Excel file.

these optimizations will benefit all Evergy customers by reducing overall system costs.

1.1. Benefits of Proposed Programs

Evergy has identified the following benefits from the proposed RMC Pilot and FAS Program:

1. **Reducing impact for new generation build**
   Avoiding increased peak demand from EV charging is a key component to achieve a high benefit-to-cost ratio in EV programs. The effect of this strategy is to spread more electricity consumption over a reduced infrastructure investment, leading to a downward pressure on customer rates. Avoided peak demand is a well-recognized benefit of demand-side management ("DSM") programs and is detailed in DSM industry cost effectiveness protocols.[5] The same type of avoided capacity benefits were included in the benefit-cost analysis that supported KCC's approval of Evergy's 2023-2026 DSM portfolio.[6]

2. **Mitigating increased investment in the distribution system**
   Mitigating local system impacts is also an important component to achieve a high benefit-to-cost ratio in EV programs.

   - A study by the California Public Advocates Office concluded that shifting charging off peak can reduce the cost of future distribution costs expected to result from electrification by as much as 70%.[7]
   - A 2023 study by National Grid concludes that distribution upgrades will be needed in all scenarios of growing fleet electrification, but that effective planning can reduce the scale and improve the timing of these upgrades. The study found potential for a 20% reduction in fleet peak loads.[8]
   - A 2023 industry white paper on fleet electrification also emphasized the importance of planning fleet electrification and grid infrastructure in parallel for optimal timing of any needed investments.[9]

[5] CPUC (2016), 2016 Demand Response Cost-Effectiveness Protocols, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/demand-response-dr/demand-response-cost-effectiveness
[6] Evergy (2021), KEEIA 2023 – 2026 Demand-Side Management Portfolio Filing, https://estar.kcc.ks.gov/estar/ViewFile.aspx/S202112171559495228.pdf?Id=69506e27-27c0-430c-ac57-3d590100c6d3.
[7] California Public Advocates Office (2023), Distribution Grid Electrification Model (DGEM), https://www.publicadvocates.cpuc.ca.gov/-/media/cal-advocates-website/files/press-room/reports-and-analyses/230824-public-advocates-distribution-grid-electrification-model-fact-sheet.pdf, p5.
[8] National Grid (2023), The Road to Transportation Decarbonization: Readying the Grid for Electric Fleets, https://www.nationalgrid.com/us/ev-fleet-charging.
[9] ACEEE (2023), Electrifying Truck Fleets: Utility Infrastructure is Crucial, https://www.aceee.org/white-paper/2023/09/electrifying-truck-fleets-utility-infrastructure-crucial.

3. **Improving alignment with lower cost and lower emission generation**
   About half of Evergy's energy in Kansas is generated by solar, wind, and nuclear resources.[10] These renewable and nuclear resources provide emission-free generation with low variable costs. By aligning customers' EV charging with wholesale electricity costs, we can maximize the amount of energy from emission-free sources.[11]

These benefits are quantifiable and weighable against the costs of the proposed programs. The FAS Program in this Report is supported by a benefit-cost assessment that yields a benefit-to-cost ratio greater than 1.0. In contrast, a benefit-cost assessment is not provided for the RMC Pilot because Evergy has proposed this program as a pilot to test the efficacy and costs of alternative RMC approaches (i.e., passive and active). By proposing the RMC program as a pilot, Evergy will gain information to develop a full benefit-cost assessment that will inform the design of a future scaled program.

The programs approved in the 2021 Filing are largely oriented toward lowering barriers for EV adoption to realize the associated benefits. Evergy's Phase 2 programs assume EV adoption will continue to grow across all vehicle classes. Specifically:

- Passenger vehicle adoption is expected to grow from approximately 17,000 today to 118,000 by 2030, and
- Medium- and heavy-duty EV adoption by fleets are expected to grow from just a few hundred today to a few thousand by 2030.[12]

The proposed programs are designed to shape the charging load from this EV growth, thereby maximizing benefits for all Kansas customers.

1.2. Residential Managed Charging Pilot Overview

Evergy's Residential Customer EV Outlet Program continues to provide Evergy and the KCC with insights for how a utility and an EV driver can interact. Opportunities include educating customers on how time-varying rates and shifting charging to off-peak periods can benefit both the grid and the customer (through lower bills). The rebate programs also provide Evergy with opportunities to further engage current and potential EV drivers on the availability of charging stations in the community, at their workplace, or home.

The 2021 Filing highlighted the potential benefits of managed charging to shift EV charging to off-peak periods. At that time, the market had a limited number of EV models, minimal industry experience with managed charging, and few time-varying rates. Given these challenges, Evergy has focused on significantly enhancing its educational initiatives since 2021 by guiding customers to charge in a grid-friendly manner and informing them of the associated benefits.

The proposed RMC Pilot represents a significant expansion of these ongoing efforts. "Residential managed charging" refers to programs that allow electric utilities to influence or

[10] U.S. Energy Information Administration (2023), Kansas Electricity Profile 2022, https://www.eia.gov/electricity/state/kansas/
[11] SPP (2024), State of the Market, Winter 2024, https://www.spp.org/documents/71500/spp%20mmu%20qsom%20winter%202024.pdf
[12] EPRI (2024), Projections EVERGY_KSC 02-2024.xlsx and Projections EVERGY_KSM 02-2024.xlsx, Microsoft Excel files.

determine the timing and/or speed of EV charging at home. Within this filing, Evergy is proposing a three-year pilot designed to achieve the following overarching goals:

- Gather information about customer preferences related to RMC
- Quantify the relative benefits of alternative managed charging approaches, passive and active, on different customer groups (e.g., time-varying vs. standard rate customers)
- Understand the costs of deploying and sustaining the managed charging approaches

These insights will guide Evergy's future strategies regarding the integration of RMC to enhance grid operations and minimize EV-related costs.

The RMC Pilot will include passive and active managed charging approaches:

- The passive managed charging ("PMC") approach will provide participants with personalized educational and motivational communications to shape their charging behaviors. In the passive program, all charging decisions will remain with the customer.
- The active managed charging ("AMC") approach will involve Evergy making charging decisions for each participating customer by initiating customers' charging via networked EV Supply Equipment ("EVSE") or EV telematics. This will enable Evergy to charge vehicles in a manner that utilizes least cost supply resources (current proposal) and/or avoid local peaks (potential focus of a future pilot).

The target audience for the RMC Pilot is customers who utilize 240-volt ("Level 2", or "L2") EV charging at home.[13] Eligible customers will be identified through three primary means:

- Evergy's ongoing residential charging rebate program
- Advanced metering infrastructure ("AMI") data disaggregation analysis
- Self-identification opportunities provided by Evergy's education and awareness initiatives

By default, most confirmed EV customers will be automatically enrolled in the passive program. Participation is optional, however, and customers may opt-out at any time.

A portion of eligible EV customers will be encouraged to participate in the AMC approach. Unlike the "opt-out" passive program, the active program will be "opt-in" (i.e., participation requires customers to enroll). During the enrollment process, the customer will authorize Evergy to manage the schedule of their EV charging at home, subject to customer-defined parameters (e.g., the desired state of charge at the beginning of the customer's driving day). Evergy will monitor and initiate charging through a customer-authorized connection between the AMC platform ("Active Platform") and the customer's networked EVSE or EV. Customers who enroll in the active program will receive an incentive for enrollment and will be eligible for ongoing participation incentives.

Evergy has established participation targets that anticipate continued EV adoption during the pilot period and yield sufficient data for a rigorous evaluation of RMC Pilot costs, benefits, and efficacy. **Table 1** presents the RMC Pilot participation forecast.

[13] Residential Level 2 charging occurs at 240 VAC input, as compared to a Level 1 charging at 120 VAC.

TABLE 1. FORECAST PARTICIPATION IN RESIDENTIAL MANAGED CHARGING PILOT (CUMULATIVE)

Pilot Approach	PY 1*	PY 2	PY 3
Passive Managed Charging	10,888	15,453	21,555
Active Managed Charging	412	1,216	2,000

* PY – pilot year

Further details of the RMC Pilot design are provided in Section 4.1.

1.3. Fleet Advisory Services Program Overview

To better meet the emerging needs of fleet electrification customers, Evergy is proposing a new, five-year FAS Program that will provide technical assistance to fleets and shape their charging plans for many years ahead. The FAS Program has been designed to bridge gaps identified through implementation of Evergy's Commercial EV Charging Rebate Program, as well as through other industry studies. While a growing number of fleets are signaling their intent to begin electrifying, few are prepared for a successful transition that minimizes total cost of ownership by right-sizing infrastructure, optimizing charging, and avoiding costly grid upgrades (which benefits *all* utility customers).

Evergy's interactions with fleet electrification customers have identified the following key barriers to a successful fleet transition:

A. **Resource Expertise:** Many customers lack internal resources possessing the expertise required for effectively implementing grid-friendly electrification. Fleet electrification is intricate and demands multiple layers of cross-stakeholder collaboration to address operational, infrastructure, and procurement considerations.

B. **Charging and Capacity Requirements:** Customers are challenged to understand charging and electrical capacity needs. Data collection and analysis is required to appropriately forecast energy and demand, and then to develop charging plans tailored to the customer's unique operational demands.

C. **Infrastructure Design Assistance:** There is a natural inclination to oversize charging infrastructure among fleet operators and their equipment providers. Absent an understanding of alternatives and long-term cost implications, this can lead to unnecessary costs on both the customer and utility side of the meter.

With these barriers in mind, Evergy designed the FAS Program to enable informed fleet electrification, facilitate grid-friendly charge planning and serve as a trusted energy advisor. The identified barriers are most acute among small, medium, and public sector fleets. While Evergy intends for the FAS Program to be open to all fleets in the Kansas Central and Kansas Metro territories, priority in outreach will be given to schools, transit agencies, and small to medium business fleets.

Evergy completed a fleet market segmentation and obtained vehicle electrification projections from Electric Power Research Institute ("EPRI"), which together informed the program participation forecast in **Table 2**.

TABLE 2. FLEET ADVISORY SERVICES PROGRAM PARTICIPATION FORECAST

Territory	PY 1*	PY 2	PY 3	PY 4	PY 5	Total
Kansas Central	2	6	11	12	2	33
Kansas Metro	1	5	9	10	2	27

* PY – Program year

The year-to-year variation in forecast participation factors in both expectations for EV adoption by fleets, as well as Evergy experience with fleet engagement and project lifecycles. The first year of the program must build awareness, often through direct outreach. Then, participation will build year over year. New enrollments will cease in the fourth year and the final year will focus on closing out long-lived projects with the remaining participants.

Further details of the FAS Program design are provided in Section 4.2.

2. Evergy's Role and Experience with Transportation Electrification

Evergy has consistently anticipated the needs of the growing EV market and planned the necessary infrastructure and programs to help customers benefit from EV adoption. EV adoption is expected to follow a well-recognized technology diffusion model, often referred to as the "S-curve" due to the characteristic shape of increasing market penetration (**Figure 1**). Adoption initially grows slowly as the technology is proven. It then accelerates as early adopters demonstrate the benefits before ramping up steeply as the technology gains widespread appeal. Evergy has long understood that due to the interrelated nature of EVs and the electric grid, it is crucial for utilities to play an active role in managing the transition to electrification at scale.

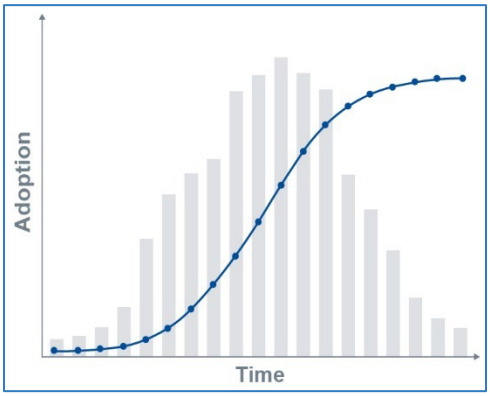


FIGURE 1. ILLUSTRATIVE ADOPTION CURVE

Evergy has prepared for growing EV adoption in many ways over the past 10 years. Noteworthy initiatives include:

1. Developing the Clean Charge Network ("CCN")
2. Implementing residential time-of-use ("TOU") and business EV rates
3. Supporting regional transit electrification efforts
4. Offering charging infrastructure rebate programs

2.1. Evergy's Clean Charge Network

Evergy announced plans for the Clean Charge Network in 2015 when only 22 EV models were available. Today, the CCN includes more than 1,000 stations across Evergy's service territory, making Kansas City one of the most EV friendly metro areas in the country.

EV availability has significantly improved over the past few years. Increased focus from automakers and diminished pandemic impacts have given consumers access to well over 100 EV models.[14] Within this favorable environment, CCN utilization has grown 55% *each year* since 2021.

2.2. Time-Varying Rates

Time-varying rates have long been recognized as a tool to shift energy demand away from peak periods.[15] Evergy has deployed multiple residential time-varying rates on an optional basis, beginning in 2019 and updated in 2023. With respect to EVs, the current Residential Customer EV Outlet Program encourages EV drivers to enroll in a time-varying rate by providing a higher rebate to those who choose this option.

Evergy also introduced a Business Electric Vehicle Charging Service ("BEVCS") rate in 2021 for EV charging service. This separately metered rate minimizes fueling costs and reduces grid demand by financially incentivizing non-residential customers to charge during off-peak periods.

2.3. Transit Electrification

In addition to the above time-varying rates, Evergy offers an Electric Transit Service ("ETS") rate for transit EV charging service.

This separately metered rate is the newest component of Evergy's longstanding support for transit electrification. Since 2017, Evergy has partnered with the following area transit agencies to plan charging infrastructure and help deploy electric buses.

- The Kansas City Aviation Department was the first U.S. airport operator to use all-electric buses. The fleet currently has seven buses in operation with seven more on order.
- Evergy partnered with Wichita Transit by supporting needed infrastructure upgrades, which helped to bring the first electric buses to Kansas.
- Evergy sponsored the first two electric buses for Kansas City Missouri's transit provider, the Kansas City Area Transportation Authority.
- The City of Lawrence, Kansas recently deployed their first phase of buses, with seven electric buses now in service.

[14] EPRI (2023), Consumer Guide to Electric Vehicles, https://www.epri.com/research/products/000000003002026815

[15] Faruqui and George (2005), Quantifying Customer Response to Dynamic Pricing, The Electricity Journal, Vol. 18, Issue 4.

2.4. Charging Infrastructure Rebates

The Commission's 2021 approval of Evergy's first TE program portfolio authorized residential and business EV charging infrastructure programs. Evergy has four overarching goals for the existing portfolio:

- To gain knowledge of EV charging patterns in order to educate customers on their charging behavior, the associated environmental impacts, and the advantages of subscribing to a time-varying rate
- To encourage faster and more efficient charging, allowing customers to achieve sufficient charging during off-peak periods
- To increase the availability of third-party (i.e., non-utility) EV chargers by reducing installation costs
- To collect and evaluate EV charger utilization data in order to evaluate potential load impacts on the grid

The Residential Customer EV Outlet Rebate Program provides eligible residential customers with a rebate on the cost of installing a 240 VAC circuit dedicated to EV charging. The rebate is $500 for customers who elect the time-varying rate and $250 for those who do not. As of July 2024, more than 1,300 customers have participated in the residential rebate program.

The Commercial EV Charging Rebate Program supports both L2 and direct current fast charging station installations at workplace, fleet, multifamily and public-serving locations. Rebates are limited to either $25,000 or $65,000 per site, based on the specific type of site and the charging infrastructure installed. Efforts are taken to encourage new charging sites in counties that are underserved with respect to EV charging. To date, this program has supported the installation of 68 charging ports.

2.5. Lessons Learned

The FAS Program and RMC Pilot build upon the successes and learnings from Evergy's Phase 1 program portfolio to ensure that EV adoption remains financially beneficial for all Evergy customers. The following is not an exhaustive list of findings, but a summary of those that most directly inform this second phase of Evergy's portfolio.

- Residential charging rebate participation consists mostly of relatively new EV owners, with most installing their L2 charging within their first year after EV purchase. These new EV customers are increasing their home electric usage by an average of 2,478 (time-varying rate) to 3,145 (standard rate) kWh annually, while reducing their total energy costs due to avoided gasoline/diesel purchases.
- Most of the new residential charging load is off-peak, but there is some increase to Evergy's summer and winter peak load. The peak load increase is due to the charging patterns of customers who do not select to participate in a time-varying rate. Just over half of participants chose to remain on a standard rate.
- L2 charging encompasses a wide range of power levels. Rebated customers have installed charging circuits to support power levels from 3.6 kW to 19.2 kW. Considering that air conditioning load is typically in the range of 3 kW to 6 kW per home, the

importance of charging off-peak is readily apparent. See **Figure 2** below for a comparison.

- Participants in Evergy's Residential Customer EV Outlet Program have been overwhelmingly satisfied. 85% of participants ranked their overall experience as somewhat or very satisfying.
- Compared to residential programs, commercial charging installations and the commercial program process have a much longer timeline from initiation to completion. Although Evergy has observed a significant level of interest among fleet customers, these customers face a particularly complex process that includes identifying EVs that meet the organization's needs, pursuing federal grant or other funding (if available), coordinating charging installations, and managing the overall transition from ICE vehicles to EVs.

Taken together, these findings demonstrate the importance of mitigating localized grid impacts by managing residential charging and supporting fleet customers as they navigate the transition to electric vehicles. At the same time, general EV awareness and education efforts remain valuable and should continue.

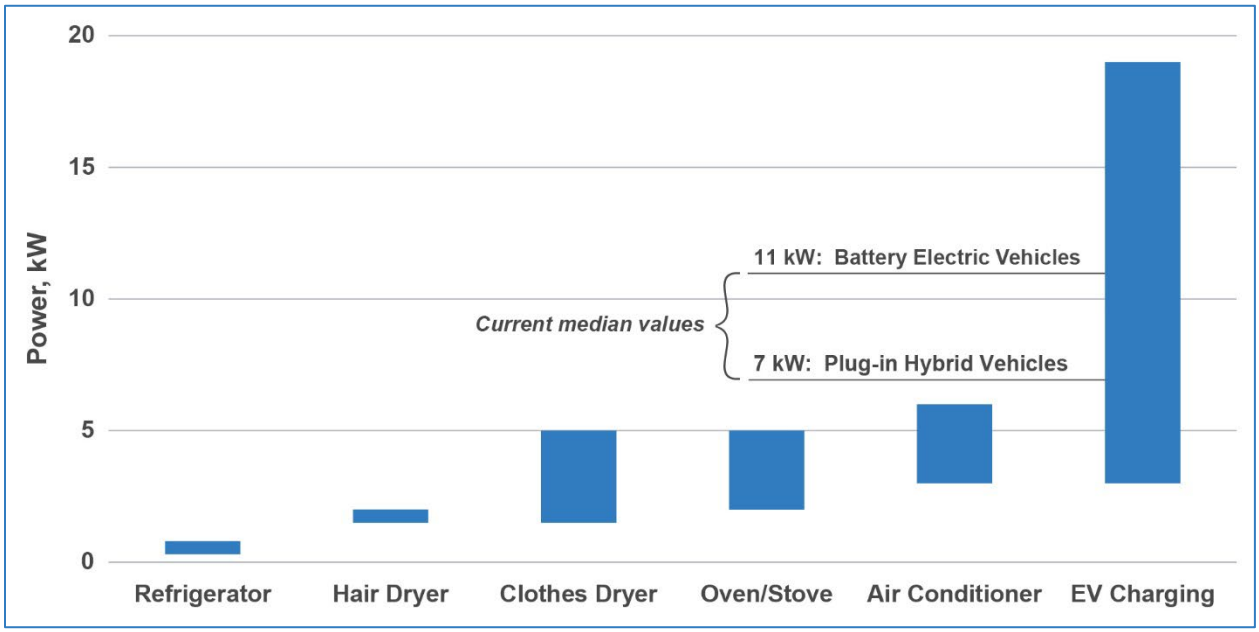


FIGURE 2. COMPARISON OF HOUSEHOLD LOADS[16]

[16] Median EV charging values provided by EPRI. Other loads from https://www.energysage.com/electricity/house-watts/

3. Trends in Transportation Electrification

The overall evolution of the TE market adds important context to Evergy's next phase of offerings. Despite varying reports in the media, Kansas EV adoption continues to grow at a pace generally consistent with EPRI's medium growth scenario. The continued growth is fueled by several factors, including improved EV availability, growing charging infrastructure and supportive policies and programs.

3.1. Federal Support for Electric Vehicles

The Bipartisan Infrastructure Law passed in November 2021 funneled historic levels of funding into the clean energy sector, including over $1.2 trillion in transportation and infrastructure investments. $47 million of this funding has been allocated to support widespread adoption of EVs with $7.5 billion specifically supporting the buildout of EV infrastructure. Additional funds are allocated to competitive grant programs and funding pools for cities, states, and municipalities to expand transportation infrastructure for both residential and commercial vehicles. The State's *Charge Up Kansas* plan aims to establish Kansas as a leader in the development of a convenient, affordable, reliable, and equitable EV charging network. To that end, the Kansas Department of Transportation has identified 19 priority areas for the construction of new charging stations that leverage funding from the Bipartisan Infrastructure Law.[17]

The Inflation Reduction Act passed August 16, 2022 added further support for TE, largely in the form of tax credits. The first tranche of tax credits is supply focused and aimed at bolstering the domestic supply chain for EVs from "mine to driveway" (e.g., mineral production, battery recycling, vehicle manufacturing). The second tranche of tax credits is demand focused and aimed at accelerating both passenger and commercial EV sales by decreasing the costs of EVs and charging infrastructure. Notably, the U.S. saw more than one million new EV purchase for the first time in 2023, fueled in part by reductions in EV prices and tax credits.[18,19]

In addition to EV-supportive policies, new fuel economy regulations were announced by the U.S. Environmental Protection Agency in March 2024.

- The final rule for light- and medium-duty vehicles sets new emission standards which the Agency projects will be met by automakers increasing production of EVs, ranging from 30% to 56% for light-duty vehicles and 20% to 32% for medium-duty vehicles.
- The final rule for heavy-duty vehicles requires 25% to 60% carbon dioxide (CO_2) emission reductions, depending on the vehicle type, with plug-in electric vehicles as one technology to meet the target.[20]

[17] Kansas Department of Transportation (2024), Fiscal Year 2024 Kansas National Electric Vehicle Infrastructure Plan Update, https://ike.ksdot.gov/charge-up-kansas
[18] International Council on Clean Transportation (2024), Electric Vehicle Market and Policy Developments in U.S. States, 2023, https://theicct.org/publication/ev-ldv-us-major-markets-monitor-2023-june24
[19] U.S. Energy Information Administration (2024), Electric vehicles and hybrids surpass 16% of total 2023 U.S. light-duty vehicle sales,
[20] U.S. Environmental Protection Agency (2024), Final Standards to Reduce Greenhouse Gas Emissions from Heavy-Duty Vehicles for Model Year 2027 and Beyond, https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-greenhouse-gas-emissions-standards-heavy-duty

Although these regulations may change through legal challenges or administrative changes, today they are a factor that fleets and utilities must consider.

Technology improvements, regulations, and unprecedented levels of funding are propelling the growth of TE. In light of this momentum and the necessity to provide affordable and reliable service to all Evergy customers, the imperative for programs like those proposed in this filing has never been clearer.

3.2. EV Adoption in Evergy's Kansas Territory

Evergy has sized the RMC Pilot and FAS Program based on projections of EV growth supplied by EPRI.

- **RMC Pilot.** Consistent with the 2021 Filing and historical adoption trends, Evergy has scaled the RMC Pilot based on EPRI's most recent medium growth projection for light-duty, passenger vehicles.
- **FAS Program**. Based on a scan of other utility fleet programs, Evergy has elected to conservatively size the FAS Program based on EPRI's low growth projections for commercial vehicles.

Figure 3 and **Figure 4** provide these projections in Evergy's Kansas service territory through 2040.

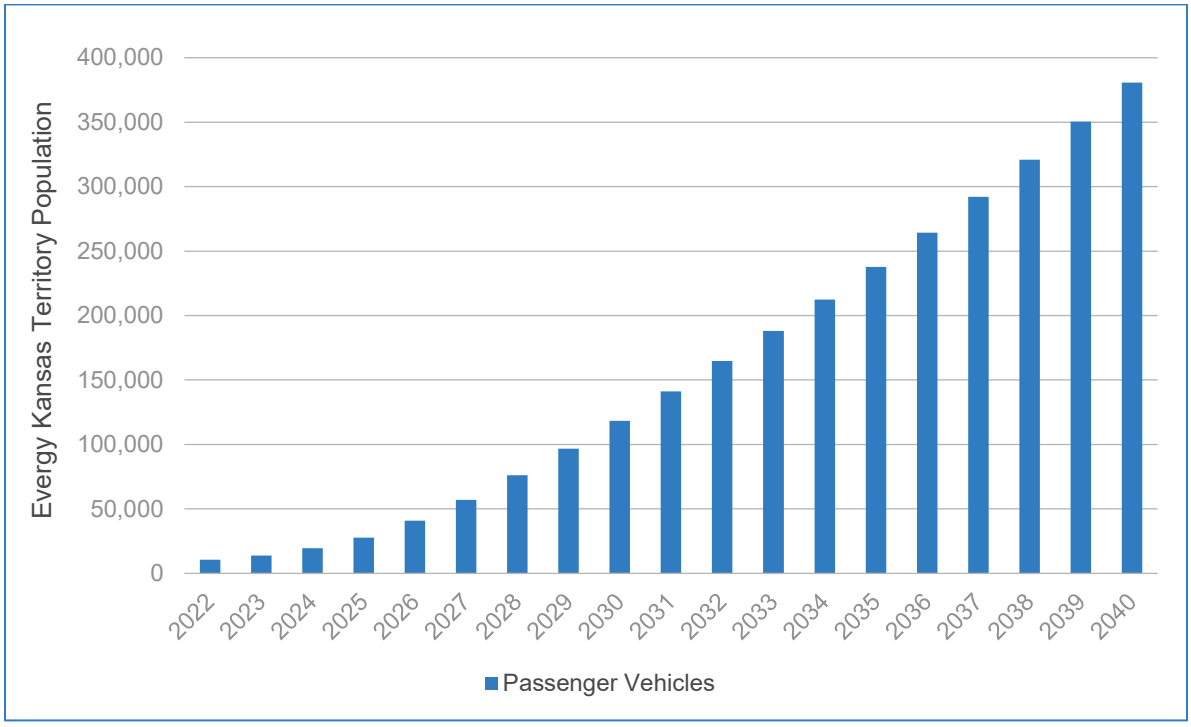


FIGURE 3. PASSENGER VEHICLE POPULATION PROJECTION (EPRI MEDIUM GROWTH SCENARIO)

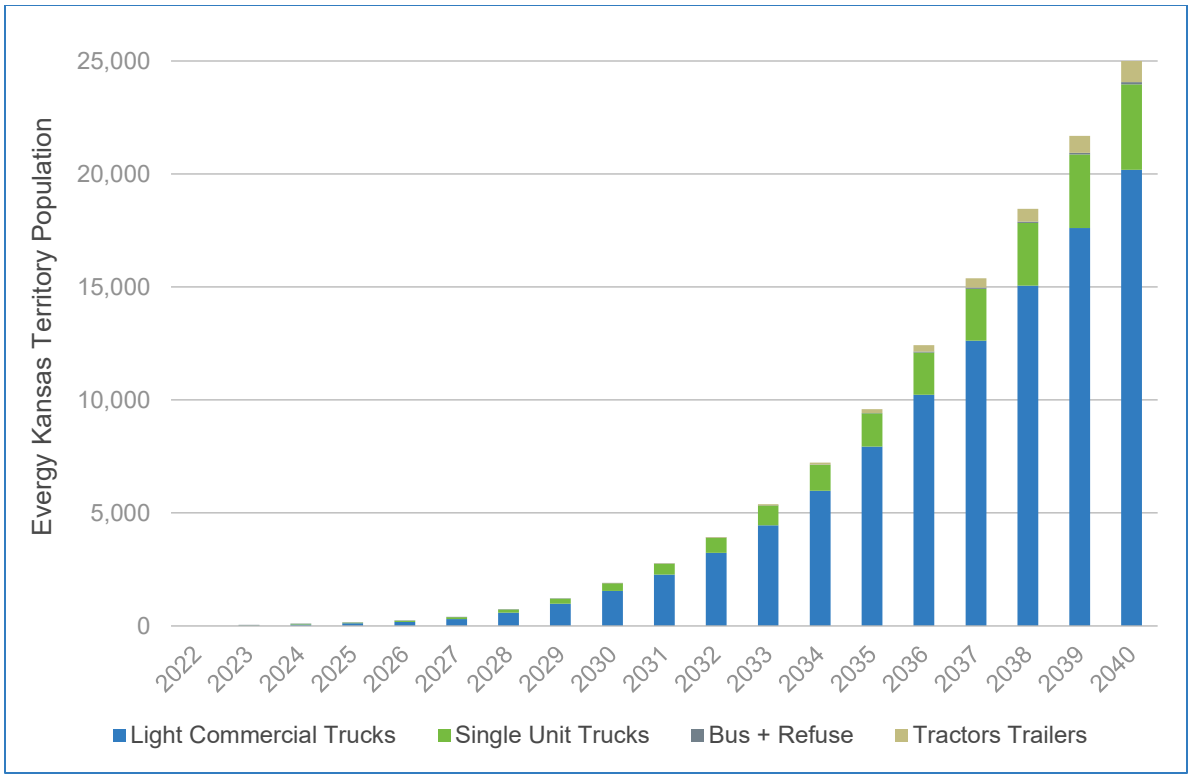


FIGURE 4. COMMERCIAL VEHICLE POPULATION PROJECTION (EPRI LOW GROWTH SCENARIO)

3.3. Potential Load Growth from EVs in Evergy's Kansas Territory

While EV adoption inevitably increases electricity consumption, the time and rate of that consumption (i.e., load shapes) can be influenced by Evergy programs.

3.3.1. Residential EV Charging Load

As shown in **Figure 2,** Residential EV charging loads are often equal to or larger than all other household loads. The 2023 evaluation of the Residential Customer EV Outlet Rebate Program provides a foundation for understanding the potential future impacts of residential EV adoption. Assuming future EV customers behave like today's early adopters, peak demand impacts will be highest among customers on standard rates, averaging approximately 0.3 kW (summer peak) to 0.4 kW (winter peak) per L2 EV customer.[21]

The current EV charging program has influenced customers to opt-in to time-varying rates, with nearly half of program participants choosing a time-varying rate. This choice by EV drivers is impactful. Households with L2 EV charging who remain on standard rates have an average peak demand of 2.1 kW (winter) to 3.6 kW (summer), while those who adopt time-varying rates have an average peak demand of 1.4 kW (winter) to 2.8 kW (summer).[22] Hence, the presence of programs

[21] Cadmus (2023), 2023 Evaluation of Evergy's Kansas Central and Kansas Metro Transportation Electrification Portfolio, filed 12/29/2023 to Docket No. 21-EKME-320-TAR.
[22] Cadmus (2023), 2023 Evaluation of Evergy's Kansas Central and Kansas Metro Transportation Electrification Portfolio, filed 12/29/2023 to Docket No. 21-EKME-320-TAR.

that encourage time-varying rate adoption has a considerable benefit that will continue to multiply with EV adoption. Considering the medium EV growth projection from the previous section, the impact on summer peak demand of EV households may reach 400 MW in 2030 and 1300 MW in 2040 in the absence of programs that encourage time-varying rate adoption.

These scenarios of future residential EV charging illustrate three important considerations for Evergy's planned RMC Pilot.

- Continued intervention to encourage time-varying rate adoption will help to mitigate peak demand impacts.
- Many residential EV charging customers are likely to remain on standard rates, necessitating new form(s) of intervention to mitigate peak demand from those customers.
- This type of system-level analysis does not address the potential for localized grid impacts due to unmanaged charging within geographic clusters of EV adoption.

The proposed RMC Pilot will explore interventions to mitigate future peak demand impacts and minimize the energy costs associated with residential EV charging load. As implied by the third consideration, Evergy also believes managed charging could provide additional grid management benefits such as managing local peaks that can occur at the transition between time-varying rate price periods or on specific distribution circuits where EVs are clustered. While the proposed RMC Pilot does not include the implementation or evaluation of real-time, location-based charging due to factors related to operational complexity, this initial three-year pilot is a crucial first step towards building the foundational program infrastructure and knowledge needed to manage charging based on real-time grid conditions.

3.3.2. Fleet EV Charging Load

While fleet electrification is still in its infancy, the presence of EVs in fleets within Evergy's territory is on the rise along with growing customer interest and engagement. As electric fleets grow, they will become among the largest energy using sites on the grid, as illustrated by their comparison to other loads in **Figure 5**.

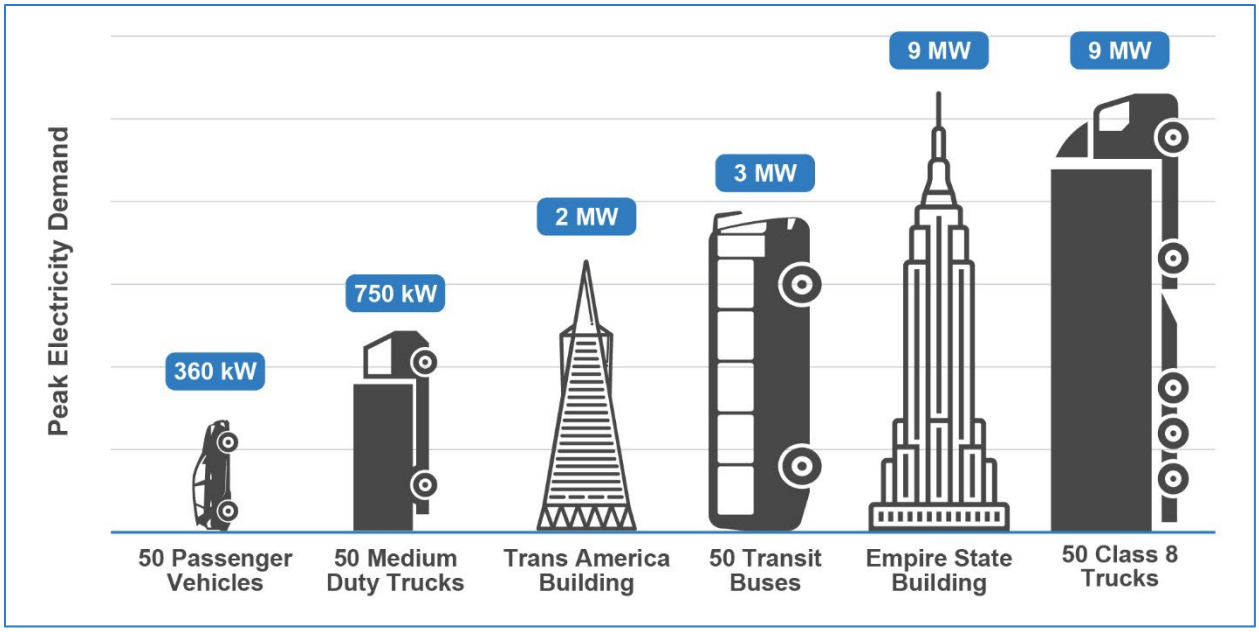


FIGURE 5. COMPARISON OF FLEET VEHICLE LOADS[23]

Currently, there is limited data on fleet EV load within Evergy's territory. However, it is anticipated that fleet loads will be highly diverse, influenced by factors such as the types of vehicles, the scale of the fleet, and vehicle operating profiles. For planning purposes, Evergy's team used available data sources to create baseline charging profiles for several fleet types. These baseline profiles yielded coincident peak values shown in **Table 3**.

TABLE 3. FLEET CATEGORIES USED FOR PROGRAM PLANNING

	Baseline Coincident Peak (kW/vehicle)	Baseline Electric Fleet Charging Profile Data Source
Light-Duty	0.63	International Energy Agency (IEA)[24]
Medium-Duty	3.2	IEA
Heavy-Duty Truck	73.0	National Renewable Energy Laboratory[25]
School Bus	4.9	IEA
Transit Bus	20.0	Avista / Northwest Power and Conservation Council[26]

[23] Source: Keyframe Capital and Morgan Stanley, March 2021 EV Tracker Report
[24] International Energy Agency. (n.d.). Electric Vehicle Charging and Grid Integration Tool. Retrieved from: https://www.iea.org/data-and-statistics/data-tools/electric-vehicle-charging-and-grid-integration-tool
[25] Borlaug, B., Muratori, M., Gilleran, M., Woody, D., Muston, W., Canada, T., ... & McQueen, C. (2021). Heavy-duty truck electrification and the impacts of depot charging on electricity distribution systems. Nature Energy, 6(6), 673-682.
Data retrieved from: https://data.nrel.gov/submissions/162
[26] Farley, R., Vervair, M., & Czerniak, J. (2019). Electric vehicle supply equipment pilot final report. Washington Utilities Transp. Commission (UTC), Tech. Rep.
Data retrieved from: https://www.nwcouncil.org/2021powerplan_plug-electric-load-profiles/#_ftn1

The Baseline Coincident Peak impacts are assumed to be what would occur if there were no FAS Program. The primary benefit of the FAS Program is to support fleets that are electrifying with the development of a Charge Management Plan. Evergy's team created target (i.e., grid optimized) charging profiles to be delivered by the FAS Program that will meet fleet vehicle daily energy needs within expected daily operating schedules, while shifting the load off-peak. These "Program Profiles" are presented in Appendix B.

Comparing the Program Profiles to the Baseline Coincident Peak values yields peak demand reductions ranging from 0.7 kW for the average light-duty vehicle to 54 kW for a heavy-duty vehicle. Combining these reductions with the low EV growth projection from the previous section reveals the difference such a program can make in 2030 and 2040 peak demand, as illustrated in **Figure 6**. This example represents all fleets participating in a FAS Program or similar intervention. The actual assumed participation rate used in the cost effectiveness analysis for the proposed FAS Program is 46%.

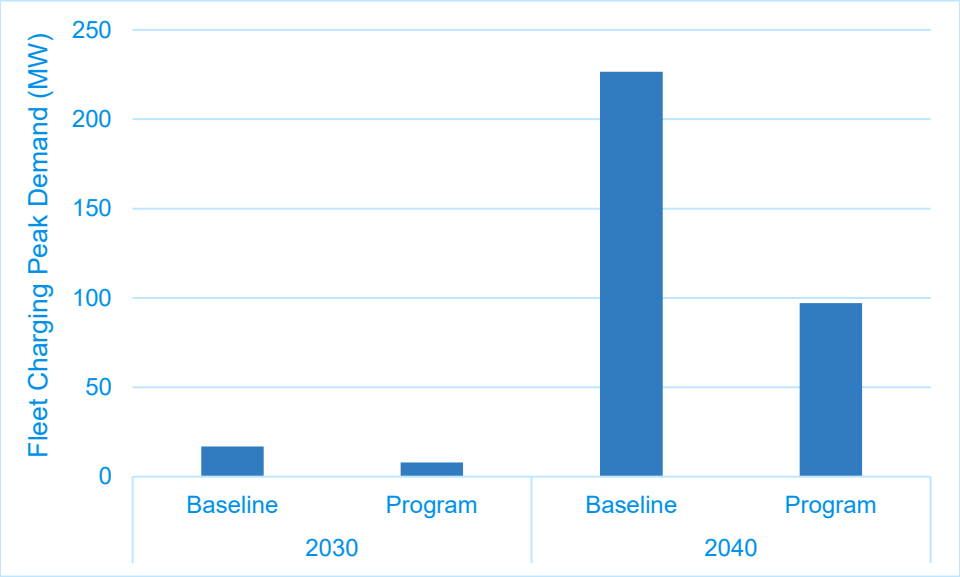


FIGURE 6. POTENTIAL FLEET CHARGING PEAK DEMAND

The above example makes clear that although baseline fleet charging loads are projected to exceed 200 MW by 2040, the potential for shaping these loads is also substantial. In the long-term, the fleet charging load shape could be even more impactful to local distribution systems than residential charging due to the potential of electrified fleets to produce very highly concentrated loads.

To model the distribution impacts of fleet electrification, Evergy's team first conducted a market scan. Using business profile data, this scan identified just over 5,000 locations where fleets are likely to be present within Evergy's Kansas service area (**Figure 7**). While the identified locations are not definitive, this level of precision shown in **Figure 7** is sufficient for projecting overall impacts.

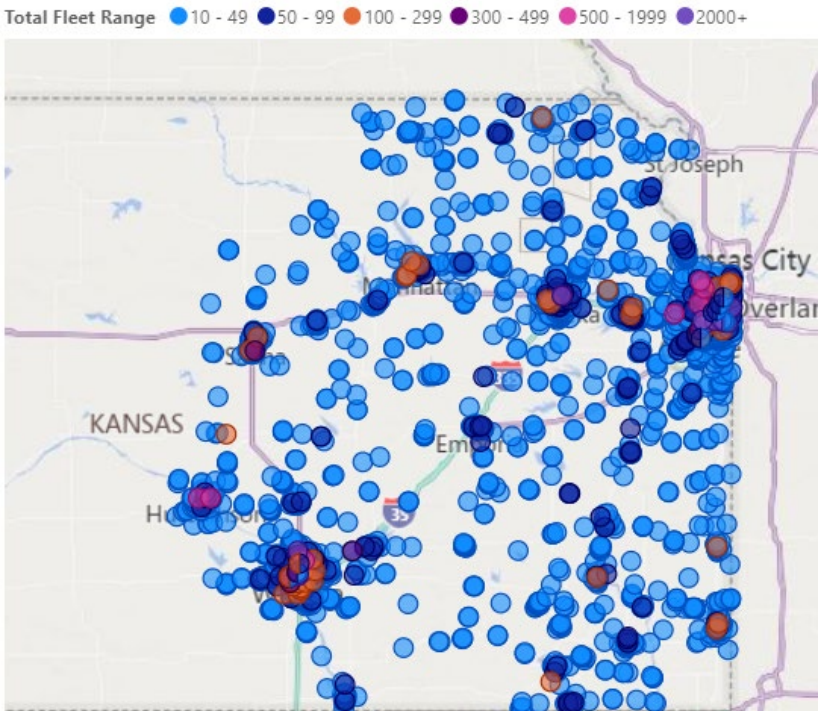


FIGURE 7. MARKET SCAN OF PROBABLE FLEET LOCATIONS

To understand the potential distribution system impacts of fleet electrification absent any intervention from the proposed FAS Program (referred to here as "baseline"), Evergy's team employed the following methodology:

- Evergy evaluated 100 electrification scenarios for 22 fleets randomly selected from the market scan.
- New charging load was estimated assuming each fleet electrified 50% of its vehicles.
- New charging load was applied to the nearest distribution circuit, summing the coincident peak fleet charging with the existing circuit peak load.
- The resulting total circuit load was compared to the rated circuit capacity, which allowed the team to identify circuits that were likely to require upgrades due to fleet electrification.

This distribution analysis revealed that without the FAS Program (i.e., baseline charging load shapes), 8% of distribution circuits would require upgrades in the selected low electrification scenario. However, with the implementation of Charge Management Plans introduced by the FAS Program, the number of circuits requiring upgrades reduces to just 2%.

Figure 8 illustrates how this distribution analysis contributed to the cost benefit assessment. In all areas, system generation capacity and transmission benefits are obtained from the coincident peak demand reductions of the FAS Program. Additional distribution avoided cost benefits are achieved in areas where distribution circuits would require upgrades in the baseline scenario but not in the FAS Program scenario.

Evergy's impact study result can be considered as the market-weighted average of some fleets electrifying that are almost certain to require large distribution upgrades (e.g., a large transit fleet depot) and others that are unlikely to trigger upgrades (e.g., a small business with light-/medium-duty delivery vehicles). Considering typical distribution upgrade unit costs, these distribution upgrades could amount to $18 million in required investment by 2030, if no mitigating actions are taken.

Importantly, the FAS Program's impact will continue to accelerate over time, aligning with the typical fleet electrification journey. Fleets often start with a proof of concept, deploying a few electric vehicles before expanding. Early engagement by electric utilities in what is often a multi-year process is crucial to ensure scalability and to identify and address potential constraints.

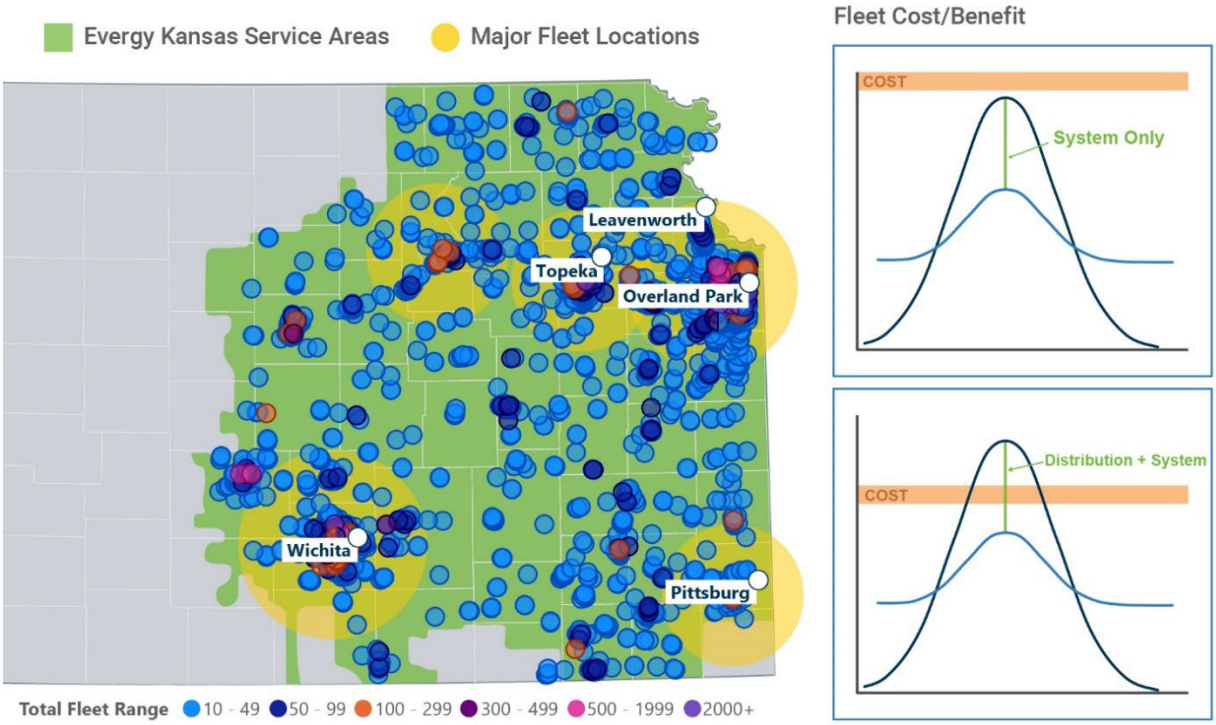


FIGURE 8. ILLUSTRATIVE CIRCUIT UPGRADE REQUIREMENTS DUE TO FLEET ELECTRIFICATION

3.4. Summary of Peer Utility Programs and Pilots

The RMC Pilot and FAS Program design process included an examination of several related efforts from peer utilities. This section provides key learnings from this benchmarking activity.

3.4.1. Residential Managed Charging Programs and Pilots

In late-2022, Evergy commissioned a study that gathered information on 20 electric utility RMC programs and pilots from across the country. For each peer utility activity, the study catalogued key program parameters such as technology (networked EVSE and/or EV telematics) and whether the intervention was active or passive. A results summary is provided in **Table 4**.

TABLE 4. INTERVENTION AND TECHNOLOGY USE IN RESIDENTIAL MANAGED CHARGING PROGRAMS AND PILOTS[27]

	Passive	Active	Both
Networked EVSE	0	9	6
EV Telematics	0	3	0
Both	0	1	1

[27] 1898 & Co (2023) study of managed charging programs conducted for Evergy. One program of which CLEAResult has direct knowledge was recategorized as having both active and passive interventions.

The study also collected information on incentive structures and amounts. Incentive types included:

- Technology incentives to offset the purchase/installation cost of a networked (i.e., Wi-Fi enabled) EVSE ($50-1,000)
- Enrollment incentives ($50-200)
- Ongoing performance incentives ($5-20/month).

Evergy's study did not include an analysis of incentive effectiveness. Separately, a PG&E survey found that a one-time $50 enrollment incentive can elicit participation from nearly 50% of customers with an existing L2 charger.[28]

E Source, an industry consulting, research, and data science company, completed a canvass of AMC pilots and programs in early 2024. This study identified challenges such as low asset availability, wireless communication weaknesses, and imbalanced costs and benefits. The study further found that average demand reduction per vehicle was less than 0.5 kW, which did not justify the relatively high incentive amounts common to early pilots.

Notably, most of the pilots reviewed by E Source used a peak period event framework similar to conventional demand response programs. A significant challenge with this framework was that many EVs simply were not connected and actively charging when events were called. This was particularly true where existing participation in a time-varying rate provides a strong baseline incentive for customers to charge off-peak. PG&E achieved significantly higher impacts when they scheduled events at night and among customers not enrolled in a time-varying rate. Some active charging programs are now testing new models, such as offering tiered rewards for differing degrees of utility management and grid value.[29]

The extensive use of peak period events in initial managed charging programs reflects an early industry focus on using managed charging to minimize system coincident peak demand. However, with the geographic clustering of EV adoption, some utilities are beginning to implement pilot programs with the goals of increasing local grid resilience (i.e., reliability) and deferring distribution upgrades. These programs target congested areas of the distribution grid, identify the assets to which enrolled customers connect (e.g., a particular feeder or substation), and target their interventions at reducing load on those assets at their local peaks. Another evolution in active charging is the mitigation of secondary system peaks, also called timer peaks, which can occur as an unintended consequence of time-varying rates.

3.4.2. Fleet Advisory Programs and Pilots

Evergy recently completed a survey of utility fleet advisory offerings. This survey included the review of regulatory filings and publicly available program documentation, as well as interviews with selected utility program managers. While pilot programs from across the country were considered, the survey largely focused on states likely to have a fleet adoption trend

[28] Opinion Dynamics (2022) PG&E Electric Vehicle Automated Demand Response Study Report, https://opiniondynamics.com/wp-content/uploads/2022/03/PGE-EV-ADR-Study-Report-3-16.pdf
[29] E Source (2024), Active Managed EV Charging What We've Learned and What Comes Next, (subscription required).

comparable to Kansas. The primary leading indicator for this similarity is whether the state has adopted a zero-emission vehicle ("ZEV") mandate.

Figure 9 identifies the location of the programs surveyed and the states that have adopted a ZEV mandate.

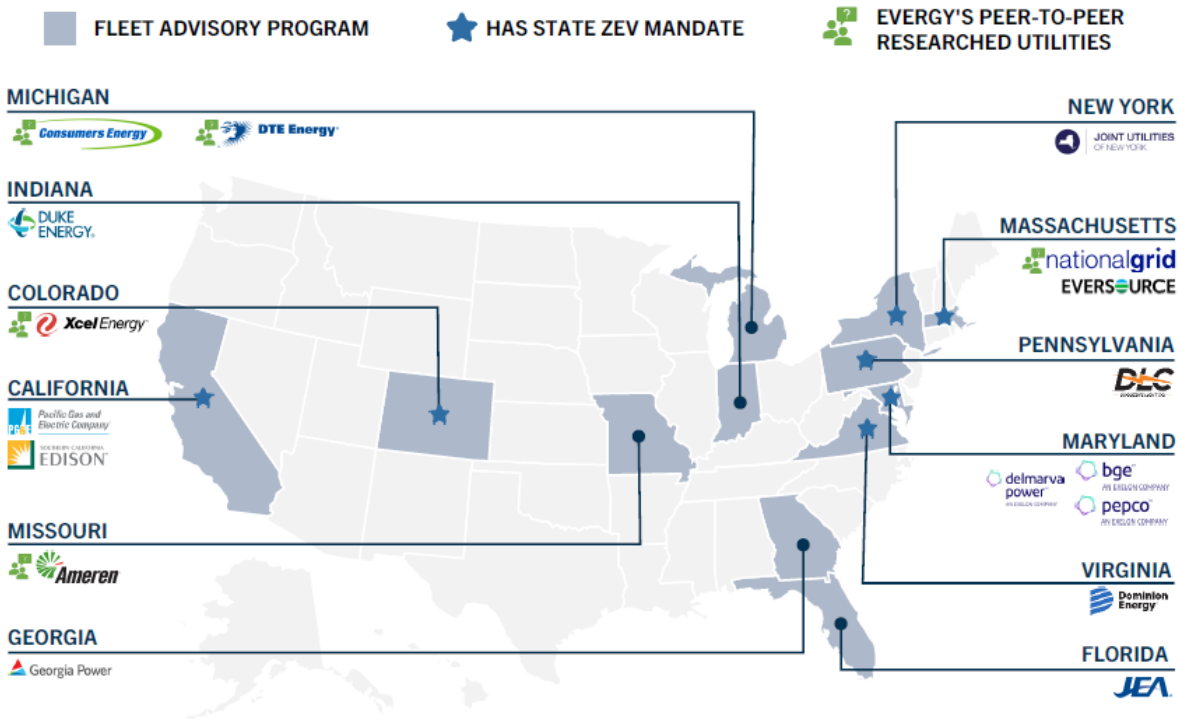


FIGURE 9. FLEET ADVISORY PILOTS AND PROGRAMS SURVEYED

Evergy's survey found that utility fleet-oriented programs commonly offer the following services:

- Vehicle Qualification – Support to determine if EVs can meet fleet operational requirements (13 of 15 programs)
- Fuel Cost Impact – Estimate of the change in annual fuel cost expense due to shifting to electricity (13 of 15 programs)
- Environmental Benefits Analysis – Typically an estimate of the emissions reduction achieved by switching from the baseline fuel to electricity (9 of 15 programs)
- Charging Site Planning – Assistance with the development of a site layout and EVSE selection to support fleet operational requirements, with varying degrees of grid optimization consideration (11 of 15 programs)
- Funding – Cost-related assistance that varies from rebates for EV charging infrastructure to help selecting the most advantageous rate (12 of 15 programs)
- Total Cost of Ownership Analysis – A comparison of lifecycle costs for a baseline ICE vehicle versus its EV alternative, often summarized on a $/mile basis (11 of 15 programs)

Most programs offer services to public and private fleets, though there is some tendency to prioritize resources to public fleets and fleets located in disadvantaged communities.

Utility program managers verified that fleet participants are benefiting from the fleet advisory support. These managers identify participants as newcomers to electrification, requiring guidance from the planning stages to implementation and ongoing operation. Another key takeaway is that fleets do not always move forward with electrification plans, or at least not quickly, many times due to challenges with aligning stakeholders and securing funding.

The fleet program survey yielded several important recommendations, such as:

- Set clear expectations at the onset of a customer engagement by providing a comprehensive overview of the key steps in the electrification process.
- Initiate charge management discussions and planning early in the engagement.
- Ensure effective Charge Management Plan implementation by refining and reinforcing the Plan during initial EV use.

Utility fleet advisory pilots and programs across the country seek to advocate and educate customers on grid-friendly fleet electrification. These initiatives focus on informing customers about rates, optimizing charging schedules, and appropriately sizing charging equipment. The advantages of utility-sponsored fleet advisory services will be manifested within Evergy's FAS Program through the development of grid-optimized Charge Management Plans.

4. Proposed Phase 2 Portfolio

Evergy proposes to deploy a RMC Pilot and FAS Program that will shape residential and fleet EV charging loads. The programs are detailed in the following sections. Stakeholder Letters of Support for the FAS Program are included in Appendix C.

4.1. Residential Managed Charging Pilot

The proposed three-year RMC Pilot is a continuation of Evergy's proactive efforts to maximize customer benefits from growing EV adoption. Time-varying rates introduced in 2019 created the foundation for influencing EV charging. Since then, the Residential Customer EV Outlet Rebate Program has encouraged L2 charging, which increases charging schedule flexibility. Nearly half of rebate recipients are on time-varying rates, in part due to associated promotional and educational initiatives. The proposed RMC Pilot will further promote off-peak charging for customers on time-varying rates and encourage off-peak charging by customers on standard rates.

The opportunity to deliver customer and grid benefits by shaping charging load is growing quickly as both the population of EVs and the charging power levels of EVs increase[30]. Insights from this pilot will inform future decisions about the roles of managed charging programs, time-varying rates, and the designs thereof.

Building on the goals presented in Section 1.2, the proposed RMC Pilot will address the following learning objectives:

- Gauge customer interest in the passive and active approaches
- Understand how the effectiveness of each approach is influenced by customer rates
- Assess the incremental costs and benefits of these RMC approaches, relative to a baseline, business-as-usual scenario
- Gather feedback from participants regarding their experience with managed charging to understand their attitudes, preferences, and satisfaction levels related to RMC

4.1.1. Residential Managed Charging Pilot Design

The RMC Pilot will target EV customers who utilize L2 charging at home. The pilot will not incentivize the purchase or installation of new equipment.

As further explained below, the RMC Pilot will include both Passive Managed Charging and Active Managed Charging approaches. Evergy will rigorously evaluate each approach as part of a comprehensive evaluation, measurement, and verification ("EM&V") process.

Passive Managed Charging

PMC approaches rely on behavioral techniques to shift customer charging off-peak. From a utility perspective, passive approaches are attractive due to their low barrier to entry and low implementation costs. From a customer perspective, passive programs may be viewed more

[30] EPRI reports that since 2021, the median residential charging power level for battery electric vehicles has increased from 7 kW to 11 kW. For reference, residential air conditioner load is typically in the range of 4 kW.

favorably than active programs because passive programs allow EV drivers to retain control over all charging decisions.

Evergy's passive program will leverage disaggregated interval meter data ("AMI disaggregation") to detect EV charging and identify charging sessions. To maximize participation, this portion of the RMC Pilot will use an opt-out design that automatically enrolls the *known* population of eligible customers. This population will be aggregated from three customer groups. Specifically:

- Customers who previously participated in the Residential Customer EV Outlet Program.
- Customers identified through AMI data disaggregation analysis.
- Customers who self-identified in response to Evergy's continued EV education and awareness initiatives.

At the initiation of the RMC Pilot, this population will be randomly assigned to either the Passive Managed Charging group ("Passive Group") or to a Control Group. Subsequently, the Passive Group will begin receiving personalized communications (i.e., interventions) designed to shift their EV charging to off-peak periods.

Evergy's selected vendor will deliver the interventions by email. The new email series will leverage disaggregated AMI data to breakdown a customer's energy usage by appliance and allow customers to visually see what times of day they are charging their EV. This personalized charging data will be accompanied by messaging about good EV charging habits and reasons to charge off-peak. Customers who occasionally charge on-peak will be provided tips and motivational messages to encourage more off-peak charging. Additionally, Customers who are on a time-varying rate will receive additional information about the financial benefit of shifting EV charging off peak.

Customers enrolled in the passive program will not receive direct financial incentives. Those on time-varying rates, however, might realize bill savings by adjusting their charging patterns.

Active Managed Charging

Active management of EV charging is a highly targeted and predictable approach to influencing customer charging. The defining characteristic of the AMC approach is utility determination of the timing and power level of EV charging. Evergy's active program will make charging decisions based on supply cost minimization while avoiding unwanted bill impacts for participants on time-varying rates. Beyond this initial three-year pilot, Evergy plans to explore the use of AMC to minimize peaks at the local distribution grid level.

Customers who enroll in the active program will have their networked EVSE or EV telematics managed by Evergy via a linked Active Platform, similar to a home thermostat demand response program. Given that customers will depend on Evergy to ensure their vehicles have the necessary level of charge at the beginning of each driving day, customers will receive incentives for both program enrollment and ongoing participation.

The active program will be open to all customers with a qualifying EVSE or EV, which will include many members of the Passive Group. To support the RMC Pilot's measurement approach described in Section 4.1.3, a randomly selected portion of the customers in the Passive Group will receive encouragement to join the AMC group ("Active Group"). Some of the encouraged customers will opt into the Active Group; other customers will not and will choose to

remain in the Passive Group. Through word-of-mouth or secondary marketing channels, other eligible customers may also learn about and opt into to the Active Group.

Customers who choose to opt into the Active Group will have the choice to do so with an eligible EV or EVSE. Within this context, "eligibility" primarily refers to functionality because utility management of charging is only supported by a select group of EVs and EVSEs currently on the market[31]. As part of the Active Group enrollment process, customers will authorize a connection between their EVSE or EV and the Active Platform, which enables communication and control. Customers will also provide information that allows Evergy to associate the customer with their Evergy account.

Once enrolled, Active Group participants will specify their daily requirements for vehicle state of charge and ready time (e.g., 80% charged by 6:00 A.M.). These requirements are must-meet constraints for the charging optimization algorithm. Charging optimization will vary based on the participant's rate type. For customers on time-varying rates, timing optimization will prioritize rate schedule over wholesale energy prices to avoid increases to customer bills. For standard rate customers, timing optimization will solely focus on wholesale energy prices.

Customers who enroll in the active program will receive an up-front financial incentive. This is necessary to offset each customer's enrollment effort and potential reluctance to allow Evergy to make charging decisions. Once enrolled, participants will have the opportunity to accrue participation incentives on a monthly basis. Incentive values and eligibility criteria are outlined in **Table 5**. Evergy may periodically adjust incentive values to ensure targeted participation levels and to maximize pilot learnings, while remaining within the approved budget.

TABLE 5. ACTIVE PROGRAM INCENTIVES

Incentive Type	Amount	Criteria
Enrollment	$50	• Qualified customer submits application, accepting terms and conditions that allow Evergy to schedule charging subject to customer requirements • Customer completes necessary steps to connect EVSE or EV to the Active Platform • Limit one per household
Participation	$10 monthly	• Customer charges at home at least once per month • Customer does not override Evergy charging schedule more than twice per month

4.1.2. Residential Managed Charging Pilot Budget

Table 6 provides the planned budgets for the RMC Pilot. Funding is allocated to each Evergy Kansas service territory based on its projected share of EV ownership.

[31] Evergy's technical partner has identified several EVSE and EV manufacturers that currently support the needed integration, and other manufacturers are expected to be added within the pilot timeframe.

TABLE 6. PROPOSED RESIDENTIAL MANAGED CHARGING PILOT BUDGET

Territory	PY 1	PY 2	PY 3	Total
Kansas Central	$635,000	$554,000	$488,000	$1,677,000
Kansas Metro	$1,198,000	$1,044,000	$921,000	$3,163,000

4.1.3. Evaluation of Pilot Benefits

The proposed budgets include a rigorous EM&V evaluation of the RMC Pilot costs and benefits. This evaluation will provide the foundation needed to identify, design and scale future approaches to maximize customer and grid benefits as EV adoption increases.

The EM&V evaluation will employ a hybrid approach that includes experimental design and recognized industry methods. The dual passive and active approaches, and their intersection with existing rates, require a relatively large participation group for effective EM&V. The timing for the RMC Pilot is ideal, as the current population plus expected expansion over the pilot term will deliver the required participation levels. This is illustrated in **Figure 10**, which shows the projected growth in participation of the key groups over pilot years one through three. Current EV ownership trends suggest that approximately 65% of participants will be in the Evergy Kansas Metro territory and 35% in the Kansas Central territory.

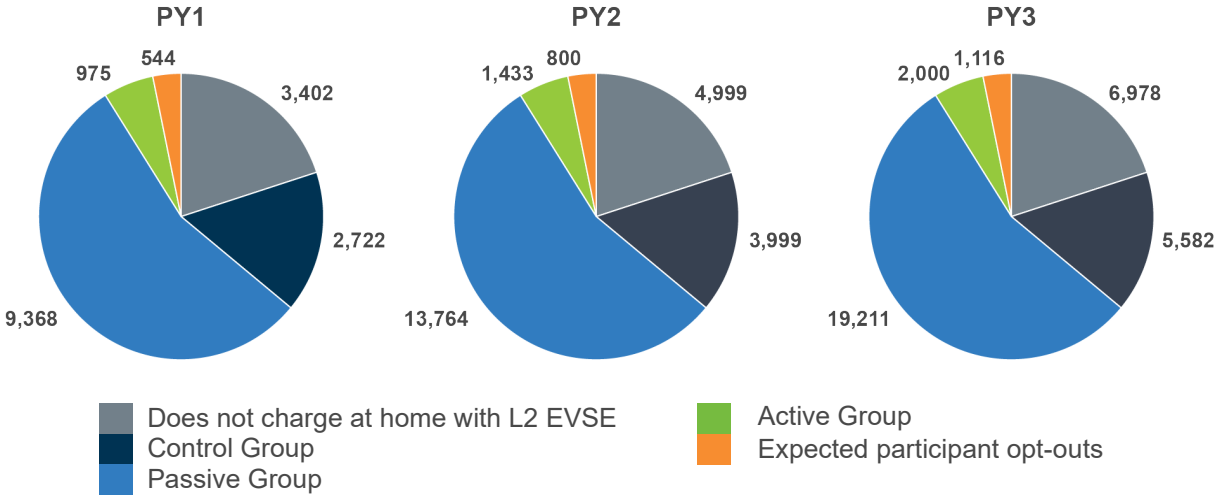


FIGURE 10. FORECAST MANAGED CHARGING PILOT PARTICIPATION, BY APPROACH

Evergy's RMC Pilot evaluator will use a randomized control trial ("RCT") experimental design along with regression analysis of AMI data to estimate the impact of the passive program on charging relative to a control group who does not receive the intervention.

For this evaluation, the Passive Group and Control Group will be determined as follows:

- Of Evergy's EV-owning customers, a subset does not charge at home using L2 (i.e., 240 VAC). These customers are not eligible for the RMC Pilot.
- Within the remaining eligible population, a subset (about 21%) will be designated as the Control Group and will not be automatically enrolled in the Passive Group.

- The remaining customers (about 80%) will be automatically enrolled in the Passive Group.

Understanding the different impacts of the passive and active programs requires use of another experimental method known as randomized encouragement design ("RED").

- Within the Passive Group, Evergy will encourage a subset (about 67%) to enroll in the active program ("Encouraged Group").
- A portion of encouraged customers will choose to enroll in the Active Group; those who do not enroll will remain in the Passive Group.
- The participants not encouraged will serve as an Active Control Group.

A graphical depiction of the above framework is provided in **Figure 11**.

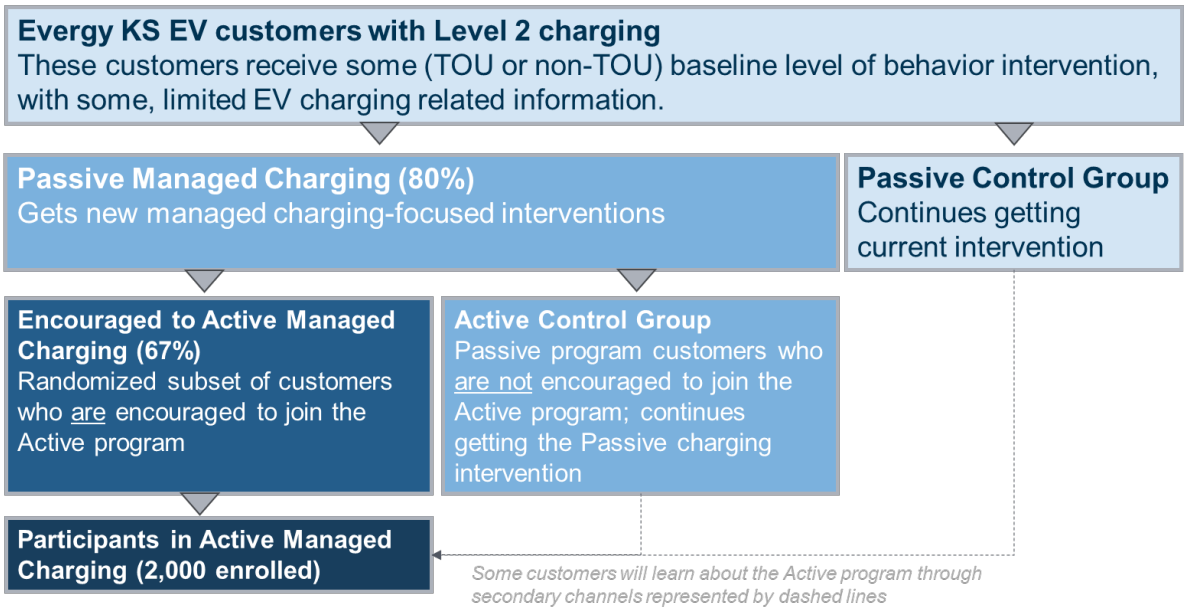


FIGURE 11. RMC PILOT EVALUATION FRAMEWORK

The evaluator will estimate the impact of offering the active program during different time periods through a comparison of the Active Group and the Encouraged Control Group using regression analysis of AMI data.

Although the RCT and RED approaches are the most rigorous methods available for measuring impact of the proposed RMC Pilot design, they do not yield a specific estimate of the active program's impact on participant charging behaviors. To understand the active program's impact, the RMC Pilot will collect baseline charging data for Active Group participants before scheduled charging is implemented. This will allow Evergy's evaluator to also compare post-intervention (actively managed) charging data to the baseline to determine the average increase/decrease in different time periods. While this approach is not as definitive as the other methods in determining causality, it is consistent with best practices to determine causality and elicit a characterization of the benefits and future opportunities of AMC.

Additional learning objectives of the RMC Pilot focus on customer experience. Evergy's evaluator will collect participant feedback through three online surveys conducted over the

course of the RMC Pilot: one at the outset, another at the midpoint, and a final survey at the conclusion. Distinct survey instruments will be developed for Passive Group and Active Group participants. These instruments will include questions common to both interventions and unique questions corresponding to the different attributes of each intervention.

Another survey will be deployed to non-participants to understand the potential applicability of RMC Pilot learnings to future EV owners. The evaluator will also conduct final interviews with a sample of participants at the conclusion of the RMC Pilot to gain deeper insights on their experiences. Survey and interview results will be coded and analyzed to produce quantitative results where feasible, and additional qualitative findings will also be reported.

4.2. Fleet Advisory Services Program

Evergy has witnessed a steady increase in fleet inquiries under the existing charging rebate program (**Figure 12**). Many fleets are actively preparing for EV adoption, pursuing grants or EV charging installations. While the existing TE program includes charging infrastructure incentives, time-varying rates, and some education, fleets have broader needs. Moreover, as examined in Section 3.3.2, the potential load impacts of fleets are significant and merit additional attention and resources beyond the existing TE program.

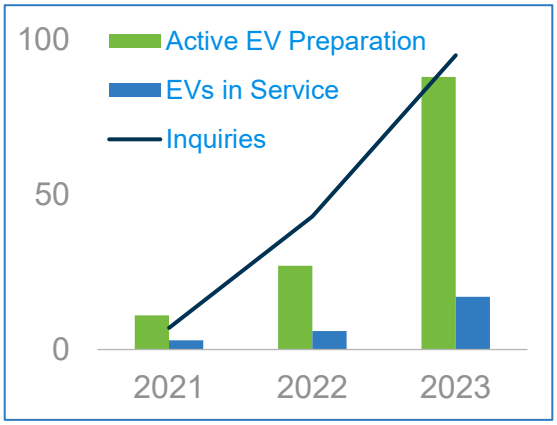


FIGURE 12. CUMULATIVE INTEREST FROM FLEETS IN KANSAS TERRITORY

During the FAS Program design process, Evergy examined how other utilities are addressing the complex needs of fleet electrification customers. In addition, Evergy conducted a survey of ten local organizations that identified the services most needed by fleets operating in Evergy's Kansas territory. The complete results of the survey are included as Appendix D, Fleet Customer Survey.

Survey feedback informed Evergy's development of the following program objectives:

1. Enable informed fleet management choices by providing a better understanding of charging and capacity needs
2. Facilitate grid-friendly EV transition planning for fleet operators
3. Serve as a trusted energy advisor for TE

Fleets are incredibly diverse, from large national operators with well-defined electrification plans to small and local operators with the will but little internal capacity. Evergy's survey respondents included both public and private sector fleets ranging from fewer than 20 vehicles to more than 200 vehicles of all size classes. Across this diverse range of operational scale and complexity, Evergy has found that many fleets share the following barriers to grid-friendly electrification:

A. Resource Expertise: Many customers lack the internal expertise required for effectively implementing grid-friendly electrification. Fleet electrification is intricate and demands multiple layers of cross-stakeholder collaboration to address operational, infrastructure,

and procurement considerations. This necessitates seamless cooperation with utility, vehicle providers, and EVSE providers.

B. Charging & Capacity Requirements: Customers face challenges in understanding their charging and electrical capacity needs. They need expert guidance to facilitate discussions on charging, capacity planning, load management, and developing Charge Management Plans tailored to their unique operational requirements.
C. Planning & Design Assistance: Customers find it challenging to receive support in accurately sizing chargers and project design, especially when information originates from multiple sources beyond the utility. Further, understanding the total project costs, including those for both the utility and the customer, can be challenging. Electrical contractors are oftentimes not consulted or hired until grant funding is received or construction budgets are approved, resulting in a significant gap that a utility FAS Program can effectively fill.

Considering these barriers and the solutions implemented by other utilities, Evergy developed a three-tiered conceptual service offering. This concept was presented to customers in the survey. All surveyed customers were supportive of a tiered services structure that would meet fleets where they are in terms of internal capacity and progress toward electrification. This approach also serves to align program resources with customer needs to deliver the most impact.

4.2.1. Level 1: Introductory Fleet Assessment

This first service level will cater to customers who are new to fleet electrification and need a foundational understanding of the process. Utilizing Evergy's existing online fleet calculator, Evergy will provide customers a high-level analysis of their fleet, including an assessment of which vehicles are suitable for electrification, rate education, potential cost savings, and environmental benefits. Customers will receive basic education about how the time and speed of charging impact operating costs. This will enable customers to evaluate the feasibility of fleet electrification and determine if they require the more comprehensive support offered in Levels 2 and 3.

4.2.2. Level 2: Enhanced Fleet Electrification Planning

Evergy will provide additional planning support to customers who have made a commitment to electrify. This will build on the support provided to the customers in Level 1.

Level 2 includes a customized TCO and high-level site assessment, which includes items such as incorporating vehicle usage patterns, initial purchase prices, energy, maintenance, and repair costs, resale value, operating costs, and infrastructure requirements. This data will be used to develop an optimized vehicle replacement schedule and charging plan that minimizes both participant and utility cost impacts over time.

In addition, to ensure a strategic, grid-friendly, and efficient transition to an electrified fleet, Evergy's experts will work closely with the customer to develop a personalized charging and implementation plan. This plan will meet the customer's unique needs and requirements while ensuring a strategic, grid-friendly, and efficient transition to an electrified fleet.

4.2.3. Level 3: Comprehensive Fleet Electrification Assessment

For customers who require more comprehensive advisory solutions, Evergy will offer a third service level. This solution extends beyond the services offered in Levels 1 and 2, incorporating

conceptual infrastructure site designs and associated preliminary construction cost estimates, ensuring that a holistic approach to the electrification process is supported.

Level 3 supports an integrated and collaborative approach between customers and Evergy, providing a more comprehensive level of planning and design pertaining to project-specific infrastructure and costing considerations. Specific focus will be given to solutions that minimize the need for grid infrastructure upgrades.

4.2.4. Program Eligibility

Any Evergy customer with fleet vehicles will be allowed to participate in the program. Evergy will provide focused outreach to public agencies (e.g., schools and transit agencies), as well as to small and medium business fleets, especially those in disadvantaged communities, to support awareness of the program and ensure an opportunity to participate.

4.2.5. Program Budget

Table 7 provides the planned budgets for the FAS Program.

TABLE 7. PROPOSED FLEET ADVISORY SERVICES PROGRAM BUDGET

Territory	PY 1	PY 2	PY 3	PY 4	PY 5	Total
Kansas Central	$98,000	$137,000	$240,000	$226,000	$71,000	**$772,000**
Kansas Metro	$163,000	$154,000	$263,000	$230,000	$108,000	**$918,000**

4.2.6. Program Impact

Evergy expects to serve 60 fleets over the five-year FAS Program term. The assumed distribution of fleets by vehicle class and size is based on the market scan, with adjustment to accommodate the lower technology readiness of heavy-duty vehicles.

Vehicle impacts will be realized over a period of fleet transition. Allowing for the program timeframe and typical vehicle replacement timelines, this transition is assumed to occur during the period of 2025 to 2035. The projected influence of 577 EV deployments in the Kansas Central and 1,140 EV deployments in the Kansas Metro areas are shown in **Figure 13** and **Figure 14**. While a similar number of fleets are expected in each territory, Kansas Metro area fleets are, on average, larger which leads to the higher expected vehicle influence.

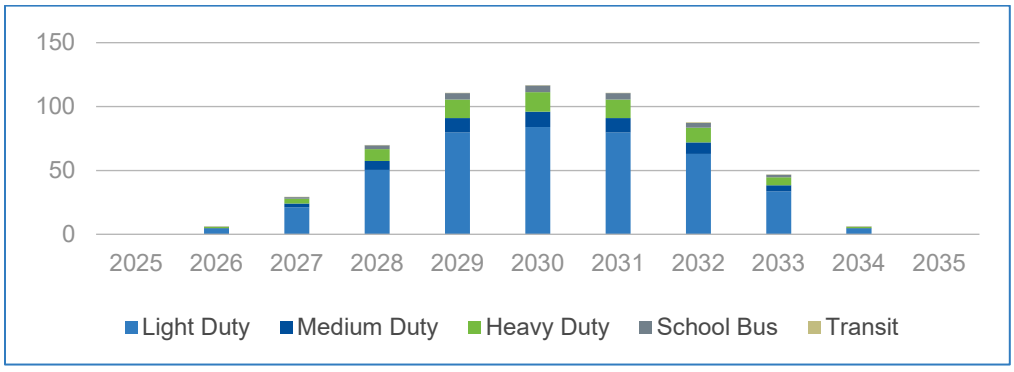


FIGURE 13. INFLUENCED FLEET EV DEPLOYMENTS - KANSAS CENTRAL

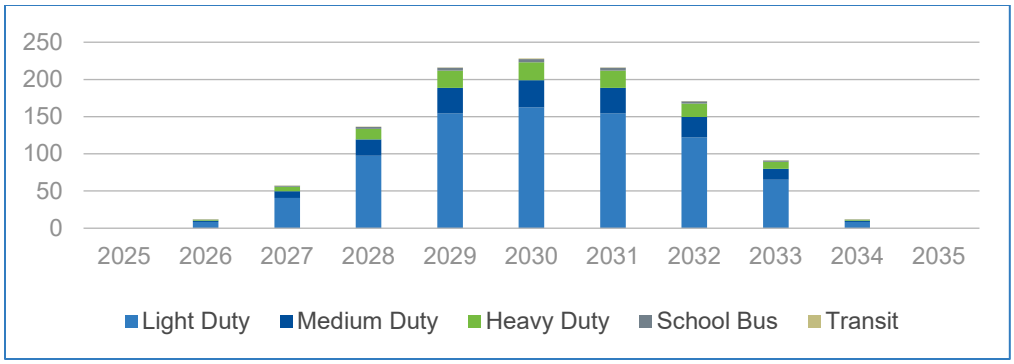


FIGURE 14. INFLUENCED FLEET EV DEPLOYMENTS - KANSAS METRO

The FAS Program's economic benefits derive from the development and implementation of optimized Charge Management Plans that meet fleet customer needs while minimizing capacity upgrades and energy supply costs. In the baseline scenario (i.e., no FAS Program), fleets electrify with little insight on the associated infrastructure and operating costs. With the FAS Program, charging load is optimized in terms of both site demand and timing (i.e., off-peak charging).

The FAS Program benefits all Evergy customers through the delivery of optimized Charge Management Plans that minimize costs on both sides of the utility meter. **Table 8** provides the results of Evergy's cost effectiveness evaluation.

TABLE 8. FORECAST FLEET ADVISORY SERVICES PROGRAM COST EFFECTIVENESS

Territory	Customer	Societal	Participant
Kansas Central	1.03	35.1	535
Kansas Metro	1.29	53.2	1,120

The ratepayer cost test is the only test with a borderline result. This occurs because all fleets are assumed to be on a time-varying rate in the baseline scenario, so their revenue contributions are significantly reduced by the optimized charging plans. Just the same, Evergy's analysis shows that with the included distribution infrastructure savings, the benefits exceed the costs. Additional discussion of the cost effectiveness analysis is provided in Appendix B.

There are additional benefits to the program that are difficult to quantify and not included in the cost effectiveness analysis. For example, a benefit to all levels of engagement will be the detail that Evergy receives about the scale and timing of customer's fleet electrification plans. These details will be captured by Evergy and used in system planning efforts.

4.2.7 Equity Considerations

Current electric vehicle sales and ownership trends indicate that EVs are concentrated primarily in higher income areas. High prices and lack of access to charging stations have historically positioned EVs in the market as a luxury item. A report by the National Renewable Energy Laboratory showed that in metropolitan areas across the country, access to EV infrastructure is consistently lower in low-income communities and communities of color.[32] Lack of affordability, limited access to EV infrastructure, and lack of awareness and education have hindered EV

[32] NREL (2022), EVI-Equity, https://www.nrel.gov/docs/fy22osti/82910.pdf

adoption in low-to-moderate income (LMI) and rural areas. Evergy's existing EV charging programs include a priority on deploying charging infrastructure in underserved communities. The emergence of a used EV market and expanded charging infrastructure network will also make EVs accessible to a wider audience.

EV adoption can benefit all customers through improved environmental quality and downward rate pressure. In particular, electrification of fleets operating in urban areas and serving customers such as school districts provide benefits that extend beyond the communities with traditionally greater EV adoption. This approach aligns with the goals of the federal Justice40 Initiative, focused on supporting investments that can benefit disadvantaged communities in areas including clean transit and pollution reduction. Reduced exposure to tailpipe emissions will benefit drivers, riders, and the communities that the vehicles transit.

The improved access to EVs and reduced emission exposure are important but difficult to quantify benefits that are not included in the cost effectiveness evaluation. Yet the central focus of that evaluation, providing grid benefits, also provides an equity benefit, returning some of the accrued value of EV adoption to all ratepayers. The extent of downward rate pressure exerted by EV adoption will depend on how and when fleets and residential customers charge their vehicles. The next phase of Evergy's transportation programs is designed to secure this broader customer rate benefit by ensuring that as much charging as possible is performed off-peak.

5. Regulatory

Evergy proposes to administer the RMC Pilot over a three-year period beginning in 2025 and ending in 2028.

Due to the longer timelines associated with fleet electrification, Evergy proposes to administer the FAS Program over a five-year period beginning in 2025 and concluding in 2030.

Following Commission approval, both programs will require a ramp-up period to establish key processes, strategies, and operating protocols prior to launch. The FAS and RMC ramp-up periods are expected to be three and six months, respectively.

5.1. Reporting

Evergy proposes to follow a reporting structure similar to the 2021 Filing and 2021 Settlement Agreement.[33]

Annual Report

Evergy will prepare and submit an Annual Report inclusive of both programs to the Commission on April 30 for the previous calendar year for each jurisdiction. The annual report will include:

- Summary of marketing and outreach activities completed
- Number of customers participating
- Estimated EV charging load (kW) of participants
    - RMC will be the actual load of participants at the time of reporting
    - FAS will be the projected load of influenced, future fleet EV charging
- Budget expenditure

Evaluation

Evergy will complete a rigorous third-party evaluation, measurement, and verification process of the RMC Pilot. This activity will ensure that Evergy gleans all pertinent learnings from the RMC Pilot, as detailed in Section 4.1.

Given the limited scale of the FAS Program, Evergy does not plan to complete a full impact and process evaluation. Instead, Evergy's evaluator will focus on collecting and analyzing participant feedback, including but not limited to information on the degree to which the FAS Program influences each participant's charge management plan.

Evaluation activities will be completed and filed with the Commission within six months of each program's conclusion.

5.2. Cost Recovery

Evergy proposes to record the program costs for the RMC Pilot and the FAS Program to the existing regulatory asset created in response to the approved 2021 Settlement Agreement.

[33] Evergy (2021), Motion to Approve Non-Unanimous Partial Settlement Agreement, filed in Docket No. 21-EKME-320-TAR, July 29, 2021.

Program expenses will be recovered through subsequent general rate case(s) through amortization over a period of five years.

Appendices

A. Detailed Program Descriptions

Residential Managed Charging Pilot	
Objective	The primary goals of the RMC Pilot are to: • Encourage residential customers to charge their EVs at home during off-peak periods • Gather information about customer preferences related to managed charging • Quantify the load shaping impacts and costs of different approaches (passive vs. active) on different customer groups These pilot learnings will inform Evergy's future decisions about the role and application of RMC to minimize the cost of serving EVs.
Target Market	Residential customers in Evergy's Kansas service area who own or lease an EV and charge at home utilizing L2 charging.
Program Duration	Three (3) years
Description & Eligibility	The passive program is open to customers who own or lease an EV and charge at home utilizing Level 2 charging. To participate in the active program, customers must have a qualifying EV or EVSE and charge at home at least once per month. To receive ongoing participation incentives, the customer must not override Evergy's charging schedule more than twice per month. One EV or EVSE per household can enroll in the active program.
Implementation Strategy	The passive program will leverage AMI disaggregation to create new customer communications that increase customer awareness of current charging habits, provide guidance about good EV charging habits, and include motivational messaging related to charging off-peak. The active program will leverage a platform that allows the utility to initiate charging via access to the EV or EVSE. Charging will be managed to minimize energy costs, avoid bill increases (for customers on time-varying rates), and

	conform with customer-defined state of charge requirements.
Risk Management	Disaggregated AMI data will be used to identify residences that include an EV, estimate EV charging times, and estimate EV charging power levels Active program participants will authorize their vehicle or EVSE to automatically share charging data and allow Evergy to remotely initiate charging.
Measures & Incentives	Customers enrolled in the passive program will not receive financial incentives. Customers enrolled in the active program will receive an up-front incentive of $50 and will be eligible for an ongoing participation incentive of $10 monthly (see eligibility criteria above).
Estimated Participation	Passive Program: Approximately 21,000 customers Active Program: Approximately 2,000 customers
Estimated Budget	$1.68M (EKM) + $3.16M (EKC) = $4.84M (Total, 3yr Pilot)

Fleet Advisory Services Program	
Objective	The FAS Program aims to achieve the following goals: • Enable informed fleet management choices by providing a better understanding of charging and capacity needs • Facilitate grid-friendly EV transition planning for fleet operators • Serve as a trusted energy advisor for TE
Target Market	All EV fleets in Evergy's Kansas service area, with focus on schools, transit agencies, and small/medium businesses.
Program Duration	Five (5) years
Description & Eligibility	The FAS Program supports fleet customer electrification by providing technical assistance to reduce the need for grid upgrades, lower implementation costs, create a Charge Management Plan and minimize customer operating expenses. By reducing the costs to serve fleet electrification, this program ultimately benefits all Evergy customers. Any Evergy customer with fleet vehicles may participate in the program.
Implementation Strategy	Evergy will provide different forms of technical assistance depending on the participation level (see below for further details). Forms of assistance may include use of Evergy's online fleet calculator; development of a customized TCO and high-level site assessment; and providing comprehensive planning and project design.
Risk Management	The FAS Program's tiered approach will ensure that Evergy meets customers where they are in their electrification journey and allocates resources to create the most impact.
Measures & Services Provided	Three tiers of assistance are offered to customers: • Level 1: Introductory Fleet Assessment • Level 2: Enhanced Fleet Electrification Planning • Level 3: Comprehensive Fleet Electrification Assessment The FAS Program will be provided at no cost to participants.

Estimated Participation	33 assessments in the Kansas Central territory, and 27 assessments in the Kansas Metro territory during the five-year program period. The proportion of Level 1, 2, and 3 assessments delivered will be balanced to best satisfy by fleet needs, while remaining within the proposed budget.
Estimated Budget	$0.77M (EKM) + $0.92M (EKC) = $1.69M (Total, 5yr Program)

Appendices

B. FAS Program Cost Effectiveness Evaluation

A cost effectiveness assessment of the proposed FAS Program was prepared that follows the framework defined in California's 2016 Demand Response Cost Effectiveness Protocols.

The values applicable to the FAS Program and associated treatment as benefits and costs in the relevant cost tests are summarized in **Table 9**.

TABLE 9. FAS PROGRAM BENEFITS AND COSTS

Values	Cost Tests		
	Customer	**Societal**	**Participant**
Program delivery costs	COST	COST	
Technical assistance costs	COST	COST	
Avoided costs of electricity supply	BENEFIT	BENEFIT	
Participant bill reductions			BENEFIT
Capital costs to Evergy	COST	COST	
Capital costs to participant		COST	COST
Non-energy benefits		BENEFIT	
Revenue lost from reduced sales	COST		
Transaction costs to participant		COST	COST

The cost effectiveness assessment is principally focused on forecasting the FAS Program's impact relative to a baseline scenario where no program exists.

FAS Program impact was first estimated in terms of the change in hourly charging loads. After estimating how the hourly charging load would differ with and without the FAS Program, the associated financial impact was estimated. This estimate considered avoided costs of electricity supply, avoided capital costs for both participants and Evergy, and customer rates.

Once determined, the financial impact of the FAS Program was discounted to present value terms using the following discount rates:

Customer: 7%
Societal: 3%
Participant: 10%

Methodology

The remainder of this appendix details the approaches used to forecast and value program impact, followed by the assessment results.

Program Delivery Costs

Program delivery costs are the combined costs to Evergy of managing the program, securing customer participation through marketing and outreach, and other implementation expenses such as local travel and material. These program delivery costs are modelled as fixed annual costs, increasing with an assumed 3% inflation annually. Marketing and outreach costs

terminate in Year 4 of the program, under the assumption that Year 5 (i.e., the final year) is focused on finalizing delivery to customers already enrolled. These fixed costs are allocated to each territory based on the projection of vehicles impacted in each territory.

Technical Assistance Costs

Technical assistance costs are those associated with directly delivering one or more of the three levels of the FAS Program to individual fleets. These are allocated to each territory based on the projected fleets participating in each territory.

Avoided Costs of Electricity Supply

The estimate of electricity supply and capital costs begins with the projection of FAS Program participation by fleet type.

As discussed in the body of the report, CLEAResult's approach to estimating program participation combined EPRI projections of vehicle electrification with a fleet market assessment to forecast the number of fleets, by type, that would be in process of electrifying during the program timeframe. Considering the strong interest expressed by surveyed customers (see Appendix D, Fleet Customer Survey), just under half of fleets are modeled to participate (46%). This estimate of participating fleets was then converted to a specific number of fleet vehicles using the assumption that, on average, participating fleets act to electrify 5% of their vehicles. This is a conservative estimate, as ultimate fleet vehicle conversion rates are expected to be higher.

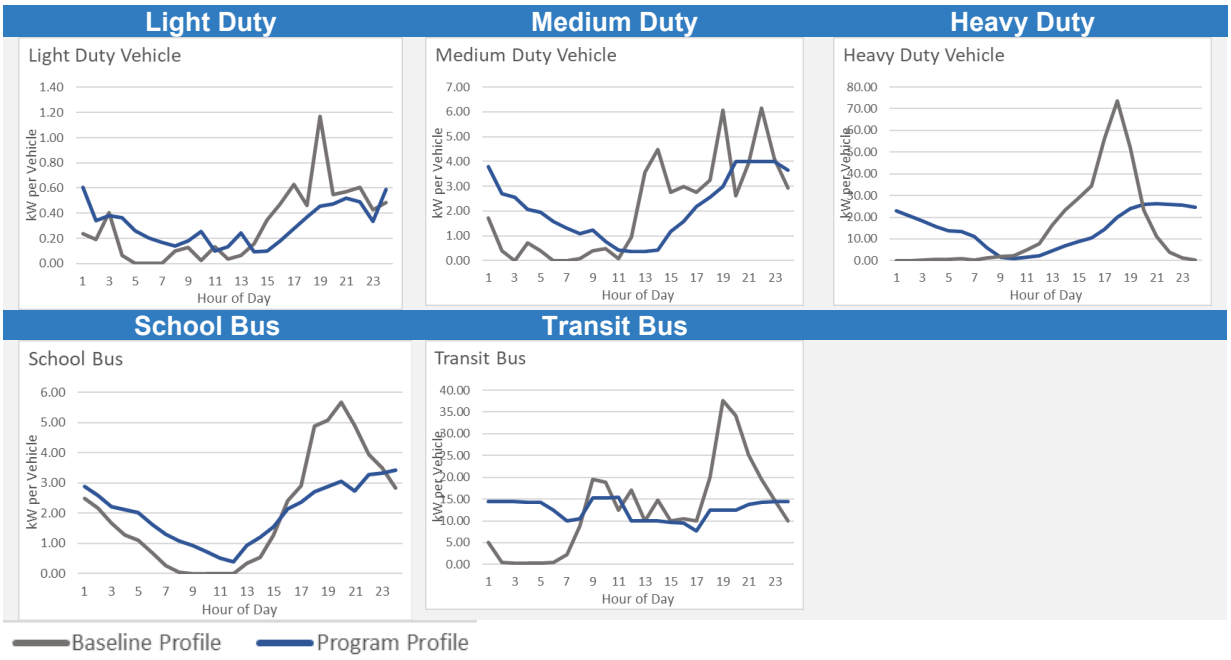
The forecast of vehicle deployments influenced by territory and fleet type are shown in **Table 10**. These represent the year of participation, with EV deployments assumed to be equally distributed over the five years following participation. While a similar number of fleets are expected to participate in each territory, fleets in Kansas Metro are larger, on average, leading to nearly twice as many vehicles influenced.

TABLE 10. FORECAST VEHICLES INFLUENCED BY TYPE

	Fleet Type	2025	2026	2027	2028	2029
Kansas Central	Light Duty	21	83	147	147	21
	Medium Duty	3	12	21	21	3
	Heavy Duty	4	15	27	27	4
	School Bus	1	5	9	9	1
	Transit Bus	0	0	1	1	0
Kansas Metro	Light Duty	42	161	284	284	42
	Medium Duty	9	36	64	64	9
	Heavy Duty	6	24	42	42	6
	School Bus	1	4	7	7	1
	Transit Bus	0	1	1	1	0

Next, each type of fleet vehicle was assigned a baseline load shape (i.e., no FAS Program) and a more grid-friendly program load shape. The load profiles assigned to baseline and program participation are shown in **Table 11**.

TABLE 11. BASELINE AND PROGRAM INFLUENCED LOAD PROFILES, BY FLEET TYPE



The key sources of fleet load shape data were:

- International Energy Agency. (n.d.). Electric Vehicle Charging and Grid Integration Tool. Retrieved from: https://www.iea.org/data-and-statistics/data-tools/electric-vehicle-charging-and-grid-integration-tool
- Borlaug, B., Muratori, M., Gilleran, M., Woody, D., Muston, W., Canada, T., ... & McQueen, C. (2021). Heavy-duty truck electrification and the impacts of depot charging on electricity distribution systems. Nature Energy, 6(6), 673-682. Data retrieved from: https://data.nrel.gov/submissions/162
- Farley, R., Vervair, M., & Czerniak, J. (2019). Electric vehicle supply equipment pilot final report. Washington Utilities Transp. Commission (UTC), Tech. Rep. Data retrieved from: https://www.nwcouncil.org/2021powerplan_plug-electric-load-profiles/#_ftn1

While there is substantial evidence indicating fleets are not optimizing their charging plans without program assistance, the limited number of fleet EV deployments and associated data to date mean there is significant uncertainty in the load shapes. Therefore, the FAS Program will collect information about baseline fleet charging plans and the charging plans that result after program intervention to validate these assumptions.

Each program-influenced EV was assumed to operate for seven years after deployment. Accordingly, the final EVs influenced by the program are deployed five years after the final program year and removed from service six years later. This results in the profiles of program-influenced EVs in operation shown in **Figure 15** and **Figure 16**.

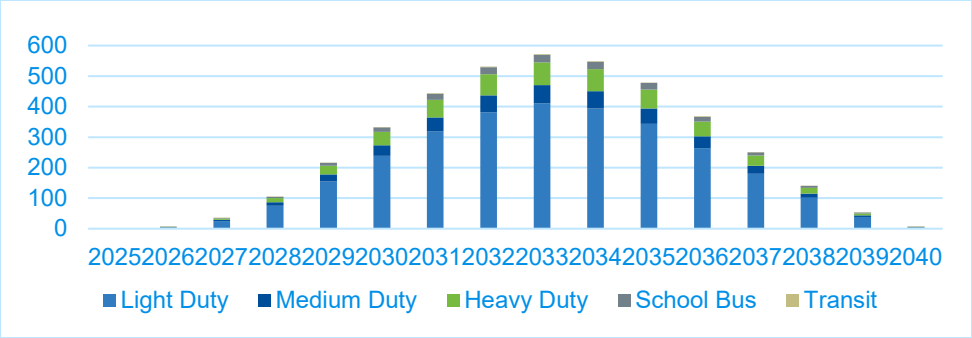


FIGURE 15. PROGRAM INFLUENCED VEHICLES IN OPERATION, KANSAS CENTRAL

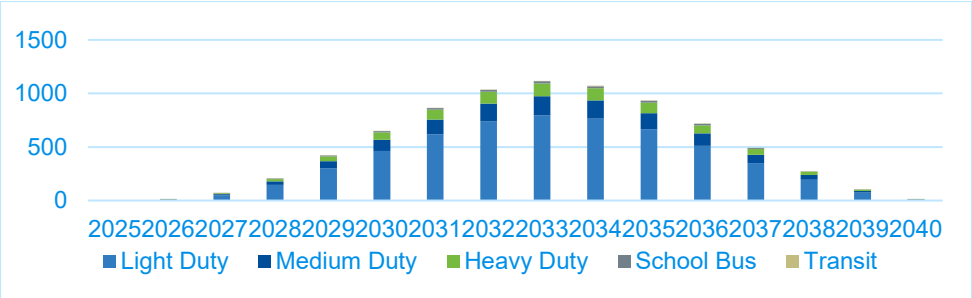


FIGURE 16. PROGRAM INFLUENCED VEHICLES IN OPERATION, KANSAS METRO

The hourly cost of electricity supply was estimated using the annual energy cost forecast ($/kWh) from Evergy's KEEIA 2023 filing, adjusted by hourly locational marginal price data from the Southwest Power Pool. This resulted in a full year of hourly-varying costs that escalate throughout the period of vehicle operations at a 6.6% annual growth rate. The avoided cost of electricity supply is then the difference in the hourly charging cost using the program charging load profile and the hourly charging cost using the baseline charging load profile.

Participant Bill Reductions

Participants are assumed to be on Evergy's BEVCS rate in both the baseline and program scenarios. Similar to the avoided cost of electricity supply, the participant bill reduction derives from the difference in hourly charging load profiles. Here, each program load profile features a lower peak power (kW) than the baseline profile, which leads to a lower Facility Charge in the BECVS rate. The program profiles also place more charging energy (kWh) in Off-Peak and Super Off-Peak periods, leading to additional participant savings.

Since it is a realistic scenario, a sensitivity analysis was performed to determine how the cost effectiveness result would change if participants were assumed to initially be on the Medium General Service rate (i.e., baseline) but were then switched to the BEVCS rate due to their participation in the program. Although this change causes the participant cost test to have a more favorable result, it has minimal impact on the other cost tests. This is the expected result given that Evergy designed the BEVCS rate to have a neutral impact on other customers.

Capital Costs to Evergy

Capital costs to Evergy have two important components: 1) System costs, comprised of costs related to generation, transmission, and distribution, and 2) Highly localized distribution costs resulting from the need to upgrade circuits that would be overloaded by fleet electrification.

System costs were estimated based on the aggregate change in peak charging load from comparing the baseline and program scenarios. Peak savings vary by year with the number of vehicles in operation. Each territory is forecast to realize a maximum, aggregate peak savings reduction in 2033. In Kansas Central, the reduction is estimated to be 4.2 MW, and in Kansas Metro it is estimated to be 6.7 MW. To estimate annual benefits, the cost effectiveness model combines the peak reduction in each year with the territory-specific avoided capacity costs used in Evergy's KEEIA 2023 filing[34].

Localized distribution costs are reduced by minimizing the need to upgrade distribution circuits. This can be achieved by the program through charging plans that either stagger the charging of vehicles or spread the charging over time using lower-powered chargers or automated load management systems. The benefit of program-influenced, optimized charging plans was modeled through the following steps:

1. Electrifying fleets were randomly assigned to fleet locations in Evergy territory
2. Each location was then linked to the nearest distribution circuit
3. A baseline scenario was created by adding the baseline charging peak load to the existing peak load on the distribution circuit
4. A program scenario was created by adding the program charging peak load to the existing peak load
5. The resulting load on each circuit in each scenario was compared to the maximum capacity of the circuit
6. The cost of upgrading overloaded circuits was estimated based on unit construction cost estimates provided by Evergy
7. The difference between the costs of upgrading circuits in the program scenario versus the baseline scenario is the avoided distribution cost

To determine a realistic average cost for the entire territory, the above process was repeated 100 times, with a different randomized fleet location assignment in the first step. The total avoided distribution cost was then divided by the number of EVs to arrive at an average distribution cost avoided per vehicle. Because there were a limited number of vehicles in the larger vehicle classes, only one value was produced for heavy duty, school bus and transit vehicles.

The capital costs to Evergy, and therefore customers, are reduced by contributions to the construction cost paid by the project beneficiary. In this case, fleet customers are assumed to pay a contribution in aid of construction, averaging $32/kW, which offsets a portion of the cost borne by the entire customer rate group. Customers' contributions are not reflective of overall distribution upgrade costs, as they typically focus on the portion of the system that serves only that customer, such as a line extension or customer-sited transformer.

[34] KEEIA Docket EKME-254-TAR, September 2023

The total distribution cost savings is estimated as the cost per vehicle multiplied by the number of vehicles influenced by the program. This cost savings is applied to the year of participation, assuming that is when the customer initiates the charging project to serve all program-influenced vehicles.

The results of this analysis are summarized in **Table 12**.

TABLE 12. AVOIDED DISTRIBUTION UPGRADE COSTS, PER VEHICLE

Scenario	Costs	Light-Duty	Medium-Duty	Heavy-Duty	School Bus	Transit
Baseline	Distribution Cost	$2,334	$5,750	$10,586	$10,586	$10,586
	Customer Contribution	$246	$1,600	$6,400	$1,120	$8,000
Program	Distribution Cost	$353	$1,917	$3,529	$3,529	$3,529
	Customer Contribution	$39	$256	$1,670	$219	$990
Net Savings to Evergy Customers		**$1,774**	**$2,489**	**$2,327**	**$6,156**	**$48**

Capital Costs to Participant

Capital costs to participants are expected to be reduced by the same strategies that reduce distribution costs. Namely, staggering vehicle charging with either fewer chargers or with a greater number of chargers operating at reduced power. These strategies can yield savings on the charging hardware itself, as well as on the make-ready infrastructure (see Definitions), such as conductors, panels, transformers, etc.

CLEAResult maintains a database of completed EV charging projects sourced from commercial EV charging programs across the country. The database includes several hundred L2 and direct current fast charging projects. Based on this database, average project costs amount to $575/kW for charging hardware and $686/kW for make-ready infrastructure.

For the program scenario, participants are assumed to install two times the minimum capacity suggested by the program load curves. For example, a customer who requires just 3 kW to meet a fleet vehicle's daily charging needs would install a 6 kW charger. The baseline scenario assumes a single charging unit of specified, standard charger capacity for each deployed vehicle. These charging capacities are shown in **Table 13**. The costs for each scenario are then calculated as the product of the equipment capacity and the average project costs.

TABLE 13. AVOIDED PARTICIPANT CHARGING INFRASTRUCTURE COSTS, PER VEHICLE

Scenario	Costs	Light-Duty	Medium-Duty	Heavy-Duty	School Bus	Transit
Baseline	Charging Capacity (kW)	1.2	8.0	52.2	6.8	30.9
	Estimated Cost	$9,714	$63,075	$252,300	$44,153	$315,375
Program	Charging Capacity (kW)	7.7	50	200	35	250
	Estimated Cost	$1,535	$10,092	$65,831	$8,640	$39,042
Net Savings to Participant		$8,178	$52,983	$186,649	$35,512	$276,333

The difference between the scenario costs is the savings per vehicle attributable to the FAS Program. This savings is multiplied by the number of vehicles influenced by the program to yield the total program benefits. Again, this cost savings is applied to the year of participation, assuming that is when the customer initiates the charging project to serve all program-influenced vehicles.

Non-energy Benefits

The only non-energy benefit included in the program benefits is the reduction of CO_2 emissions that occurs due to the increase in off-peak charging. To estimate this benefit, CLEAResult first estimated the fossil fuel fired generation share of electricity generation for each hour in the year, using data from the Southwest Power Pool on the contribution from each generator type (coal, natural gas, nuclear, wind, etc.). These ratios are shown in **Figure 17**, with red indicating a greater fossil fuel share and green a greater non-fossil fuel (i.e., nuclear or renewable) share.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.46866	0.41383	0.36893	0.31846	0.42335	0.55081	0.53341	0.54844	0.45232	0.37512	0.43418	0.42394
2	0.46296	0.41421	0.37013	0.31748	0.42627	0.53738	0.53222	0.54344	0.45327	0.37593	0.43053	0.42253
3	0.46340	0.41396	0.37822	0.31656	0.43975	0.53380	0.53103	0.54203	0.46327	0.38028	0.43746	0.42769
4	0.46401	0.41863	0.39252	0.31894	0.45583	0.54285	0.53121	0.54766	0.47384	0.38517	0.44470	0.43311
5	0.47450	0.42581	0.40990	0.33117	0.48627	0.56396	0.53572	0.56341	0.48976	0.39789	0.45362	0.44242
6	0.48768	0.43764	0.42486	0.34316	0.50552	0.57910	0.54667	0.58785	0.50487	0.41487	0.46771	0.45598
7	0.49741	0.44502	0.44288	0.35467	0.53479	0.61234	0.57747	0.60902	0.52336	0.43017	0.48150	0.46660
8	0.51622	0.45848	0.45668	0.37733	0.59025	0.67309	0.63999	0.66249	0.54986	0.44198	0.49236	0.48318
9	0.52406	0.46320	0.47293	0.40727	0.61950	0.70405	0.68893	0.72155	0.61156	0.48395	0.50232	0.48831
10	0.54400	0.48197	0.47651	0.40430	0.62371	0.71807	0.71489	0.74066	0.64366	0.50873	0.54250	0.50550
11	0.57316	0.49641	0.47552	0.40588	0.62472	0.72824	0.73701	0.75018	0.65628	0.50877	0.55945	0.53236
12	0.58405	0.48765	0.47672	0.41329	0.62415	0.73140	0.74993	0.75979	0.67207	0.50947	0.55332	0.54236
13	0.58395	0.47119	0.47817	0.42069	0.62021	0.73270	0.75653	0.76884	0.68835	0.50991	0.54056	0.54240
14	0.57973	0.45475	0.47564	0.41867	0.61562	0.73338	0.75984	0.77139	0.69595	0.50792	0.52667	0.53530
15	0.57812	0.44108	0.46924	0.41544	0.60926	0.73191	0.76239	0.77104	0.69754	0.50264	0.50911	0.53031
16	0.57248	0.43048	0.46064	0.41613	0.60327	0.72845	0.76149	0.76766	0.69614	0.50050	0.50568	0.52918
17	0.57440	0.43315	0.44855	0.41593	0.59315	0.72398	0.75542	0.76203	0.69415	0.50084	0.51829	0.53874
18	0.57896	0.44444	0.44503	0.41945	0.58587	0.72165	0.74589	0.75743	0.68450	0.51536	0.52409	0.54098
19	0.55741	0.46747	0.45557	0.42143	0.56914	0.71858	0.73313	0.75255	0.66844	0.49411	0.49911	0.51231
20	0.52986	0.45054	0.44561	0.42240	0.55169	0.71362	0.70671	0.72098	0.61315	0.46462	0.46662	0.48528
21	0.51372	0.43789	0.41876	0.39375	0.51411	0.68510	0.66153	0.66693	0.55648	0.43252	0.45259	0.46527
22	0.49861	0.42838	0.40271	0.36030	0.47301	0.65002	0.61278	0.62326	0.51573	0.41261	0.44802	0.45374
23	0.49571	0.42334	0.38605	0.34003	0.43894	0.60180	0.57240	0.58596	0.48493	0.39540	0.44281	0.44419
24	0.48598	0.41921	0.37363	0.32446	0.42785	0.57088	0.54671	0.56159	0.45991	0.38388	0.43456	0.43456

FIGURE 17. FOSSIL FUEL SHARE OF SPP ANNUAL ELECTRICITY GENERATION

CLEAResult derived an average CO_2 emission rate for Evergy's fleet of fossil fuel generators, which was 0.74 metric tons per MWh. Combining this with the fossil fuel ratio yielded an hourly emission rate. Emissions were then compared with the baseline load profiles and the program-influenced load profiles and found emission reductions of 2-12%, depending on the vehicle type. Combining the emission reduction with a value of $35 per metric ton of CO_2. yielded the estimated program benefits. These amount to less than 1% of the total estimated societal benefits.

Revenue Lost from Reduced Sales

Revenue lost from reduced sales is the same as participant bill reductions (similar to bill reductions seen with energy efficiency), reflected as a cost to Evergy customers.

Transaction Costs to Participant

Participants will have no direct financial cost of participation other than staff time. This is conservatively estimated to be $1,000 per participant, based on an assumed 20 hours and a burdened labor cost of $50 per hour.

Results

Table 14 and **Table 15** show the net present value of the full costs and benefits for each territory and the resulting cost effectiveness ratios for each test. Please see the 2016 Demand Response Cost Effectiveness Protocols for details on each test.[35]

TABLE 14. KANSAS CENTRAL FAS PROGRAM COST EFFECTIVENESS RESULTS

	Ratepayer		Societal		Participant	
Discount Rate	7%		3%		10%	
Program Delivery	COST	$59,596	COST	$65,496		n/a
Technical Assistance	COST	$539,410	COST	$604,169		n/a
Avoided Costs of Electricity Supply	BENEFIT	$68,323	BENEFIT	$97,215		n/a
Bill Reductions		n/a		n/a	BENEFIT	$2,421,546
Avoided Capital Costs to Evergy	BENEFIT	$3,709,269	BENEFIT	$5,026,535		n/a
Avoided Capital Costs to Participant		n/a	BENEFIT	$19,381,373	BENEFIT	$14,809,675
Non-Energy Benefits		n/a	BENEFIT	$112,365		n/a
Revenue Lost from Reduced Sales	COST	$3,073,470		n/a		n/a
Transaction Costs to Participant		n/a	COST	$32,233	COST	$32,233
TOTAL BENEFITS		**$3,777,592**		**$24,617,488**		**$17,231,221**
TOTAL COSTS		**$3,672,476**		**$701,898**		**$32,233**
BENEFIT/COST RATIO		**1.03**		**35.1**		**534**

[35] CPUC (2016), 2016 Demand Response Cost-Effectiveness Protocols, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/demand-response-dr/demand-response-cost-effectiveness

TABLE 15. KANSAS METRO FAS PROGRAM COST EFFECTIVENESS RESULTS

	Ratepayer		Societal		Participant	
Discount Rate	7%		3%		10%	
Program Delivery	COST	$116,391	COST	$127,903		n/a
Technical Assistance	COST	$574,868	COST	$640,645		n/a
Avoided Costs of Electricity Supply	BENEFIT	$126,415	BENEFIT	$179,874		n/a
Bill Reductions		n/a		n/a	BENEFIT	$2,644,633
Avoided Capital Costs to Evergy	BENEFIT	$5,060,294	BENEFIT	$6,807,035		n/a
Avoided Capital Costs to Participant		n/a	BENEFIT	$35,137,502	BENEFIT	$26,849,187
Non-Energy Benefits		n/a	BENEFIT	$183,265		n/a
Revenue Lost from Reduced Sales	COST	$3,344,370		n/a		n/a
Transaction Costs to Participant		n/a	COST	$26,408	COST	$26,408
TOTAL BENEFITS		**$5,186,710**		**$42,307,677**		**$29,493,820**
TOTAL COSTS		**$4,035,629**		**$794,955**		**$26,408**
BENEFIT/COST RATIO		**1.29**		**53.2**		**1,120**

Appendices

C. Stakeholder Letters of Support

Alliance for Transportation Electrification

September 19, 2024

Kansas Corporation Commission (KCC)
1500 S.W. Arrowhead Road
Topeka, KS 66604

Re: Evergy filing for Fleet Advisory Services for electric vehicles

Dear Chair French and Commissioners Keen and Kuether:

We would like to express our strong support for this filing for Fleet Advisory Services (FAS) proposed to be provided by Evergy across its service territory in Kansas. The utility has done an admirable job in doing its research on the potential for fleet electrification across vehicle types, and developed a balanced approach to both educate and provide awareness to fleet customers of the benefits of electrification, as well as providing targeted programs and services to assist them in their "electrification journey." We urge you to review this filing expeditiously, and approve it so that Evergy can implement these customer-facing programs.

ATE is a 501(c)(6) non-profit corporation established in early 2018. We primarily engage with policymakers at the State and local government level to remove barriers to EV adoption and to encourage the acceleration of EV infrastructure deployment with a particular emphasis on open standards and interoperability. We currently have approximately 60 members that include many electric utilities, auto and bus manufacturers, EV charging and service providers (EVSPs), and related trade associations and non-profit organizations. We take a "big tent" approach to advance the industry and focus not just on accelerating EV charging deployments—which necessarily requires a strong utility role—but also promoting public accessibility and open standards. We are presently involved in about 30 proceedings or dockets in the States before the PSCs, state energy offices, Legislatures, Governors, state DOTs and DEPs, and other agencies.

First, as a general matter, the national trends from the auto and truck OEM (original equipment manufacturers) and fleet operators toward electrification are unmistakably strong. Automotive and battery firms, and related supply chains, have invested hundreds of millions of dollars, if not billions, to meet the needs of zero emission vehicles and clean transportation systems of the future. Costs continue to decline both for the batteries and the vehicles, and the initial cost differential with internal combustion engine (ICE) vehicles has been reduced. Furthermore, for some vehicle types, the total lifetime cost of ownership of EVs is now less than that of ICE vehicles. And increasingly stringent federal environmental requirements will contribute to this trend. The trend will also benefit from the acceleration of onshoring of manufacturing to North America from overseas locations, as exemplified by the large Panasonic battery plant in Kansas.

Second, the siting, building, and interconnection of EV charging infrastructure that is broadly accessible to customers and maintaining reliability of those facilities continues to be a major challenge. Electric utilities like Evergy play a key role in several areas, including both the building out of this infrastructure and enabling

third parties, including host sites and fleets to participate in this transformation. This filing ensures that Evergy can help ensure that that the benefits of increased electrification of fleets are realized.

Third, fleet advisory services have become an important trend and "best practice" for many regulated utilities across multiple jurisdictions over the past several years. The electrification of fleets, both large and small and both public and private, is an historic event for both the fleet customers and the utilities. These two sectors have not had to work together closely over the past few decades (compared to other large commercial and industrial (C&I) customers of utilities), and therefore new practices like FAS need to be developed to assist in this transition. Having a single point of contact (SPOC) at Evergy, or at least dedicated staff, to educate and assist fleet customers as they electrify will be critical in enabling a smooth transition to these new opportunities.

Fourth, the Evergy filing has done a thorough job in assessing the best practices of other utilities, as well as other State Commission approved programs for fleet electrification, and learned from their experiences. ATE has had a working group in place for several years, our Education and Outreach Task Force, that has been focused on this area, and we published an issue brief in February 2023 outlining some of the utilities with best practices (available on our web site – www.evtransportationalliance.org). Evergy has taken advantage of this work, and similar work by other national groups involved in fleet electrification, in developing its proposed fleet electrification services and programs currently before the Commission for approval.

Fifth, Evergy points out there is a substantial market in its Kansas service territory – about 5,000 fleets – that might take advantage of this FAS program. It especially emphasizes some newer opportunities focused on the fleet operator's planning stage (prior to execution and construction of the EV charging stations or ports) where it believes it can play a useful role. These include general awareness issues, rate design, smart charge management where appropriate, available grants and incentives, and of course helping the fleet customer calculate the financial equation, or the TCO (total cost of ownership) over the life of the vehicles. These are all key factors and considerations which need to be studied by both the utility and the fleet customer before making final decisions.

Finally, we believe the program budget over five years is reasonable, and in line (if somewhat modest) with other best practices of utilities in other states. It is based on an estimated 60 projects, and outlines the costs in a step-by-step fashion that reflects the successful electrification of a new fleet customer for Evergy.

In summary, we believe this is a well-designed program that should be given serious consideration and favorable review.

Sincerely,

Philip B. Jones, Executive Director, ATE
Past President of NARUC and Former Washington UTC Commissioner
1326 5th Avenue, Suite 621
Seattle, WA 98119

CLIMATE ACTION KC

Kansas Corporation Commission
1500 SW Arrowhead Road
Topeka, KS 66604

September 4, 2024

RE: Evergy's Fleet Advisory Services Program

Dear Chairperson French and Commissioners:

On behalf of Climate Action KC, we would like to express our support for Evergy's Fleet Advisory Services Program. Climate Action KC (CAKC) and its initiative Plug-In KC are dedicated to supporting the expansion of electric vehicle infrastructure and incentives throughout the Kansas City metropolitan region. While we know that more concentrated, mixed land use is critical to reducing vehicle-related emissions, electric vehicle technology has the potential to greatly reduce emissions produced by the transportation sector. Emissions modeling by the Mid-America Regional Council (MARC) indicates that electrification of 75% of our passenger and freight vehicles would reduce greenhouse gas emissions by 35% from 2015 levels.

The support proposed in Evergy's Fleet Advisory Services (FAS) program is the right program for this moment. We have witnessed an increased willingness on the part of facilities managers, Public Works officials, business owners and others to investigate electric vehicle technology for their fleets, but there are still uncertainties that Evergy's program will address. Having technical experts assist these decision makers will be necessary to clear the path and turn that curiosity into action.

We understand that the issues of climate change are urgent. We applaud Evergy for responding to the perceived barriers to adoption of new technologies and hope that the services they provide within the program will capitalize on existing interest and grow new interest and adoption among others.

We appreciate your consideration of these priorities and look forward to working together as a region toward the shared goal of a Net Zero region by 2050.

With Gratitude,

Hillary Thomas
Chair

Jeremy Knoll
President

evergy

600 Broadway, Suite 200
Kansas City, Missouri 64105-1659

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MARC
MID-AMERICA REGIONAL COUNCIL

September 5, 2024

Kansas Corporation Commission
1500 SW Arrowhead Road
Topeka, KS 66604

Re: Letter of Support for Evergy's Proposed Fleet Advisory Service

Dear Chair French and Commissioners:

The Mid-America Regional Council (MARC) offers this enthusiastic letter of support for Evergy's proposal to create a Fleet Advisory Service. The proposed Fleet Advisory Service (FAS) is a five-year initiative designed to assist fleets in our Kansas service territories with technical guidance to streamline their transition to electric vehicles (EVs). The program is designed to address key customer concerns in efforts to support clean air, resilience, and cost-effective, grid-friendly charging.

According to the Kansas City Regional Greenhouse Gas Inventory, on-road transportation accounts for 34% of all greenhouse gas emissions. And, we know that transportation contributes significantly to regional ozone pre-cursor emissions and particulate matter, a detriment to the public health. The vision underlying Evergy's Fleet Advisory Service directly addresses these concerns and is highly aligned with four regional plans: MARC's Regional Climate Action Plan (2021); Clean Air Action Plan (2018); Smart Moves 3.0: Regional Transit and Mobility Plan (2017); and the Connected KC 2050 Regional Transportation Plan (2020). All of these plans call for aggressive electrification of the fleet—including personal, municipal, transit and commercial vehicles—to meet critical greenhouse gas mitigation targets and further improve the quality of the air we breathe.

The current pace of fleet electrification is slow, which we believe is partially attributable to a variety of hurdles that fleet operators are unequipped to address. The proposed FAS represents a critical step towards fleet electrification which will enhance air quality, promote economic development, reduce transportation and energy costs, take advantage of existing grid flexibility, and advance community resilience.

We strongly endorse Evergy's proposal and urge your serious consideration for approval. We appreciate and look forward to the implementation of this proposal and the benefits that it will provide to program participants, customers, and Kansas residents.

Sincerely,

Tom Jacobs
Chief Resilience Officer

evergy

OLATHE LINCOLN Ford

1845 E Santa Fe Rd,
Olathe, KS 66062
913.782.0881
www.olatheford.com

September 9, 2024

Kansas Corporation Commission
1500 SW Arrowhead Road
Topeka, KS 66604

Re: Letter of Support for Evergy's Transportation Electrification Proposed Programs

Dear Chair French and Commissioners:

On behalf of Olathe Ford, we submit this Letter of Support as a stakeholder in the the above mentioned proposal and as potential partner behind the vision behind Evergy's Transportation Electrification proposal.

As the largest Commercial/Fleet dealer in the country, Olathe Ford helps keep Kansas working and being on the front line we see the struggles that many companies have when faced with the decision of purchasing new fleets or putting in the much needed infrastructure to help them make the switch to EVs. One cannot come without the other.

In my role as VP of Olathe Ford, I submit this Letter of Support as an industry leader and a ready partner the benefits and vision behind Evergy's Transportation Electrification proposal. Companies have green initiatives and when given the support, they deploy electric fleets to meet their own initiatives and make the enviroment a better place. Not only will this benefit the environment, but this propsal supports a more flexible grid and potential downward pressure on rates, which I strongly support, especially as economic pressures build up in households across the country and Kansas.

Jeremy McEver | Olathe Ford, Olathe Lincoln, AFI, Fleetpool USA & Olathe Ford RV
913-228-9186|jmcever@olatheford.com
1845 E Santa Fe, Olathe, KS 66062
www.olatheford.com

September 11th, 2024

Kansas Corporation Commission
1500 SW Arrowhead Road
Topeka, KS 66604

Re: Letter of Support for Fleet Advisory Services (FAS) Program

Dear Chairman and Commissioners:

Widespread adoption of electric fleet vehicles presents several unique challenges which can impact adoption time and overall cost of implementation for regional business which operate fleets. While there are available solutions which have been developed to address these challenges, there remains significant opportunity for collaboration and technical assistance in deploying this growing technology.

I am writing to express my support for the Fleet Advisory Service (FAS) Program which is a five-year initiative focused on assisting fleets in the Kansas Metro and Kansas Central territories as they work to transition to electric vehicles (EVs). This program is critical in addressing both technical and logistical challenges that fleet operators face on their journey towards electrification.

Our team was invited to offer feedback on the design of this program as we are already involved in supporting fleets in the development of transportation electrification roadmaps. The FAS Program design team has utilized stakeholder input to identify several key barriers to successful fleet electrification which the program seeks to address. This includes the need for specialized expertise in load growth due to EV volume growth, a comprehensive understanding of vehicle charging and corresponding capacity requirements as well as the ability to support timely and efficient infrastructure design. By tackling these challenges head-on, the program will enable future fleet electrification that is not only efficient and cost-effective but also promotes grid-friendly charging practices.

The FAS Program's commitment to providing individual technical guidance and support is a critical component in the overall implementation ecosystem that seeks to foster the transition to sustainable transportation solutions (EVs).

Thank you for considering this important program for regulatory support.

Brian Marshall

Brian Marshall
Senior Business Consultant / Transportation

7301 W. 133rd Street / Suite 200 / Overland Park, KS 66213
O 913.381.1170 / **olsson.com**

Twin Valley Schools
107 N. Nelson St
Bennington, KS. 67422
Superintendent: Pam Irwin

Bennington Grade School
223 N. Putnam
Bennington, KS 67422
Principal: Tricia McVay

Bennington JH/HS
301 N. Putnam
Bennington, KS 67422
Principal: Shane Clark

Tescott PreK-12 Schools
305 N. Minnesota
Tescott, KS. 67484
Principal: Dr. Curt Graves

USD 240 Technology Director: Kinsy McVay
kmcvay@usd240.org

September 9, 2024

Kansas Corporation Commission
1500 SW Arrowhead Road
Topeka, KS 66604

Re: Letter of Support, Evergy Transportation Electrification Proposed Programs

Dear Commissioners:

On behalf of the Twin Valley School District, we submit this Letter of Support as a customer in the above-captioned proposal, and a ready recipient of the benefits and vision behind Evergy's Transportation Electrification proposal.

Twin Valley Schools provides transportation to students both to and from school as well as to activities throughout the school year.

Recently, Twin Valley participated in a transportation infrastructure study to determine our needs to move to electrify our transportation fleet. Our plan is to start with an electric bus for each campus, and add to our fleet as funds allow. As we determine the method for implementation, it's important that we have a plan that allows us to expand while meeting our needs along the way.

Evergy has provided me a great deal of information to understand what needs to be done to move to an electrified fleet, from the appropriate size of infrastructure needed from a small fleet to an expanded version, to how these buses would impact district finances with savings over multiple years.

Evergy has not only offered support for our grants, but also support in future implementation to ensure we are making the best decisions for our district.

We are confident in the success of Evergy's proposal and support their position as it includes solutions that are focused on the customer, creates innovative partnerships that will be invaluable to our organization, develops infrastructure solutions that optimize grid benefits for our future facilities and provides fuel and cost of ownership savings that translate to more efficient use of public funding.

We strongly endorse Evergy's proposal and urge your serious consideration for approval. We appreciate and look forward to seeing Evergy's implementation of the proposed transportation electrification program and the benefits that it will provide to program participants, customers, and Kansas residents.

Thank you for your consideration.

Sincerely,

Pam Irwin,
Superintendent, Twin Valley Schools

Appendices

D. Fleet Customer Survey

Evergy conducted outreach surveys targeting customers who had previously expressed interest in fleet electrification. This initiative aimed to support the development of a FAS Program that supports grid-friendly fleet electrification and complements Evergy's existing commercial electrification activities.

These one-hour surveys targeted a diverse spectrum of commercial clients, including municipalities, school districts, vehicle manufacturers, and stakeholders in the manufacturing and retail sectors.

The main goals of these surveys were to:

- Assess customer readiness for fleet electrification
- Gauge interest in managed charging solutions
- Identify factors influencing electrification decisions
- Understand customers' views on the utility's role in supporting fleet electrification
- Gather informal feedback on a conceptual FAS Program utilizing tiered service levels

The following graphs summarize key characteristics of the fleet survey participants.

Fleet Size

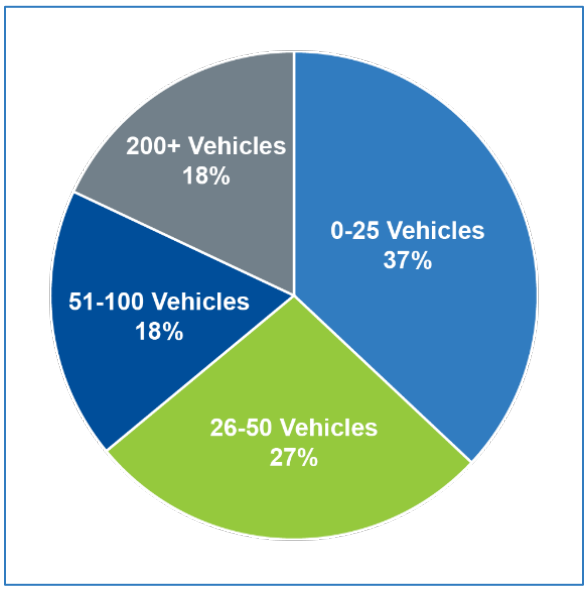


FIGURE 18. KEY CHARACTERISTICS OF THE FLEET SURVEY PARTICIPANTS BY FLEET SIZE

Organization Type

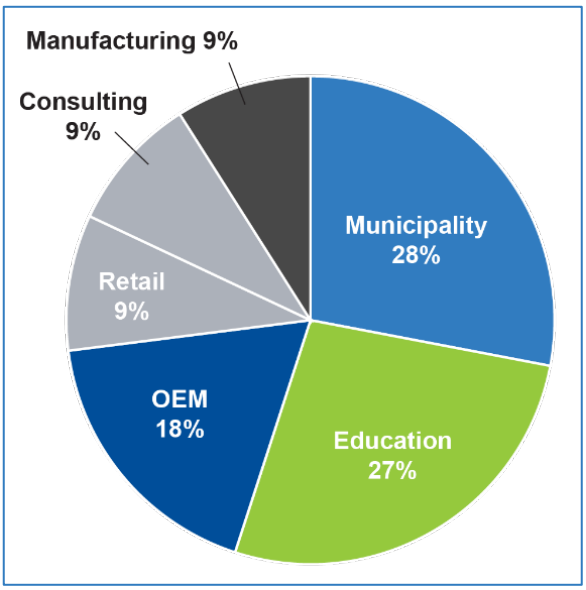


FIGURE 19. KEY CHARACTERISTICS OF THE FLEET SURVEY PARTICIPANTS BY ORGANIZATION TYPE

Dominant Fleet Vehicle Type

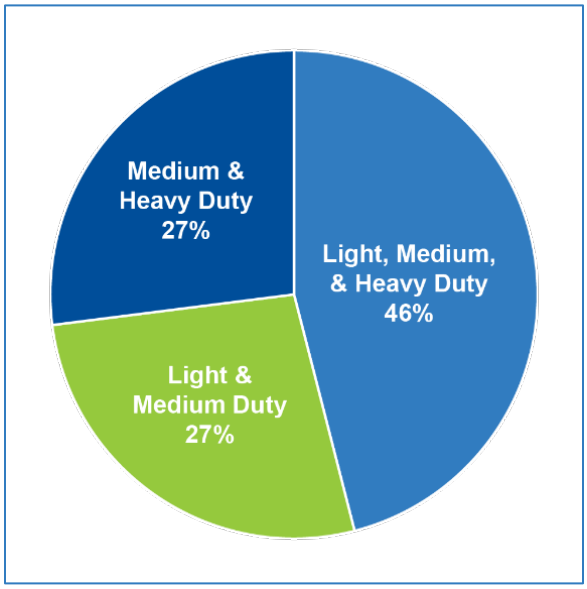


FIGURE 20. KEY CHARACTERISTICS OF THE FLEET SURVEY PARTICIPANTS BY DOMINANT FLEET VEHICLE TYPE

The survey requested information about customer's expected timelines to begin electrification. For more than half, the process is already underway.

Planned Timeline for Fleet Electrification

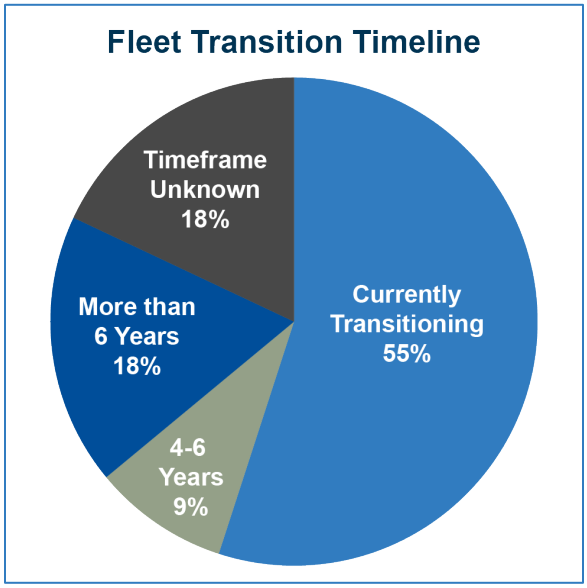
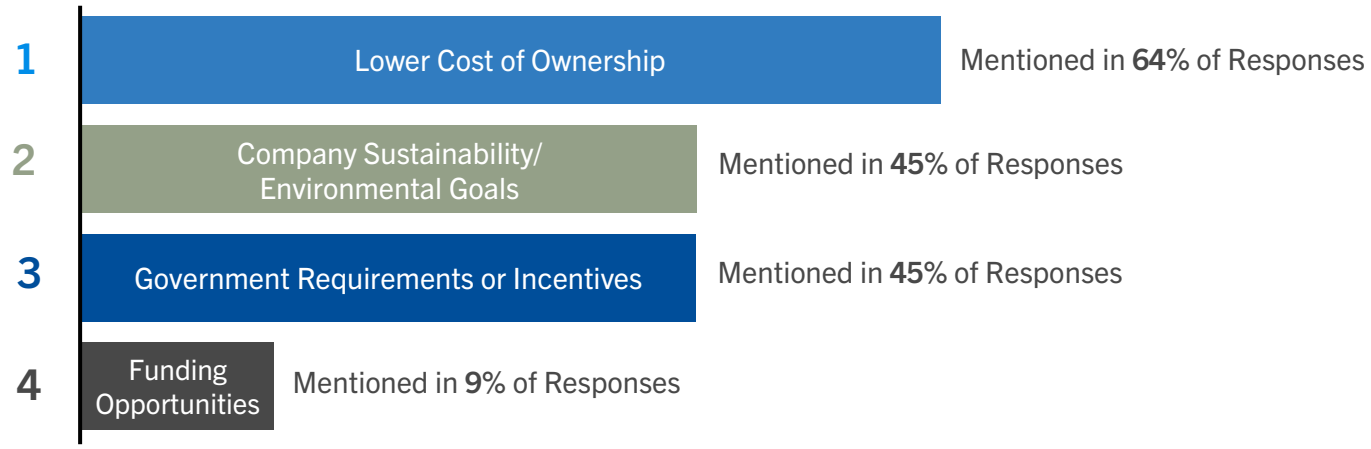
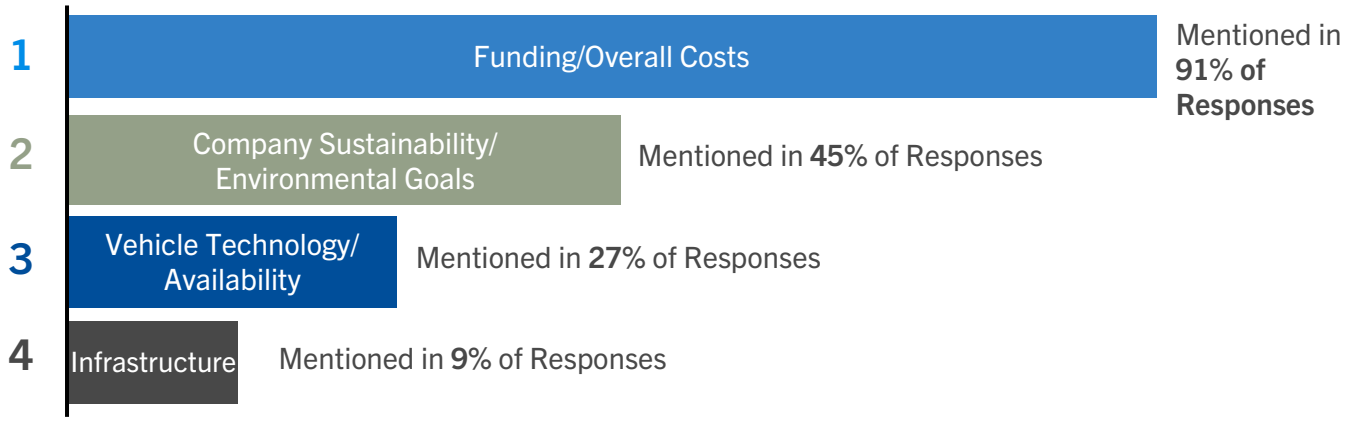


FIGURE 21. CUSTOMER EXPECTED TIMELINE TO BEGIN ELECTRIFICATION

Main Drivers for Fleet Electrification



Main Drivers of the Speed of Electrification



Customers were asked about the role they expect the utility to play, as well as the desirability of different program support services. The vast majority of customers preferred support in the form of EV charging infrastructure planning and incentives. Some respondents also expressed a need for service upgrades and education. All customers felt that a tiered approach that provided services catered to differing customers' needs and stage of electrification would be best.

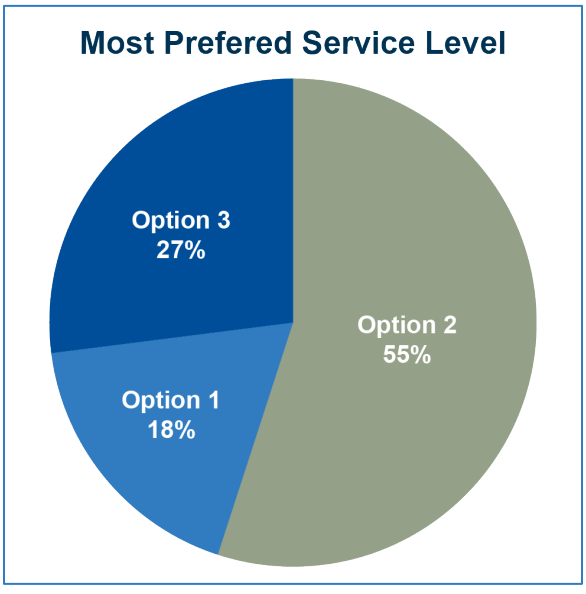
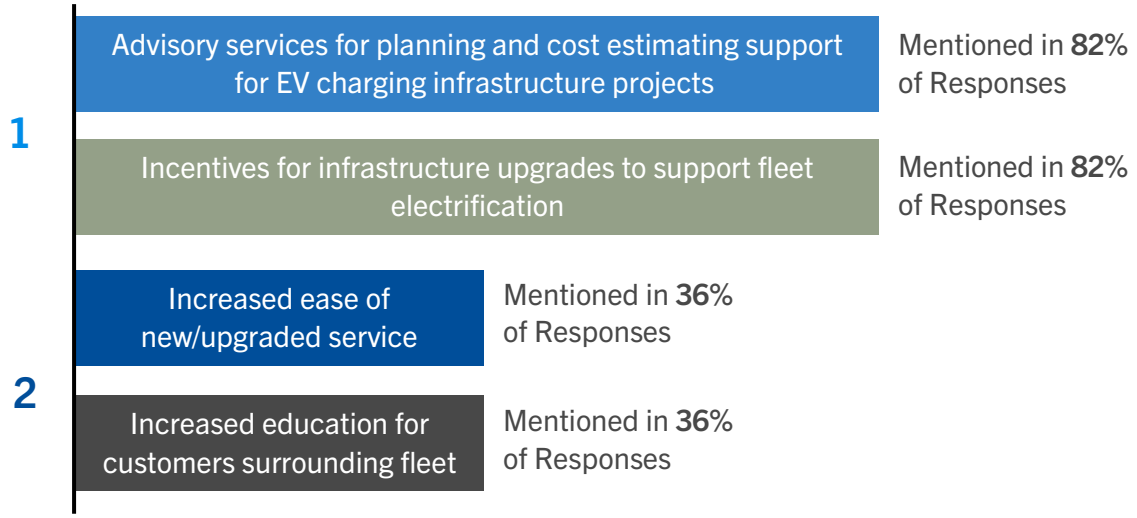


FIGURE 22. CUSTOMER DESIRABILITY OR PROGRAM SUPPORT SERVICES

Opinions on the Role of Utilities in Supporting Grid-Friendly Fleet Electrification Planning*



100%	of customers **surveyed** feel that a utility program with a **tiered advisory approach** would contribute to a more **grid-friendly fleet electrification** plan.
45%	of customers **surveyed have discussed managed charging** as part of fleet electrification planning.
82%	of customers **surveyed** would be **more likely** to incorporate managed charging into their fleet electrification transition if it was included as a part of a utility advisory service.

During the survey, third-party electrification specialists guided customers visually through three potential levels of advisory service options. These options covered various levels of customer engagement, advisory inclusions, and tier-based deliverables relevant to fleet electrification planning, utility coordination, and decision-making processes.

Participants had the chance to offer feedback regarding which option their organization would likely choose. They were also encouraged to share any additional anecdotal feedback they believed would be advantageous to the utility in identifying where customers need Evergy's support.

Appendices

E. Tariff Sheets

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY KANSAS CENTRAL, INC., & EVERGY KANSAS SOUTH, INC., d.b.a. EVERGY KANSAS CENTRAL SCHEDULE RMC

(Name of Issuing Utility)

Replacing Schedule Initial Sheet 1

EVERGY KANSAS CENTRAL RATE AREA

(Territory to which schedule is applicable)

which was filed _____

No supplement or separate understanding shall modify the tariff as shown hereon.

Sheet 1 of 4 Sheets

RESIDENTIAL MANAGED CHARGING PILOT

PURPOSE

The Residential Managed Charging ("RMC") Pilot will evaluate the ability of customers or Evergy ("Company") to minimize impacts on Company's electrical system via behavioral changes or active control by the Company by reducing charging during peak energy consumption periods. The RMC Pilot will allow the Company to evaluate the ability of the Passive Managed Charging ("PMC") approach versus Active Managed Charging ("AMC") approach to: 1) reduce peak demand, 2) minimize energy supply costs, 3) increase Customer knowledge/satisfaction, and 4) understand the incremental costs and incremental benefits compared to the status quo or to each of the RMC Pilot approaches.

AVAILABILITY

The PMC approach is available to all Customers on a residential rate that have been identified as having an electric vehicle at home utilizing Level 2 charging and meeting the Eligibility requirements below. Selected Customers will be automatically enrolled in the PMC approach (also referred to as "PMC Program"), with the ability to opt-out at any time.

The AMC approach is a targeted opt-in pilot limited to 2,000 Customers meeting the Eligibility requirements below. Customers will need to actively opt-in to the AMC approach (also referred to as "AMC Program"), but once enrolled, may also opt-out at any time.

DEFINITIONS

ADVANCED METERING INFRASTRUCTURE ("AMI"): Utility metering that enables two-way communication between utilities and customers.

CONTROL GROUP – A set of Customers that does not receive the treatment in the Pilot.

ELECTRIC VEHICLE SUPPLY EQUIPMENT ("EVSE"): Equipment that communicates with and supplies electric power to the electric vehicle. EVSE is often referred to as the 'charger.' The EVSE may be a permanently mounted device, or a plug-connected cord-set.

ELECTRIC VEHICLE ("EV"): The collective term used for battery electric vehicles and plug-in hybrid electric vehicles.

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Month Day Year

Effective _____
Month Day Year

By _____
Darrin Ives, Vice President

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY KANSAS CENTRAL, INC., & EVERGY KANSAS SOUTH, INC., d.b.a. EVERGY KANSAS CENTRAL SCHEDULE RMC

(Name of Issuing Utility)

Replacing Schedule Initial Sheet 2

EVERGY KANSAS CENTRAL RATE AREA

(Territory to which schedule is applicable)

which was filed _____

No supplement or separate understanding shall modify the tariff as shown hereon.

Sheet 2 of 4 Sheets

RESIDENTIAL MANAGED CHARGING PILOT

LEVEL 2 ("L2"): A level of electric vehicle charging that supplies charging power (3.8-19.2 kW) at 240 volts alternating current ("VAC") through a SAE-approved connector (J1772/J3400). L2 charging is commonly accomplished with a permanently mounted EVSE or through a portable L2, 240 VAC charging cord set.

MANAGED CHARGING: Influencing the time or rate of EV charging to provide grid benefits.

PASSIVE MANAGED CHARGING – Managed charging approach that relies on customer behavior to affect charging patterns.

ACTIVE MANAGED CHARGING – Managed charging approach that employs remote control of charging via the customer's EV or EVSE.

NETWORK EVSE: Internet connected EVSE devices that can communicate with the system that manages the charging network, and other systems such as a utility Demand Response Management System.

RANDOMIZED CONTROL TRIAL ("RCT"): Measurement approach wherein participants are randomly assigned to the PMC Program or a Control Group and then the groups compared to estimate impacts of the Program.

RANDOMIZED ENCOURAGED DESIGN ("RED"): Measurement approach wherein participants are randomly selected to be encouraged to participate in the AMC Program and the groups encouraged and not encouraged (the Control Group) are compared to estimate impacts of the Program.

TELEMATICS: Communication of data between a data center (or cloud) and an EV, including sending control commands and retrieving charging session data.

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY KANSAS CENTRAL, INC., & EVERGY KANSAS SOUTH, INC., d.b.a. EVERGY KANSAS CENTRAL SCHEDULE RMC

(Name of Issuing Utility)

Replacing Schedule Initial Sheet 3

EVERGY KANSAS CENTRAL RATE AREA

(Territory to which schedule is applicable)

which was filed _____

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Sheet 3 of 4 Sheets

RESIDENTIAL MANAGED CHARGING PILOT

ELIGIBILITY

Eligible Customers will be identified by the following methods:

- Disaggregation of premise AMI data
  - "High confidence" premises will be automatically flagged as charging with L2
  - "Medium confidence" premises will be prompted to manually confirm the presence of an EV with L2 charging
- Participants in the existing Residential Customer EV Outlet Program
- Customers who have been identified as having an EV with L2 charging during the current online energy analysis process

Eligible participants will be automatically enrolled into the PMC Program if they are not selected to be in a Control Group via RCT.

A subset of PMC Program participants will receive an invitation to join the AMC Program via RED. Eligibility for the AMC Program includes the same criteria as the PMC Program, as well as the following:

- Must have a qualifying EV or EVSE that can be enrolled in the Pilot
- Must charge at home at least once a month
- Must agree to the Pilot Terms and Conditions

Only one qualifying EV or EVSE per household is eligible for the AMC Program.

PILOT PROVISIONS

PMC Program participants will receive specialized communications via email which will provide education and motiving insights about their personal EV charging usage disaggregated from all other household appliances.

AMC Program participants upon enrollment will define their preferred charging schedule (e.g. 80% by 6:00 AM) and plug in their vehicle while at home. Participants will release charging control to the Company who will ensure the participants EV is charged daily per their preferred charging schedule via either the participants eligible EV via the EV telematics or the eligible networked EVSE.

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(Name of Issuing Utility)

Replacing Schedule Initial Sheet 4

EVERGY KANSAS CENTRAL RATE AREA

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which was filed _____

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Sheet 4 of 4 Sheets

RESIDENTIAL MANAGED CHARGING PILOT

Participants can override the charging schedule at any time but will forego any monthly incentive if an override is performed more than twice in a month.

The Company will file a report with the State Regulatory Commission at the end of the first quarter following completion of the RMC Pilot that outlines the results of the Pilot and directly addresses the learning objectives that were initially identified.

PILOT INCENTIVES

A financial incentive will be paid to the AMC Program participants as follows:

- $50 upon completion of Pilot enrollment
- $10/month accrued as long as participant charges at home at least once per month and does not override the Company's charging schedule more than twice a month.
    - The monthly incentive will be paid out semi-annually

The Company reserves the right to adjust incentive values to ensure targeted participation levels and to maximize pilot learnings, while remaining within the approved budget.

TERM

The RMC Pilot will begin November 1, 2025, and shall continue for a period of three years, terminating on October 31, 2028, or until funding is exhausted, whichever comes first.

REGULATIONS

Subject to Rules and Regulations filed with the State Regulatory Commission.

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY METRO, INC., d.b.a. EVERGY KANSAS METRO

(Name of Issuing Utility)

SCHEDULE RMC

EVERGY KANSAS METRO RATE AREA

(Territory to which schedule is applicable)

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Sheet 1 of 4 Sheets

RESIDENTIAL MANAGED CHARGING PILOT

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY METRO, INC., d.b.a. EVERGY KANSAS METRO

(Name of Issuing Utility)

SCHEDULE RMC

Replacing Schedule Initial Sheet 2

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Sheet 2 of 4 Sheets

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(Name of Issuing Utility)

SCHEDULE RMC

EVERGY KANSAS METRO RATE AREA

(Territory to which schedule is applicable)

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which was filed _____

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Sheet 3 of 4 Sheets

RESIDENTIAL MANAGED CHARGING PILOT

ELIGIBILITY

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- Disaggregation of premise AMI data
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- Must charge at home at least once a month
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Replacing Schedule Initial Sheet 4

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Sheet 4 of 4 Sheets

RESIDENTIAL MANAGED CHARGING PILOT

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The Company reserves the right to adjust incentive values to ensure targeted participation levels and to maximize pilot learnings, while remaining within the approved budget.

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY KANSAS CENTRAL, INC., & EVERGY KANSAS SOUTH, INC., d.b.a. EVERGY KANSAS CENTRAL SCHEDULE FAS

(Name of Issuing Utility)

Replacing Schedule Initial Sheet 1

EVERGY KANSAS CENTRAL RATE AREA

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Sheet 1 of 3 Sheets

Fleet Advisory Services Program

PURPOSE

The purpose of the Fleet Advisory Services (FAS) Program is to facilitate grid-friendly electric vehicle (EV) transition planning and enable informed fleet management decisions for customers transitioning to electric vehicles. The FAS Program aims to address key barriers to fleet electrification, including:

- Lack of expertise in effectively implementing grid-friendly electrification.
- Lack of understanding of charging and capacity requirements.
- Need for planning and design assistance to accurately size systems and understand EV charging rates.

AVAILABILITY

The program is available to all customers within the Evergy Kansas Central (EKC) and territories that meet the eligibility criteria outlined below, with focus on schools, transit agencies, and small/medium businesses.

PROGRAM OFFERINGS

The FAS Program includes three levels to meet customers at their specific stages of electrification and ensure effective resource allocation for maximum impact.

- **Level 1:** Introductory Fleet Assessment: Assess Customer and Site Readiness
- **Level 2**: Enhanced Fleet Electrification Planning: Complete Data Analysis and Fleet Assessment
- **Level 3**: Comprehensive Fleet Assessment: Final Report and Key Considerations Walkthrough

The FAS Program provides various forms of technical assistance depending on the participation level:

- **Fleet Assessment:** Evaluating the customer's existing fleet, including vehicle types, routes, and usage patterns.
- **Site Selection and Distribution Compatibility:** Conducting a capacity assessment for the proposed charging locations early in the planning process.
- **Charger Selection:** Providing custom recommendations for appropriate charging infrastructure.
- **Charger Utilization and Load Management:** Reviewing charge management strategies and the potential for overnight charging.
- **Rate Selection:** Offering rate options and identifying the most cost-effective rate.
- **Site Design:** Providing guidance on the planning, design, and installation of EV charging infrastructure, including the option for separate metering of charging equipment.

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THE STATE CORPORATION COMMISSION OF KANSAS

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(Name of Issuing Utility)

Replacing Schedule Initial Sheet 2

EVERGY KANSAS CENTRAL RATE AREA

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No supplement or separate understanding shall modify the tariff as shown hereon. Sheet 2 of 3 Sheets

Fleet Advisory Services Program

ELIGIBILITY

To qualify for the FAS Program, customers must meet the following criteria:

- Operate fleet vehicles. Fleet vehicles are considered as vehicles used by an organization, government agency, or business primarily used to transport cargo or people.
- Have fleet operations located within EKC service territory.
- Commit to sharing operational data (e.g., vehicle usage, fuel consumption) with the Company for analysis.
- Be in good standing with the Company, with no outstanding payments or violations.

SERVICES PROVIDED

Three tiers of technical assistance are offered under the program:

- **Level 1:** Introductory Fleet Assessment: Assess Customer and Site Readiness
- **Level 2**: Enhanced Fleet Electrification Planning: Complete Data Analysis and Fleet Assessment
- **Level 3**: Comprehensive Fleet Assessment: Final Report and Key Considerations Walkthrough

FAS Program assistance is provided at no cost to participants. The level of technical assistance offered is dependent on where each customer is in their fleet electrification planning process and where the FAS Program can provide the greatest impact. The FAS Program also helps participants reduce charging costs by aligning with time-varying rates and identifying federal, state, local, and utility incentives.

PROGRAM ADMINISTRATION

The FAS Program will be administered by the Fleet Advisory Team, responsible for coordinating services, providing technical support, and monitoring program outcomes. The team will also verify customer eligibility and manage the collection of operational data. Customers will schedule an appointment with the Fleet Advisory Team to initiate the fleet assessment process.

TERM

- The FAS Program will be offered for a five-year period, from August 1, 2025, to July 31, 2030 and is funded for approximately 60 assessments.
- The FAS Program will be offered on a first come first served basis and is available until the end date or until funding is exhausted, whichever comes first.
- Participants must apply with the Fleet Advisory Team within the 5-year program period and agree to the full FAS Program terms and conditions.
- The Company does not guarantee financial savings or operational improvements from the FAS Program participation.
- Participants must provide annual reports for EV fleet and charging infrastructure utilization during

Issued _____
Month Day Year

Effective _____
Month Day Year

By _____
Darrin Ives, Vice President

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY KANSAS CENTRAL, INC., & EVERGY KANSAS SOUTH, INC., d.b.a. EVERGY KANSAS CENTRAL SCHEDULE FAS

(Name of Issuing Utility)

Replacing Schedule Initial Sheet 3

EVERGY KANSAS CENTRAL RATE AREA

(Territory to which schedule is applicable) which was filed _____

No supplement or separate understanding shall modify the tariff as shown hereon. Sheet 3 of 3 Sheets

Fleet Advisory Services Program

the 5-year program period. This data will be used to assess program effectiveness and identify improvement areas for the Fleet Advisory Team. The Fleet Advisory Team will coordinate the collection of this information.

REGULATIONS

- Subject to Rules and Regulations filed with the State Regulatory Commission.

Issued _____
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Effective _____
Month Day Year

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Darrin Ives, Vice President

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY METRO, INC., d.b.a. EVERGY KANSAS METRO

(Name of Issuing Utility)

SCHEDULE FAS

EVERGY KANSAS METRO RATE AREA

(Territory to which schedule is applicable)

Replacing Schedule Initial Sheet 1

which was filed _____

No supplement or separate understanding shall modify the tariff as shown hereon.

Sheet 1 of 3 Sheets

Fleet Advisory Service Program

PURPOSE

The purpose of the Fleet Advisory Services (FAS) Program is to facilitate grid-friendly electric vehicle (EV) transition planning and enable informed fleet management decisions for customers transitioning to electric vehicles. The FAS Program aims to address key barriers to fleet electrification, including:

- Lack of expertise in effectively implementing grid-friendly electrification.
- Lack of understanding of charging and capacity requirements.
- Need for planning and design assistance to accurately size systems and understand EV charging rates.

AVAILABILITY

The program is available to all customers within the Evergy Kansas Metro (EKM) and territories that meet the eligibility criteria outlined in below, with focus on schools, transit agencies, and small/medium businesses.

PROGRAM OFFERINGS

The FAS Program includes three levels to meet customers at their specific stages of electrification and ensure effective resource allocation for maximum impact.

- **Level 1:** Introductory Fleet Assessment: Assess Customer and Site Readiness
- **Level 2**: Enhanced Fleet Electrification Planning: Complete Data Analysis and Fleet Assessment
- **Level 3**: Comprehensive Fleet Assessment: Final Report and Key Considerations Walkthrough

The FAS Program provides various forms of technical assistance depending on the participation level:

- **Fleet Assessment:** Evaluating the customer's existing fleet, including vehicle types, routes, and usage patterns.
- **Site Selection and Distribution Compatibility:** Conducting a capacity assessment for the proposed charging locations early in the planning process.
- **Charger Selection:** Providing custom recommendations for appropriate charging infrastructure.
- **Charger Utilization and Load Management:** Reviewing charge management strategies and the potential for overnight charging.
- **Rate Selection:** Offering rate options and identifying the most cost-effective rate.
- **Site Design:** Providing guidance on the planning, design, and installation of EV charging infrastructure, including the option for separate metering of charging equipment.

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Darrin Ives, Vice President

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY METRO, INC., d.b.a. EVERGY KANSAS METRO

(Name of Issuing Utility)

SCHEDULE FAS

EVERGY KANSAS METRO RATE AREA

(Territory to which schedule is applicable)

Replacing Schedule Initial Sheet 2

which was filed _____

No supplement or separate understanding shall modify the tariff as shown hereon.

Sheet 2 of 3 Sheets

Fleet Advisory Service Program

ELIGIBILITY

To qualify for the FAS Program, customers must meet the following criteria:

- Operate fleet vehicles. Fleet vehicles are considered as vehicles owned and used by an organization, government agency, or business primarily used to transport cargo or people.
- Have fleet operations located within EKM service territory.
- Commit to sharing operational data (e.g., vehicle usage, fuel consumption) with the Company for analysis.
- Be in good standing with the Company, with no outstanding payments or violations.

SERVICES PROVIDED

Three tiers of technical assistance are offered under the program:

- **Level 1:** Introductory Fleet Assessment: Assess Customer and Site Readiness
- **Level 2**: Enhanced Fleet Electrification Planning: Complete Data Analysis and Fleet Assessment
- **Level 3**: Comprehensive Fleet Assessment: Final Report and Key Considerations Walkthrough

FAS Program assistance is provided at no cost to participants. The level of technical assistance offered is dependent on where each customer is in their fleet electrification planning process and where the FAS Program can provide the greatest impact. The FAS Program also helps participants reduce charging costs by aligning with time-varying rates and identifying federal, state, local, and utility incentives.

PROGRAM ADMINISTRATION

The FAS Program will be administered by the Fleet Advisory Team, responsible for coordinating services, providing technical support, and monitoring program outcomes. The team will also verify customer eligibility and manage the collection of operational data. Customers will schedule an appointment with the Fleet Advisory Team to initiate the fleet assessment process.

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THE STATE CORPORATION COMMISSION OF KANSAS

EVERGY METRO, INC., d.b.a. EVERGY KANSAS METRO

(Name of Issuing Utility)

SCHEDULE FAS

EVERGY KANSAS METRO RATE AREA

(Territory to which schedule is applicable)

Replacing Schedule Initial Sheet 3

which was filed _____

No supplement or separate understanding shall modify the tariff as shown hereon.

Sheet 3 of 3 Sheets

Fleet Advisory Service Program

TERMS

- The FAS Program will be offered for a five-year period, from August 1, 2025, to July 31, 2030 and is funded for approximately 60 assessments.
- The FAS Program will be offered on a first come first served basis and is available until the end date or until funding is exhausted, whichever comes first.
- Participants must apply with the Fleet Advisory Team within the 5-year program period and agree to the full FAS Program terms and conditions.
- The Company does not guarantee financial savings or operational improvements from the FAS Program participation.
- Participants must provide annual reports for EV fleet and charging infrastructure utilization during the 5-year program period. This data will be used to assess program effectiveness and identify improvement areas for the Fleet Advisory Team will coordinate the collection of this information.

REGULATIONS

- Subject to Rules and Regulations filed with the State Regulatory Commission.

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Effective _____
Month Day Year

By _____
Darrin Ives, Vice President

Appendices

F. Witness Details

Testimony Report – Witness Details			
Report Section	**Section Heading / Sub-Heading**	**Page Number**	**Witness(es)**
	Terminology		N/A
1	**Introduction and Portfolio Summary**	5	Nick Voris
2	**Evergy's Role and Experience with Transportation Electrification**	10	Nick Voris
3	**Trends in Transportation Electrification**		
3.1	Federal Support for Electric Vehicles	14	Nick Voris
3.2	EV Adoption in Evergy's Kansas Territory	15	Nick Voris
3.3	Potential Load Growth from EVs in Evergy's Kansas Territory	16	Nick Voris
3.4	Summary of Peer Utility Programs and Pilots	21	Nick Voris
3.4.1	Residential Managed Charging Programs and Pilots	21	Wendy Marine
3.4.2	Fleet Advisory Programs and Pilots	22	Julie Dietrich
4	**Proposed Phase 2 Portfolio**		
4.1	Residential Managed Charging Pilot	25	Wendy Marine
4.1.1.	Residential Managed Charging Pilot Design	25	Wendy Marine
4.1.2	Residential Managed Charging Pilot Budget	27	Wendy Marine
4.1.3	Evaluation of Pilot Benefits	28	Tim Nelson
4.2	Fleet Advisory Services Program	30	Julie Dietrich
5	**Regulatory**		
5.1	Reporting		
5.1	Annual Reporting – Residential Managed Charging	35	Wendy Marine
5.1	Annual Reporting – Fleet Advisory Services	35	Julie Dietrich
5.1	Evaluation	35	Tim Nelson

Testimony Report – Witness Details			
Report Section	Section Heading / Sub-Heading	Page Number	Witness(es)
5.2	Cost Recovery	35	Darrin Ives

Testimony Report – Witness Details		
Report Section	Section Heading / Sub-Heading	Witness(es)
Appendix A	Detailed Program Descriptions: Residential Managed Charging	Wendy Marine
Appendix A	Detailed Program Descriptions: Fleet Advisory Services	Julie Dietrich
Appendix B	FAS Program Cost Effectiveness Evaluation	Tim Nelson
Appendix C	Fleet Customer Survey	Julie Dietrich
Appendix D	Stakeholder Letters of Support	Julie Dietrich
Appendix E	Tariff Sheets – Residential Managed Charging	Wendy Marine
Appendix E	Tariff Sheets – Fleet Advisory Services	Julie Dietrich
Appendix F	Witness Details	All witnesses

STATE OF KANSAS)
) ss:
COUNTY OF SHAWNEE)

VERIFICATION

Julie Dietrich, being duly sworn upon her oath deposes and states that she is the Lead Product Manager, for Evergy, Inc., that she has read and is familiar with the Evergy Transportation Electrification Portfolio Filing Report dated September 2024 ("2024 Report"), as detailed specifically in Appendix F attached to the 2024 Report, that she is familiar with the contents thereof, and that the statements contained therein are true and correct to the best of her knowledge, information and belief.

Julie Dietrich

Subscribed and sworn to before me this 27th day of September, 2024.

Notary Public

My Appointment Expires May 30, 2026

NOTARY PUBLIC - State of Kansas
LESLIE R. WINES
MY APPT. EXPIRES 5/30/2026

STATE OF KANSAS)
) ss:
COUNTY OF SHAWNEE)

VERIFICATION

Darrin Ives, being duly sworn upon his oath deposes and states that he is the Vice President, Regulatory Affairs, for Evergy, Inc., that he has read and is familiar with the foregoing Evergy Transportation Electrification Portfolio Filing Report dated September 2024 ("2024 Report"), as detailed specifically in Appendix F attached to the 2024 Report, that he is familiar with the contents thereof, and that the statements contained therein are true and correct to the best of his knowledge and belief.

Darrin R. Ives

Subscribed and sworn to before me this 27 day of September, 2024.

Notary Public

My Appointment Expires May 30, 2026

NOTARY PUBLIC - State of Kansas
LESLIE R. WINES
MY APPT. EXPIRES 5/30/2026

STATE OF KANSAS)
) ss:
COUNTY OF SHAWNEE)

VERIFICATION

Wendy Marine, being duly sworn upon her oath deposes and states that she is the Lead Product Manager, for Evergy, Inc., that she has read and is familiar with the foregoing Evergy Transportation Electrification Portfolio Filing Report dated September 2024 ("2024 Report"), as detailed specifically in Appendix F attached to the 2024 Report, that she is familiar with the contents thereof, and that the statements contained therein are true and correct to the best of her knowledge and belief.

Wendy Marine
Wendy Marine

Subscribed and sworn to before me this 27th day of September, 2024.

Notary Public

My Appointment Expires: May 30, 2026

NOTARY PUBLIC - State of Kansas
LESLIE R. WINE
MY APPT. EXPIRES 5/30/2026

STATE OF KANSAS)
) ss:
COUNTY OF SHAWNEE)

VERIFICATION

Tim Nelson, being duly sworn upon his oath deposes and states that he is the Sr Manager, Analytics, for Evergy, Inc., that he has read and is familiar with the foregoing Evergy Transportation Electrification Portfolio Filing Report dated September 2024 ("2024 Report"), as detailed specifically in Appendix F attached to the 2024 Report, that he is familiar with the contents thereof, and that the statements contained therein are true and correct to the best of his knowledge and belief.

Tim Nelson

Subscribed and sworn to before me this 27th day of September, 2024.

Notary Public

My Appointment Expires May 30, 2026

NOTARY PUBLIC - State of Kansas
LESLIE R. WINES
MY APPT. EXPIRES 5/30/2026

STATE OF KANSAS)
) ss:
COUNTY OF SHAWNEE)

VERIFICATION

Nick Voris, being duly sworn upon his oath deposes and states that he is the Senior Manager Products and Services, for Evergy, Inc., that he has read and is familiar with the foregoing Evergy Transportation Electrification Portfolio Filing Report dated September 2024 ("2024 Report"), as detailed specifically in Appendix F attached to the 2024 Report, that he is familiar with the contents thereof, and that the statements contained therein are true and correct to the best of his knowledge and belief.

Nick Voris

Subscribed and sworn to before me this 27th day of September, 2024.

Notary Public

My Appointment Expires May 30, 2026

NOTARY PUBLIC - State of Kansas
LESLIE R. WINES
MY APPT. EXPIRES 5/30/2026