

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

In the Matter of the Capital Plan Compliance)
Docket for Kansas City Power & Light) Docket No. 19-KCPE-096-CPL
Company and Westar Energy, Inc. Pursuant to)
the Commission's Order in 18-KCPE-095-)
MER.)

**COMMENTS OF THE CITIZENS' UTILITY RATEPAYER BOARD RELATED TO
THE 2021 ANNUAL UPDATE TO EVERGY'S INTEGRATED RESOURCE PLAN**

COMES NOW, The Citizens' Utility Ratepayer Board ("CURB") and submits its comments pursuant to the schedule set forth in the State Corporation Commission of the State of Kansas ("Commission") *Order Adopting Integrated Resource Plan and Capital Plan Framework* issued in this docket February 6, 2020,¹ which required an annual update by Evergy, this update was filed on May 28, 2021, and updated on June 3, 2021, as *Evergy Kansas Central and Evergy Metro 2021 Integrated Resource Plan Revised*.

A. Background

1. On May 24, 2018, the Commission issued an Order Approving Merger Application of Westar Energy, Inc. and Kansas Gas and Electric Company (Westar), Great Plains Energy Incorporated (Great Plains) and Kansas City Power & Light Company (KCPL) to form Evergy, Inc. in Docket No. 18-KCPE-095-MER (18-095 Docket). In paragraph 94 of its Merger Order, the Commission required Westar and KCPL to work with the parties to develop and submit to the Commission a reporting format for an Integrated Resource Plan (IRP) process.²

¹ Order Adopting Integrated Resource Plan and Capital Plan Framework, February 6, 2020.

² Order Approving Merger Application, Docket No. 18-KCPE-095-MER, May 24, 2018.

2. On September 4, 2018, CURB, Staff, KCPL, and Westar submitted their Joint Filing Regarding Capital Plan and Integrated Resource Plan Reporting Format, proposing that KCPL and Westar (now collectively “Evergy” or “the Company”) jointly filed a report with two sections: (1) capital plan reporting and (2) IRP reporting.³ Under the initial proposal, the capital plan reporting would provide a five-year view of Westar's and KCPL's capital expenditures for generation, environmental, transmission, distribution, and information technology, to be updated annually.⁴ Under the initial proposal, the IRP reporting would begin with a filing in April 2021, be updated every three years by April 30,⁵ and will provide a 10-year view of the Westar and KCPL preferred generating resource plans, including any contingency plans, with sufficient detail to identify major investments or resource acquisitions.⁶ The IRP report will also include a "stress test" on major investments, evaluating the potential impact of critical uncertain factors (e.g., significant changes in retail load growth).⁷

3. After a series of stakeholder workshops, the Commission issued an Order Adopting Integrated Resource Plan and Capital Plan Framework on February 6, 2020, which established, among other things, a timeframe for the filing of the IRP and annual updates and scheduling for parties' to file responsive comments.⁸ Specifically, Evergy is required to provide an annual update to its IRP triennial filing, beginning on July 1, 2020, and every subsequent update due within three months of the filing of the Missouri IRP update, with a workshop over the update within 30 days of filing. Stakeholder and intervenors have 150 days to submit comments on the update.

³ *Joint Filing Regarding Capital Plan and Integrated Resource Plan Reporting Format*, September. 4, 2018.

⁴ *Id.*

⁵ As discussions continued after the Joint Filing Regarding Capital Plan and Integrated Resource Plan Reporting Format, the Joint Movants replaced the April 30 due dates with different due dates set out in paragraph 24 of this order.

⁶ *Id.*

⁷ *Id.*

⁸ *Order Adopting Integrated Resource Plan and Capital Plan Framework*, February. 6, 2020.

4. On June 26, 2020, Evergy filed its 2020 updates to the IRP.⁹ On July 22, 2020, Evergy hosted an online workshop with interested parties to discuss changes and receive feedback.

5. On November 23, 2020, CURB filed responsive comments regarding Evergy's 2020 IRP update. There, CURB highlighted several concerns with the ongoing plans regarding Demand Side Management (DSM) programs in Kansas compared to Missouri and the 20-EKME-514-GIE and 21-EKME-088-GIE dockets regarding the investigation on a potential agreement between Evergy and Elliott Associates regarding Evergy's capital expenditures.¹⁰

6. On May 28, 2021, Evergy filed its annual update to the IRP for 2021. On June 3, 2021, Evergy filed an updated revision to the annual update.¹¹

7. On June 25, 2021, Evergy hosted its 2021 workshop with stakeholders regarding the update.

B. CURB's Comments

8. The Citizens Utility Review Board (CURB) prepared these comments in response to Evergy Kansas Central and Kansas Metro (collectively, "Evergy" or "the Company") Kansas' 2021 Integrated Resource Plan (IRP) with the assistance of Synapse Energy Economics, LLC. CURB appreciates the commitments that Evergy has made to improve its resource planning process in the future, but we have many concerns with the Company's current resource planning process that we have outlined here.

⁹ *Evergy Notice of Compliance*, June 26, 2020.

¹⁰ *Comments of The Citizens' Utility Ratepayer Board Related to 2020 Annual Update to Evergy's Integrated Resource Plan*, November 23, 2020.

¹¹ *Evergy Kansas Central and Evergy Metro 2021 Integrated Resource Plan May 2021*, May 28, 2021; *Evergy Kansas Central and Evergy Metro 2021 Integrated Resource Plan Revised*, June 3, 2021.

9. Our key findings are as follows:

- Evergy's modeling decisions and input assumptions do not reflect current market trends and IRP best practices. Evergy's approach to manually entering input modeling scenarios instead of using optimized capacity expansion software, and its unique naming convention for its scenarios makes comparing different scenarios convoluted and incomplete. The Company also relied on wind cost projections that are substantially higher over the modeling period than other leading industry sources project and utilized potentially out-of-date material in its conclusions.
- Evergy leaves much on the table regarding cost effective energy efficiency and demand-side management (DSM) strategies as part of its IRP. This is especially concerning as Evergy's invests in substantial cost-effective DSM in Missouri, but continues to only maintain existing programs from its last DSM filing in 2016.
- External risk factors pose varying levels of risk to Evergy's portfolios that may trickle down to customers. Such risks include stranded asset costs, gas price volatility, and the additional expenses related to future carbon pricing and increased environmental compliance costs.

10. In regards to these findings, Evergy should synthesize the results of its resource planning analysis, and organize its scenarios, sensitivities, and alternative resource plans into a clear framework for comparison.

11. Evergy should conduct robust, optimized resource planning modeling to support its decision to reduce its near-term solar deployment by 45.7 percent and convert LEC Unit 5 to operate on gas instead of retiring it. This analysis should compare the Company's proposal to alternative resource plans such as ones that install additional solar PV, retire LEC Unit 5 and

replace any energy and capacity needed by the system with alternative resources. These are substantial changes that should be analyzed robustly as part of both this IRP and Docket No. 22-EKCE-141-PRE.

12. Evergy should use optimized capacity expansion modeling software and allow that model to optimize retirement decisions and select when to retire coal and other fossil plants in all scenarios for future IRP updates. To that end, Evergy should expand the options and alternatives that it models for its existing coal plants. Specifically, the Company could evaluate the economics of seasonal operation and test a larger range of retirement dates for each coal plant in order to enhance the Company's flexibility by providing more data on a larger number of retirement scenarios.

13. Evergy should alleviate concerns over DSM comparisons between Missouri and Kansas through the implementation of cost-effective programs that can reach a wide range of ratepayers. CURB is aware that Evergy has taken efforts this year to begin meeting with parties to discuss the potential for new DSM programs in Kansas. It remains to be seen whether any new DSM programs will rely on information used in the IRP or from subsequent analyses.

I. Evergy presented the results of 27 different joint IRP scenarios and over 100 total stand-alone scenarios

14. Evergy considers 27 different joint scenarios in its IRP, in addition to numerous standalone scenarios for Evergy Metro, Evergy Missouri West, and Evergy Kansas Central. Here are some of the scenario names selected at random: CLJBV, CFEBS, MFFCS, MCGDU, MAACS, EPTFZ, and ERVDL.

15. Evergy provides multiple guides to its naming convention, which differ slightly between the stand-alone and joint alternative resource plans (ARPs). The complexity of the naming guide itself is a testament to the fundamental inaccessibility of Evergy's IRP. For example, the

second letter in a given scenario name for Kansas Central can be any letter between A and L and identifies whether some combination of between 1 and 7 units are retired in that scenario. Meanwhile, the second letter in a given name for Evergy's joint alternative resource plan can be any letter between A and R and identifies whether some combination of between 1 and 10 units are retired.

16. Results tables are presented for each of the stand-alone regions and joint alternative resource plans. This means that Evergy presented results for over 100 cryptic strings of letters, and even after multiple reads of the IRP it is still cumbersome to describe the difference between, for example, Scenario EQUFS and Scenario ERVFM. The results of the IRP, especially key metrics like net present value revenue requirement ("NPVRR"), should be presented clearly and intuitively so that consumers can understand what decisions and trade-offs are included in each scenario.

17. Evergy's naming convention is different in comparison with the vast majority of IRPs that Synapse has reviewed in other jurisdictions. Most utilities name IRP scenarios with clear descriptors like "Reference Portfolio with CO₂ Regulation," "Deep Decarbonization and Rapid Electrification," "Clean Energy Technology Advancement," or "No New Gas Generation."

18. Considering multiple scenarios is important, and Evergy clearly attempts to capture various energy futures and input combinations via its scenarios. However, too much information can be as damaging and mystifying as too little information. The utility is obligated to (1) retain all its modeling and analysis files for review; but also (2) synthesize its results such that it is understandable and digestible to everyone.

19. Simply presenting all the results on the public without proper synthesis and interpretation hinders the value to ratepayers who desire insight into the IRP results. Evergy should synthesize the results of its analysis, rather than just presenting the results from dozens of modeling

runs. The Company should distill the multitude of scenarios, sensitivities, and alternative resource plans into a clear framework for comparison. Scenarios should receive names that reflect their inputs – along the lines of “Clean Energy Technology Advancement” or “CO₂ Regulation” – and scenarios should be clearly compared based on key performance measures, including overall net present value, cumulative emissions, impact to ratepayers, and resource builds. To take one recent example of an effective IRP results table, see this graphic from the 2020 Duke Energy Carolinas IRP in Figure 1.¹²

Figure 1: Duke Carolinas System Portfolio Results Table

DEC / DEP COMBINED SYSTEM PORTFOLIO RESULTS TABLE												
	Base without Carbon Policy		Base with Carbon Policy		Earliest Practicable Coal Retirements		70% CO ₂ Reduction: High Wind		70% CO ₂ Reduction: High SMR		No New Gas Generation	
PORTFOLIO	A		B		C		D		E		F	
System CO ₂ Reduction (2030 2035) ¹	56%	53%	59%	62%	64%	64%	70%	73%	71%	74%	65%	73%
Present Value Revenue Requirement (PVRR) [\$B] ²	\$79.8		\$82.5		\$84.1		\$100.5		\$95.5		\$108.1	
Estimated Transmission Investment Required [\$B] ³	\$0.9		\$1.8		\$1.3		\$7.5		\$3.1		\$8.9	
Total Solar [MW] ^{4, 5} by 2035	8,650		12,300		12,400		16,250		16,250		16,400	
Incremental Onshore Wind [MW] ⁴ by 2035	0		750		1,350		2,850		2,850		3,150	
Incremental Offshore Wind [MW] ⁴ by 2035	0		0		0		2,650		250		2,650	
Incremental SMR Capacity [MW] ⁴ by 2035	0		0		0		0		1,350		700	
Incremental Storage [MW] ^{4, 6} by 2035	1,050		2,200		2,200		4,400		4,400		7,400	
Incremental Gas [MW] ⁴ by 2035	9,600		7,350		9,600		6,400		6,100		0	
Total Contribution from Energy Efficiency and Demand Response Initiatives [MW] ⁷ by 2035	2,050		2,050		2,050		3,350		3,350		3,350	
Remaining Dual Fuel Coal Capacity [MW] ^{4, 8} by 2035	3,050		3,050		0		0		0		2,200	
Coal Retirements	Most Economic		Most Economic		Earliest Practicable		Earliest Practicable ⁹		Earliest Practicable ⁹		Most Economic ¹⁰	

II. Evergy provided an update to its IRP just over a month before stakeholder comments were due

20. On September 22, 2021, Evergy filed a Request for Waiver based on changes to the IRP’s preferred resource portfolio as a result of a Predetermination Petition filed by Evergy on September 20, 2021.¹³ In the filed IRP, Evergy had included 350MW of solar and the retirements

¹² Duke Energy Carolinas, “[2020 Integrated Resource Plan – Corrected](#),” p. 16.

¹³ Evergy Kansas Metro and Evergy Kansas Central, “[Request for Waiver in Docket No. 19-KCPE-096-CPL](#),” 22 September 2021.

of Lawrence Energy Center (“LEC”) Units 4 and 5 in its preferred portfolio. In contrast to the filed IRP, the Predetermination Petition reduced the amount of planned solar from 350MW to 190MW and also claimed that converting LEC Unit 5 to natural gas would result in the same NPVRR as retiring LEC Unit 5.¹⁴

21. Evergy requested a waiver from the Commission’s Order Adopting Integrated Resource Plan and Capital Plan Framework issued in Docket No. 19-KCPE-096-CPL – specifically, the 60-day notice requirement within which Evergy would need to notify the Commission that the preferred portfolio is no longer appropriate.¹⁵ In requesting the waiver, Evergy is claiming that a 45.7 percent decrease in solar and the coal-to-gas conversion of a 403MW fossil plant are changes that will be dependent on the outcome of the predetermination hearing, instead of choices that can be analyzed within the context of an IRP.¹⁶

22. There are numerous concerns with Evergy’s late adjustment to its preferred portfolio. First, Evergy claims that converting LEC 5 instead of retiring the unit “will result in essentially the same net present value revenue requirement (“NPVRR”) for customers as retiring both units but will also provide additional reliability benefits.”¹⁷ However, keeping a 403MW fossil unit staying online for additional years introduces substantial risks that are not necessarily captured in the NPVRR. For example, it increases the risk of creating a stranded asset that ratepayers will have to cover, should the federal government implement enhanced carbon regulation. Similarly, it makes the preferred portfolio more vulnerable to volatile and high natural gas prices, which have been increasing to record high levels (they are currently at the highest point

¹⁴ Kansas Electric Power Cooperative, “[Response to Evergy Request for Waiver in Docket No. 19-KCPE-096-CPL](#),” October 4, 2021, p. 3.

¹⁵ Evergy Kansas Metro and Evergy Kansas Central, “[Request for Waiver in Docket No. 19-KCPE-096-CPL](#),” September 22, 2021, p. 1.

¹⁶ Nameplate capacity of Lawrence Unit 5 based on US [Energy Information Administration EIA-860 2020](#).

¹⁷ Evergy Kansas Metro and Evergy Kansas Central, “[Reply to Kansas Electric Power Cooperative In Support of Request for Waiver](#),” October 13, 2021, p. 2.

since 2010, with the exception of one month in 2014).¹⁸ Evergy's change to the preferred portfolio may subject ratepayers to these additional risks, without stress-testing the new portfolio against important sensitivities. CURB is hopeful that such stress-testing can be done in future IRP filings or more closely examined in the 22-141 Docket.

23. Second, in requesting the conversion to natural gas at Unit 5, in place of the original plan for retirement, Evergy references the need for additional reliability in light of the regional power grid challenges experienced in 2021.¹⁹ While it is understandable that the utility would take action to respond to the challenges experienced by the grid in February of 2021, converting a unit to rely on gas does not necessarily solve all the problems experienced during Winter Storm Uri. Natural gas supply constraints were responsible for many of the plant outages that occurred in the days after winter storm Uri.²⁰ Reliability issues associated with external market disruptions for fuel is but one of many considerations that may go into preparing for extreme weather events that is currently being reviewed in Docket No. 21-EKME-329-GIE. The interplay between actions taking in these various dockets should not be ignored and CURB looks forward to continuing dialog with all utilities and stakeholders regarding how best to prepare for future challenges during normal operations and emergency settings.

24. Finally, more broadly, the changes to the preferred portfolio may impact the high-level IRP results, including cumulative emissions and the timing of new resource builds. Evergy's change is also reflective of a highly manual IRP process and exemplifies the lack of optimized modeling techniques. Rather than possessing the ability to run a new scenario that converts LEC

¹⁸ U.S EIA, Natural Gas. Available at <https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm>.

¹⁹ Petition of Evergy Kansas Central, Inc., and Evergy Kansas South, Inc. for Determination of Ratemaking Principles and Treatment. Docket No. 22-EKCE-141-PRE.

²⁰ Crowley, Kevin, Naureen S. Malik, and Mark Chediak. *Gas sellers made \$11 billion while mission of Texans were without power in February*. Fortune, July 2021. Available at <https://fortune.com/2021/07/09/gas-sellers-made-11-billion-texas-winter-blackout/>.

5 instead of retiring the unit, Evergy has manually adjusted the resource mix in the preferred portfolio and cited the ongoing Predetermination Petition as a reason to avoid analyzing the updated portfolio against various scenarios and sensitivities beforehand.

25. Other intervenors have also addressed Evergy's late change to the preferred portfolio. Kansas Electric Power Cooperative ("KEPCo") raised concerns with both the timing of the conversion analysis and the impact on IRP discovery responses. KEPCo points out that "the exceedingly short timeframe involved here is unexpected to engaged stakeholders like KEPCo," and that the change to the preferred portfolio was announced just a month before IRP comments were due.²¹ Most concerning, KEPCo explains that intervenors may not receive the coal-to-gas conversion workpapers in time to assess this analysis within the context of the IRP. Finally, KEPCo also cites Evergy's response to KEPCO's discovery request 1-03, in which Evergy claimed that it had "not considered conversion as a retirement alternative in its IRP" and that it "plan[s] to evaluate conversion as an alternative in future IRPs."²² Evergy's response to KEPCo DR1-03 appears to no longer be the case in light of the recent announcement that LEC 5 will be converted rather than retired in the preferred portfolio.

26. We acknowledge that this analysis was done in response to "Evergy's efforts to expand its IRP analysis, consider changed circumstances, and critically assess its assumptions regarding retirements and resource additions under each of its preferred plans."²³ But, Evergy still has an obligation to be transparent and make workpapers and analyses available to other intervenors in a timely manner. Changing what amounts to hundreds of megawatts in the preferred portfolio and claiming that the timing of a separate docket prevents further analysis of this decision

²¹ Kansas Electric Power Cooperative, "[Response to Evergy Request for Waiver in Docket No. 19-KCPE-096-CPL](#)," 04 October 2021, p. 5.

²² *Id.*, p. 6.

²³ *Id.*, p. 5.

jeopardizes the reliability of the process and highlights the issues with using a rigid manual approach to the IRP. Evergy should conduct robust, optimized resource planning modeling to supports its decision to reduce its near-term solar deployment by 45.7 percent and convert LEC Unit 5 to operate on gas instead of retiring it. This analysis should compare the Company's proposal to alternative resource plans that install additional solar PV, retire LEC Unit 5 and replace any energy and capacity needed by the system with alternative resources. These are substantial changes that should be analyzed robustly as part of both this IRP and Docket No. 22-EKCE-141-PRE.

III. Evergy's modeling decisions and input assumptions do not reflect current market trends and IRP best practices

27. IRP results are only as good as the model inputs and settings used during the planning process. As described above, sheer numbers of scenarios does not necessarily equate modeling quality, and Evergy's scenarios are developed manually rather than with the aid of industry-standard capacity expansion software. Additional choices regarding scenario inputs, specifically with regards to effective load carrying capacity (ELCC),²⁴ resource costs, and unit retirements, detract from Evergy's IRP and burden ratepayers with the risks of an inadequate planning process.

28. Evergy has not utilized optimized capacity expansion modeling to create and evaluate its long-term resource plan.²⁵ Instead, the Company "modeled sales constraints in the capacity planning workbooks for each Alternative Resource Plan." Specifically, Evergy designed 27 Alternative Resource Plans that tested various permutations on plant retirement dates, resource

²⁴ ELCC can be defined as defined as a measure of the additional load that the system can supply with a particular generator of interest, with no net change in reliability.

²⁵ Evergy Response to Request CURB-12a.

additions, and price forecast sensitivities. In all these scenarios, the Company has hard-coded specific retirement dates for its coal plants and restricted the resource types that the model could select.

29. The Company's approach in relying on a static workbook instead of utilizing capacity expansion modeling has several drawbacks: (1) scenarios have been designed manually, so the universe of future resource plans is limited based on the specific parameters tested by the Company; (2) the approach produced a large quantity of data, which the Company was not prepared to interpret for stakeholders (as discussed above); (3) the modeling approach is not suited to model a future with increasing penetrations of alternative energy resources in the fuel mix, such as renewable energy and battery storage resources that require more granular and dynamic commitment and dispatch modeling.

30. The difference between optimized capacity expansion software, and scenario modeling is that the first answers the hypothetical question "what is the optimal resource mix, based on all resources reasonably available, over the time period of interest that can provide customers with the energy and capacity at the lowest cost they need while maintaining reliability." In contrast, the second answers the hypothetical question "What is the cost of this specific resource plan over the time period of interest." With optimized modeling, one scenario can be used to answer a myriad of questions around what new resources are built and when existing resource are retired in an optimal scenario. In contrast, with the existing approach, a new scenario has to be run to test each individual resource addition and retirement, and then the costs have to be compared. This hinders retirement analysis for certain units.

31. The use of optimized capacity expansion software, such as EnCompass, PLEXOS, and Aurora, to name a few, is standard and best practice among utilities in the US. Many utilities

have been using such software for years, and others have recently switched. For example, Xcel Energy and Duke Energy recently switched to EnCompass, and NV Energy recently switch to PLEXOS. Evergy itself indicates in its IRP that it is “in the process of evaluating and implementing new analytical tools that will enhance its IRP process. Such tools include a capacity expansion optimization tool currently under development.”²⁶ CURB is hopeful that Evergy will continue refining its analytical capabilities in order to improve the reliability of the IRP as the future unfolds. CURB encourages Evergy to share with the public and the Commission details of about its new analytical tools and its plan to transition its future resource planning processes to this new tool.

32. As discussed in detail above, CURB’s main concern with Evergy’s modeling approach is that the Company tested specific scenarios and did not run an optimized capacity expansion model. But we also have concerns with some of the individual modeling decision that the Company made regarding retirement of existing resources. Specifically, we are concerned that the Company did not test seasonal retirement, and did not test a sufficient range of retirement dates.

33. First, Evergy did not test whether a switch to seasonal operation, that is operation only during the summer and winter seasons when demand is highest, at any of its existing coal plants would produce a more optimal resource plan.²⁷ This is increasingly important for coal plants with future retirement dates locked in based on existing coal contracts, lead-time necessary for procuring alternatives, or simply because the Company has determined a future retirement date is most economic. In the years prior to retirement, seasonal operation is a way to minimize costs and emissions from aging resources during the off-peak season when demand is lower and market

²⁶ Evergy 2021 Integrated Resource Plan, page 169.

²⁷ Evergy Response to Request CURB-6b.

prices are lower.²⁸ This practice has been adopted by numerous utilities around the county, for example Xcel Energy in Minnesota recently switched two of its coal plants to seasonal operation in 2020,²⁹ and Tucson Electric Power announced it will switch one of its units to seasonal operations in 2023.³⁰

34. Second, the lack of optimization modeling hinders retirement analysis for certain units. Specifically, the Company only sees the results for retirement dates that it explicitly models at each individual unit. Evergy considers the book life retirement dates for units, and on occasion manually sets an earlier retirement date. For example, in the Kansas Central scenarios, Evergy analyzes a Lawrence 4 and 5 2030 retirement date in 12 scenarios and a 2023 retirement date in 9 scenarios. However, it is unclear why they chose to skip potential retirement dates between 2024 and 2029. A similar dynamic is in play with LaCygne units, which are set to retire in either 2023, 2029, or 2032 but never between 2024 and 2028. Evergy should expand the options and alternatives that it models for its existing coal plants. Specifically, the Company should evaluate the economics of seasonal operation and test a larger range of retirement dates for each coal plant.

35. One aspect of the IRP that may be refined by updated modeling tools and approaches is the inclusion of renewable energy resources in future generation mixes. Along the same vein as electric vehicles, technological advances are occurring rapidly in the renewable generation field. On one hand, renewables can provide a cheaper form of energy that is largely

²⁸ Morey, Mark, and Alex Gorski. *As U.S. coal-fired capacity and utilization decline, operators consider seasonal operation*. U.S. Energy Information Administration (EIA), September, 2020. Available at <https://www.eia.gov/todayinenergy/detail.php?id=44976>.

²⁹ Morehouse, Catherine. *Minnesota approves Xcel request to operate 2 coal plants seasonally*. Utility Dive, July 16, 2020. Available at <https://www.utilitydive.com/news/minnesota-approves-xcel-request-to-operate-2-coalplants-seasonally/581729/>.

³⁰ St. John, Jeff St. *2 more western utilities move to close coal plants early, shirting to renewables and storage*. Greentech Media, June 29, 2020. Available at https://www.greentechmedia.com/articles/read/two-more-western-utilitiesmove-to-close-coal-plants-early-shift-to-renewables-andstorage?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+greentechmedia%2Fnews+%28Greentech+Media%3A+News%29.

independent from extreme market forces. On the other, reliability and initial investment concerns warrant a careful approach to large-scale transitions. While CURB appreciates the difficulty in predicting how the financial market will encourage the advancement of energy generation in order to continue providing energy at a reasonable price, many public and private entities are poised to promote widespread adoption of renewable energy resources in the near future. In any event, CURB's role in KCC dockets includes advocating for the provision of sufficient and efficient service at a reasonable cost. To that end, CURB believes it is critical that Evergy and the stakeholders are able to view the full and most up-to-date data and analytics. CURB offers the following sections based on Evergy's IRP and analyses by Synapse as an illustration of an area where additional data sources can provide a different outlook for the future. To the degree that renewables can and should play a larger role Evergy's generation mix, CURB appreciates the opportunity to participate in dockets like the present one and 22-EKME-141-PRE in order to vet the appropriateness of Evergy's plans.

36. In addition to manual cost inputs, solar, wind, and battery resources appear to be skewed in other ways. For example, solar and storage only become available as candidate resources in 2024. This delays investment in zero carbon and flexible resources that can provide low-cost energy to Evergy ratepayers. Lowered capacity values assigned to solar, wind, and storage resources can also impact comparisons and conclusions. Capacity values are often denoted by Effective Load Carrying Capability ("ELCC"), which captures a resource's contribution to resource capacity. ELCC can vary depending on the overall capacity of a resource and declines as more resources of the same type are added to the system. However, Evergy's starting ELCC values are below the capacity values identified in a recent Southwest Power Pool ("SPP") study. As a result, the renewable-heavy portfolios in Evergy's IRP encourage overbuilding because more

resources are needed to ensure resource adequacy. Conversely, ELCC values that are too low for wind, solar, and storage skew these resources in comparison with gas builds and can lead to portfolios that are reliant on fossil units that are vulnerable to CO₂ regulations and stranded asset risk.

37. While determining appropriate ELCC values is a technical undertaking that depends on both the particular region and levels of resource deployment, the SPP territory has similar solar irradiance and wind resource levels as Evergy and is likely a useful proxy for what ELCC values Evergy should use in its IRP.³¹ According to Evergy's response to CURB DR-13, Evergy credits solar resources with an initial 50percent ELCC that declines to 10 percent once solar capacity reaches 20 percent of projected peak demand. Wind resources receive a 10% ELCC until 2037, at which point the value increases to 25 percent once certain wind power-purchase agreements ("PPAs") expire. Storage resources receive a 90 percent ELCC. In contrast, a recent Astrapé Storage ELCC Report for SPP determined that the first 1,500MW of storage could receive a credit of close to 100 percent and that the average capacity credit of the first 4,000MW would still be about 90 percent.³² None of Evergy's alternative resource plans include anywhere close to 4,000MW of storage, which means that Evergy should credit battery storage an ELCC value that starts closer to 100 percent.

38. A similar dynamic is at play regarding Evergy's treatment of solar and wind. Astrapé conducted a separate study of solar and wind ELCCs in SPP, and in both cases found that the starting ELCC value for those resources should be higher than those used by Evergy. Astrapé studied resource performance between 2012 and 2019 and found that wind resources perform to a

³¹ National Renewable Energy Laboratory (NREL), "[National Solar Radiation Database](#)" and "[Wind Resource Maps and Data](#)."

³² Astrapé Consulting, "[SPP Energy Storage Study: Final Report](#)," November 2019.

summer ELCC of 21.9 percent even when wind capacity amounts to 25 percent of peak demand. The summer ELCC value for wind decreases to 16.8 percent once wind capacity reaches over 50 percent% of peak demand. Astrapé's starting ELCC for wind is thus over twice as high as Evergy's wind ELCC, and remains higher than Evergy's approach even at high levels of deployment.³³

39. For solar, Astrapé found that the summer ELCC starts as high as 72 percent for the first solar deployments and decreases to 61.4 percent once solar capacity reaches 10 percent of peak demand. According to the Astrapé/SPP study, the summer ELCC for solar does not start to approach the starting level used by Evergy until solar capacity represents over 30 percent of peak demand. This is higher than Evergy, who only credits solar resources with a 10 percent ELCC once solar reaches 20 percent of peak demand.³⁴

40. The data sources for Evergy's IRP candidate resource capital costs are presented inconsistently, and in the case of onshore wind appear to differ significantly from the latest 2021 National Renewable Energy Laboratory Annual Technology Baseline ("NREL ATB") projections. In the text of the filed IRP, Evergy writes that "the development of the costs for each of the potential new supply-side resource options were calculated utilizing 2020 EIA AEO data as well as assumptions and financials developed by Evergy."³⁵ However, in Evergy's response to CURB DR-4, the utility seems to use components of the 2019 NREL ATB, in addition to the sources cited in the IRP itself. The 2019 NREL ATB data source for resource costs is identified in the relevant workpapers but is not mentioned in the IRP.

41. This is relevant for several reasons. First, transparency in an IRP is vitally important for stakeholders, who deserve clear and accurate disclosures of the methods and inputs used by the

³³ *Id.*, Figure 1.

³⁴ *Id.*, Figure 2.

³⁵ Evergy Kansas 2021 IRP, page 63.

utility so that these methods can be corroborated and assessed. Second, this point highlights the challenges inherent in forecasting process due to evolving data. The IRP process is a time-intensive and detailed process. Industry leading projects are sources are updated regularly. If the utility is not careful about using the most up-to-date sources, it risks relying on obsolete information and projections. At the time of writing, both the 2020 and 2021 NREL ATBs have been released, in addition to the 2021 AEO. The latest ATB and AEO forecasts take into account advancing technology and more recent cost information.

42. According to Evergy's response to CURB DR-4, Evergy identifies a starting capital cost for each resource. Depending on the resource, this either comes from the results of an Evergy request for proposal (RFP) or from AEO 2020. Evergy then takes an average of the resource cost curves from 2019 through 2040 from both AEO 2020 and NREL ATB 2019 and then applies the average annual cost reduction to the chosen starting value to determine the resource capital costs for each year of the study period. Overall, the approach in the workpapers provided in discovery differ from the description in the IRP of how Evergy identified resource costs, adding an unnecessary layer of obfuscation decoding to what should be a transparent process.³⁶

43. While the resulting solar and storage costs appear to track the 2021 NREL ATB relatively closely, the case of onshore wind highlights the problem with Evergy's approach. The 2019 NREL ATB differs significantly from the more recent 2021 NREL ATB, and using 2019 cost projections completely discounts the actual cost data that has been gathered since older versions of the ATB were published.

³⁶ To complicate matters further, each of Evergy's attachments for various resources use a different dollar year for capital costs. Solar capital costs, for example, are provided in 2023\$ while wind capital costs are provided in 2020\$. For the purpose of our analysis, all costs cited in these comments from both public data and from Evergy's discovery responses were converted into 2021\$. In addition, Evergy only presents the levelized cost of energy in \$/MWh in the IRP rather than the standard overnight capital costs in \$/kW presented by NREL in the ATB.

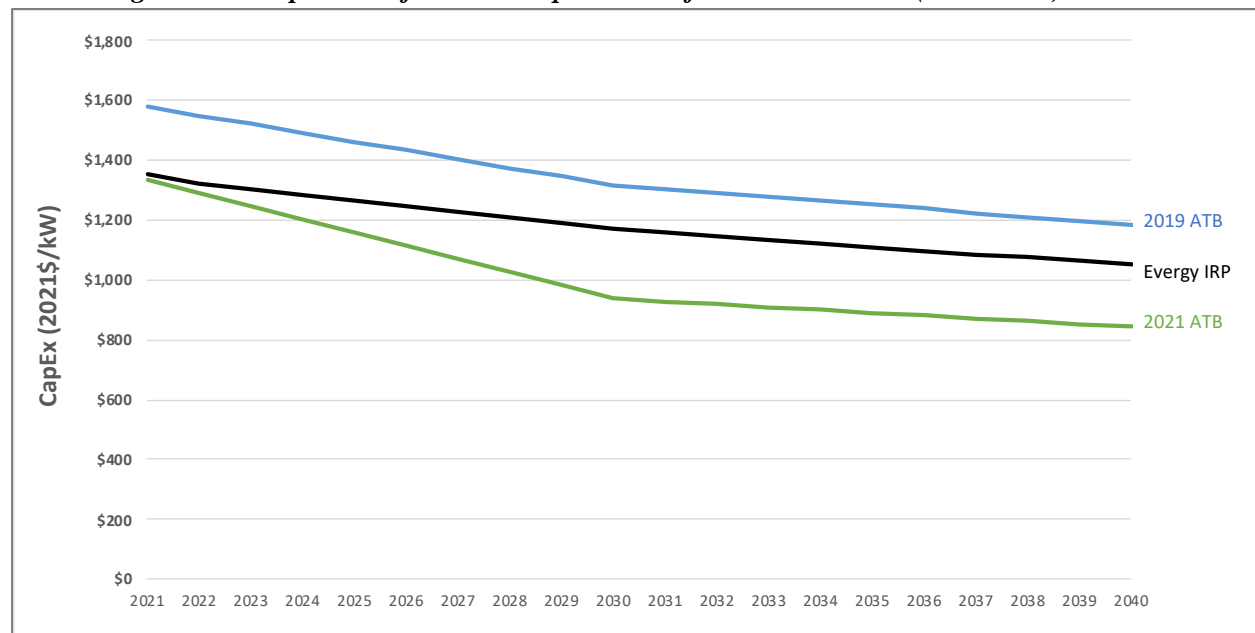
44. This can have real implications for how Evergy compares the cost of future resource builds in its portfolio analysis. As shown in Table 1, the 2019 NREL ATB projects that onshore wind will decrease 25.0 percent between 2021 and 2040. The costs used by Evergy in its IRP, which averages the 2019 NREL ATB cost decline forecast with a more conservative 2020 EIA AEO forecast, result in a slightly lower projected cost decline of 22.5 percent. Both of these projections, based on outdated data sources, are far below the 2021 NREL ATB, which anticipates that onshore wind capital costs will decline by 36.6 percent by 2040.

Table 1: Comparison of Projected Capital Cost Reductions for Onshore Wind (2021-2040)

Cost Projection	\$/kW in 2019 (2021\$)	\$/kW in 2040 (2021\$)	% Total Cost Decline	Avg. Annual Cost Decline
Evergy IRP	\$1,355	\$1,051	22.5%	-1.3%
NREL ATB 2019	\$1,578	\$1,184	25.0%	-1.4%
NREL ATB 2021	\$1,333	\$845	36.6%	-2.2%

Source: NREL Annual Technology Baseline (ATB) for 2019 and 2021. CURB-4 Attachment "QCURB-4_MIDAS Template - Wind.

Figure 2: Comparison of Annual Capital Costs for Onshore Wind (2021-2040)



Source: NREL Annual Technology Baseline (ATB) for 2019 and 2021. CURB-4 Attachment "QCURB-4_MIDAS Template - Wind.

45. While Evergy's starting-year costs for wind are in line with current projection by NREL, the Company's cost decline assumptions are elevated. Looking forward, the onshore wind costs used by Evergy in the IRP are much higher than the costs projected by the 2021 NREL ATB.

IV. Customers of Evergy Kansas are missing out on benefits based on the Company's currently limited investment in demand-side management

46. Evergy Kansas is making minimal investment in demand-side management (DSM) programs, such as energy efficiency and demand response. DSM is an important strategy for cost-effectively meeting demand and reducing overall costs to ratepayers. It is less expensive to save one kilowatt-hour (kWh) of electricity or reduce one kilowatt (kW) of demand than to incur costs associated with generating additional power (e.g. costs for building and maintaining power plants, purchasing fuels for power plants, maintain grid infrastructure, paying environmental compliance fees for fossil-based generation, and more). The potential for cost effectiveness of DSM has been demonstrated extensively through industry and academic literature, with the average cost typically less than \$0.03 per kWh for utility-funded programs;³⁷ by comparison, Evergy recovered \$0.13 per kWh for residential sales in 2020.³⁸ DSM provides multiple benefits to ratepayers, including reduced system costs (which, in turn, lowers billing rates), lower bills due to less electricity consumption, and environmental and health benefits from reduced emissions.

³⁷ See, for example:

- Frick, N.M., Murphy, S., Miller, C. and Pigman, M., 2021. *Still the One: Efficiency Remains a Cost-Effective Electricity Resource*. Lawrence Berkeley National Laboratory. Available at: https://eta-publications.lbl.gov/sites/default/files/cose_cspd_analysis_2021_final_v2.pdf.
- Goldman, C., I. Hoffman, S. Murphy, N.M. Frick, G. Leventis, and L. Schwartz. 2020. "The Cost of Saving Electricity: A Multi-Program Cost Curve for Programs Funded by U.S. Utility Customers." *Energies* 13.
- Hoffman, I., C. Goldman, G. Rybka, G. Leventis, L. Schwartz, A. Sanstad, and S. Schiller. 2017. "Estimating the cost of saving electricity through U.S. utility customer-funded energy efficiency programs." *Energy Policy* 104, 1-12.
- Ackerman, F., P. Knight, and B. Biewald. 2016. *Cost of Saved Energy: The EIA 861 database*. Synapse Energy Economics, Inc. <https://www.synapse-energy.com/sites/default/files/COSE-EIA-861-Database-66-017.pdf>.

³⁸ Synapse analysis of data from US EIA Form 861 (year 2020).

47. Evergy's portfolio of DSM programs is limited to five programs: low-income weatherization, a thermostat demand response program, building operator certification, a home energy analyzer program, and a business energy analyzer program.³⁹ Other utilities throughout the Midwest and U.S. offer much more expansive portfolios of DSM programs. The following types of programs and measures are not included in the Company's proposed DSM plan: (1) a residential new construction program, (2) a residential home retrofit program, (3) a products and services program, (4) a multi-family program, (5) a commercial and industrial new construction program, (6) a small business retrofit program, (7) a commercial and industrial retro-commissioning program, (8) an agricultural program, (9) strategic energy management or continuous energy improvement program for commercial and industrial customers, (10) a net zero energy building pilot program, (11) a deep energy retrofit pilot program, and (12) a conservation voltage reduction program.⁴⁰ By comparison to Missouri, Evergy's Kansas DSM program offerings are exceptionally limited, as shown in Table 2.

³⁹ *Docket No. 20-KCPE-154-MIS*. Order Granting Approval of Demand-Side Management Programs. 7/23/2020.

⁴⁰ Evergy response to question Request CURB-28; Evergy Kansas 2021 IRP (page 48).

Table 2. Evergy demand-side program offerings by service territory

MO Metro	MO West	KS Metro	KS Central
<i>Energy Efficiency</i> Business Standard Business Custom Business Process Efficiency Energy Saving Products Heating, Cooling and Home Comfort Home Energy Report Income-Eligible Home Energy Report Income-Eligible Multi- Family Income-Eligible Weatherization	<i>Energy Efficiency</i> Business Standard Business Custom Business Process Efficiency Energy Saving Products Heating, Cooling and Home Comfort Home Energy Report Income-Eligible Multi- Family Income-Eligible Weatherization	<i>Energy Efficiency</i> Income-Eligible Weatherization	
<i>Demand Response</i> Business Demand Response Business Smart Thermostat Residential Demand Response	<i>Demand Response</i> Business Demand Response Business Smart Thermostat Residential Demand Response	<i>Demand Response</i> Business Smart Thermostat Residential Demand Response	<i>Demand Response</i> Interruptible Wattsaver Wattsaver
<i>Educational</i> Online Home Energy Audit Online Business Energy Audit	<i>Educational</i> Online Home Energy Audit Online Business Energy Audit	<i>Educational</i> Online Home Energy Audit	

Source: Evergy Response to Request CURB-36, Attachment DR_CURB-36c.

48. Evergy has service territories that span Kansas and Missouri, yet very different DSM program offerings in each state. Evergy acknowledges that the company's Missouri jurisdictions have had significant DSM programs for many years while its Kansas jurisdictions have had limited programs.⁴¹ In contrast, Evergy has not presented a new portfolio of DSM programs to the Commission since Docket No. 16-KCPE-446-TAR.⁴² There, the Commission was

⁴¹ Evergy Response to Request CURB-34.

⁴² See Application for Kansas City Power and Light Company, Docket No. 16-KCPE-446-TAR, April 6, 2016.

presented with a cornucopia of information and benefit-costs tests to evaluate the appropriateness of then-Kansas City Power and Light Company's (KCPL) proposal to implement new DSM programs under the Kansas Energy Efficiency Investment Act, or KEEIA. CURB intervened in the docket and opposed the new program for not being cost-effective and inuring too many of the benefits to company shareholders.⁴³ Ultimately, the Commission rejected and modified several programs and proposed budgets.⁴⁴ Instead of accepting those modification to the portfolio and moving forward with the approved new DSM programs, KCPL withdrew the entirety of its application and implemented nothing from its original application and just asked to extend its current portfolio.⁴⁵ Since that time, KCPL/Evergy has only filed for extensions to the existing programs and changes to their budgets.⁴⁶ However, CURB has been in discussions with Evergy regarding forthcoming DSM filings. CURB welcomes the opportunity to engage with Evergy and stakeholders again on expanding DSM in Kansas. The following presents a snapshot of Evergy's DSM results as compared to other utilities in the region.

49. The U.S. EIA Annual Electric Power Industry Report, Form EIA-861, indicates that Evergy's DSM programs in Kansas achieved 7 and 31 megawatt-hours (MWh) of total incremental annual energy savings in 2019 and 2020, respectively. By comparison Form-861 shows that Evergy's DSM programs in Missouri achieved 192,100 and 134,482 MWh of total incremental annual energy savings in 2019 and 2020. Evergy's Kansas programs achieved 0 megawatts (MW) of peak demand savings, while the Missouri programs achieved 36.4 and 28.1 MW in these two years.

⁴³ See Post-Hearing Brief of CURB, Docket No. 16-KCPE-446-TAR, May 8, 2017.

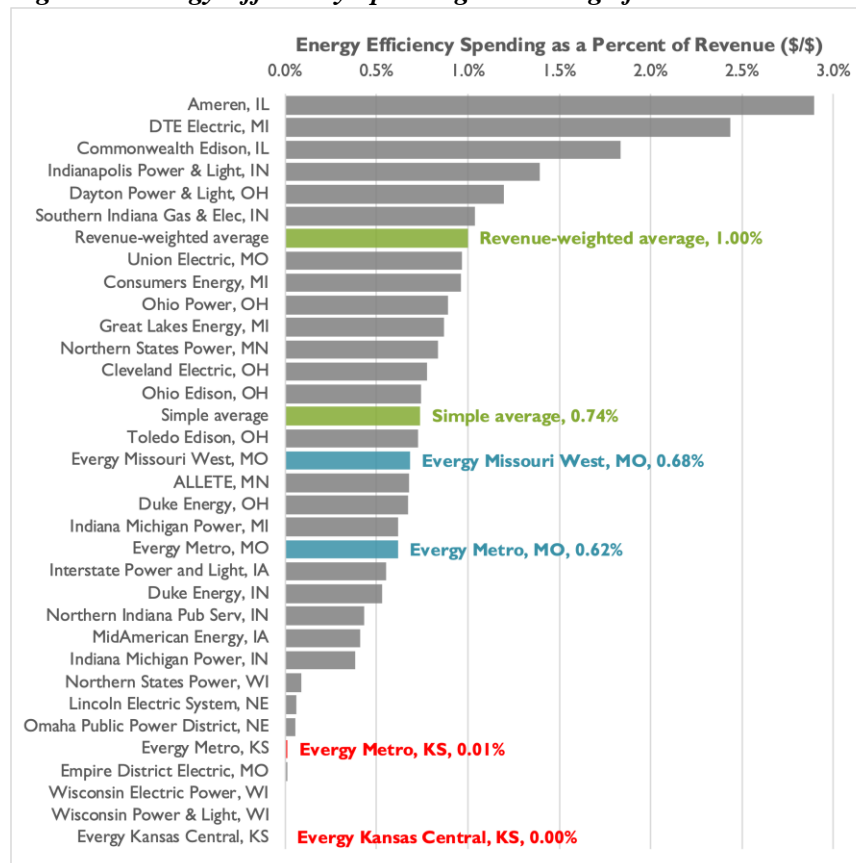
⁴⁴ *Final Order*, pg. 52-58, Docket No. 16-KCPE-446-TAR, June 22, 2017.

⁴⁵ *Kansas City Power & Light Company's Notice of Withdrawal of Plan*, Docket No. 16-KCPE-446-TAR, June 30, 2017.

⁴⁶ See Docket No. 20-KCPE-154-MIS.

50. The disparity between Evergy DSM opportunities is most apparent for its Metro customers in the Kansas City area, with some customers served by the Missouri division of Evergy and others served by Evergy’s Kansas division. Figure 3 and Figure 4 show that Evergy’s commitment to DSM and performance of its programs are trailing compared to peer utilities in the Midwest. While Evergy Missouri (in blue) spends less of its revenues on DSM than the average peer, Evergy Kansas still ranks at the bottom among Midwest utilities. Similarly, Evergy Missouri achieves fewer savings than average, but Evergy Kansas is among the lowest ranked.

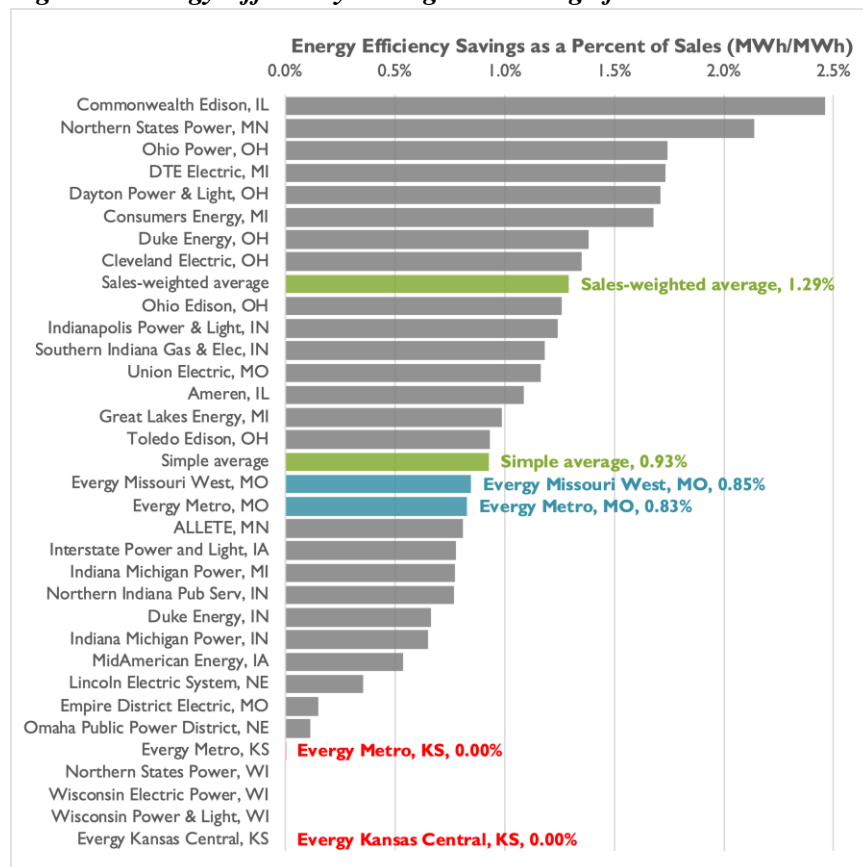
Figure 3. Energy Efficiency Spending—Ranking of Midwest Utilities



Comparison among utilities in OH, MI, IN, IL, WI, MO, IA, MN, KS, NE, SD, and ND serving at least 100,000 customers.

Source: Synapse analysis of data from US EIA Annual Electric Power Industry Report, Form 861 (year 2020).

Figure 4. Energy Efficiency Savings—Ranking of Midwest Utilities

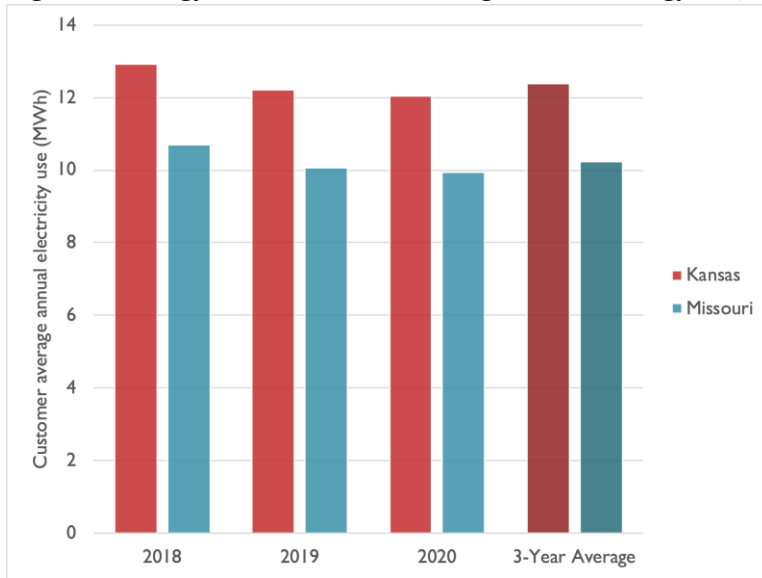


Comparison among utilities in OH, MI, IN, IL, WI, MO, IA, MN, KS, NE, SD, and ND serving at least 100,000 customers.

Source: Synapse analysis of data from US EIA Annual Electric Power Industry Report, Form 861 (year 2020).

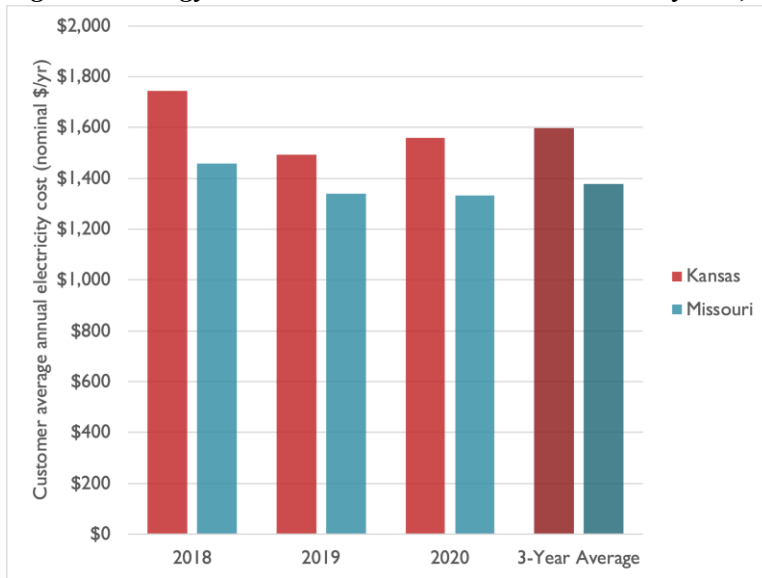
51. Utility investments in DSM and the effectiveness of the DSM programs can have a real impact on customer rates. In the case of Evergy, comparing energy use and costs suggests that Evergy Kansas' delay in bringing cost-effective DSM may have adversely affected its customers. The average annual electricity use of Metro residential customers in Kansas is 2,160 kWh (21 percent) higher than in Missouri over the last three years—see Figure 5. These Kansas customers also paid \$222 (16 percent) more for electricity on average each year—see Figure 6.

Figure 5. Evergy Metro customer average annual energy use, residential



Source: Synapse analysis of data from US EIA Annual Electric Power Industry Report, Form 861 (years 2018–2020).

Figure 6. Evergy Metro customer total annual electricity cost, residential



Source: Synapse analysis of data from US EIA Annual Electric Power Industry Report, Form 861 (years 2018–2020).

52. Evergy acknowledges that there are no legal or regulatory requirements that prohibit the company from applying to expand its demand-side management programs in Kansas.⁴⁷

⁴⁷ Evergy Response to Request CURB-27.

The company acknowledges that the Kansas Energy Efficiency Investment Act statute has provisions for the Commission to allow “recovery of lost revenue associated with demand-side programs” and “allowing the public utility to retain a portion of the net benefits of a demand-side program for its shareholders.”^{48,49} Evergy indicated that it applied to the Commission for energy efficiency programs in 2015 and 2016,⁵⁰ though the dates of these applications were prior to the formation of Evergy through the merger of Great Plains Energy Incorporated and Westar Energy, Inc. in June 2018.⁵¹ However, CURB is optimistic that change is on the horizon for this trend. Evergy has been active recently in meeting with CURB and other stakeholders about a new portfolio of plans. CURB eagerly awaits the opportunity to review a new DSM filing in Kansas and to work with parties in implementing cost-effective and accessible programs for ratepayers.

53. Evergy stated that it is currently working with ICF to develop energy efficiency and demand response programs appropriate for Kansas and plans to file an application in the fall of 2021.⁵² However, Evergy has not yet provided a clear timeline or detailed plan for launching DSM programs that will provide the impacts identified in the IRP.⁵³ While Evergy is still refining its plans for DSM in Kansas, CURB offers these observations in the hopes of producing meaningful discussions about any new DSM portfolio. Evergy’s forecasted performance for its current DSM programs will be insufficient to meet the savings targets identified in the IRP: The combined cumulative savings for all Evergy Kansas Metro’s DSM programs over the period 2023 to 2031 is 417 MWh (or 46 MWh/yr),⁵⁴ an amount equal to 0.02 percent of its targeted DSM savings in the

⁴⁸ Evergy Response to Request CURB-40; Evergy Response to Request CURB-41.

⁴⁹ Kansas Energy Efficiency Investment Act, K.S.A 66-1283(d) (1)(B) and K.S.A 66-1283(d)(1) (F).

⁵⁰ *Id.*, Evergy Response to Request CURB-27.

⁵¹ Evergy, Inc. 2021. *Historical Westar Energy / Great Plains Energy Information*. Available at: <https://investors.evergy.com/about-evergy/westar-energy-acquisition>.

⁵² Evergy Response to Request CURB-28.

⁵³ *Id.*

⁵⁴ Evergy Metro, Inc. 2019. Application of Evergy Metro, Inc. for Approval to Extend Demand-Side Management Programs. See: CURB-26_Westar 2019-10-01 Public Version Evergy Metro DSM Programs Application.pdf

2021 IRP over the same period⁵⁵ (or 0.0007 percent of its annual sales⁵⁶). Historically, Evergy Kansas has focused a disproportionate share of its DSM spending on educational programs without demonstrated effectiveness⁵⁷ and with no quantified energy or demand savings targets.⁵⁸

54. A preliminary step to developing a robust portfolio of DSM programs is performing a *potential study* to quantify the opportunity for energy and demand reduction associated with energy efficiency and demand response. For example, Evergy Missouri commissioned a detailed study of the DSM potential in Missouri⁵⁹ but has not performed such a study for its Kansas service territory. Instead, Evergy adapted the Missouri study to Kansas by scaling it to Kansas's size. Specifically:

Based on the 2020 DSM Potential Study conducted by ICF Resources LLC for Evergy Missouri jurisdictions, Evergy developed methodologies for the estimation of DSM potentials for Kansas Metro and Kansas Central using same demand-side resources. Evergy evaluated the annual system peak load of each jurisdiction in Missouri and Kansas. A factor was then found as the ratio of Kansas Metro and Kansas Central to the total of Missouri jurisdictions respectively. The factors later were applied to the calculation of energy and demand savings of Kansas Metro and Kansas Central.

55. Evergy could improve its DSM projections for Kansas customers by studying in detail how Kansas' DSM needs and opportunities differ from that of Missouri.⁶⁰

Evergy Kansas supports five demand-side management programs: low-income weatherization, a thermostat demand response program, building operator certification, a home energy analyzer program, and a business energy analyzer program. Of these programs, only the low-income program provides quantifiable energy savings (see attachment 1, page 2); however, the scope is quite limited, only serving 14 participants per year during the 2020-2022 period (see attachment 1, page 4). Evergy estimates that the thermostat program saves approximately 5 MW (13,000 participants at 0.385 kW per participant (attachment 5, page 2). However, Evergy does not intend to evaluate the performance of the thermostat program, so the estimated demand reduction will not be verified unless the Commission directs Evergy to do so. The home energy analyzer and building operator certification programs do not have energy or demand savings goals, as they are educational in nature (attachment 2, page 1; attachment 4, page 6).

⁵⁵ Evergy Kansas 2021 IRP, Table 14 (page 50).

⁵⁶ Relative to 2020 annual sales, as reported in form US EIA 861 (2020).

⁵⁷ *Docket No. 20-KCPE-154-MIS*. Order Granting Approval of Demand-Side Management Programs. 7/23/2020.

⁵⁸ Evergy 2019 Application to Extend DSM Programs (attachment 2, page 1; attachment 4, page 6).

⁵⁹ ICF Resources, LLC. 2020. *Evergy 2019 DSM Potential Study*. Prepared for Evergy, Inc.

⁶⁰ Evergy Kansas 2021 IRP (page 48).

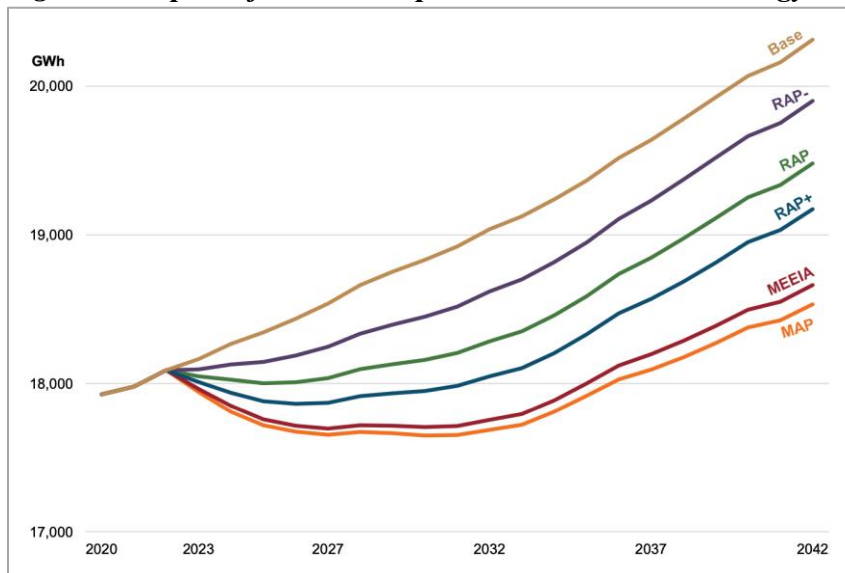
56. The Missouri study indicates that through cost-effective DSM programs, load could decline over the next 5-10 years, as shown in Figure 7. The full portfolio of residential and commercial DSM measures evaluated for Missouri proved to be cost-effective, with ratios of benefits to costs greater than or equal to 1 when evaluated using two industry-standard cost effectiveness tests. Specifically:⁶¹

While the variation in the avoided costs and the discount rate result in a wide variation in the Total Resource Cost (TRC) test and the Program Administrator Cost (PAC) test, the portfolio remains cost effective in most cases when measures use the TRC and all cases when measures use the PAC...The residential portfolio remains very cost effective, varying between 2.0 and 3.5. While this represents a large variation in the benefit-cost ratio, it does not represent significant risk since it does not come close to approaching the threshold of 1.0...The TRC cost effectiveness of the commercial portfolio also comes very close to dropping below 1.0, the cutoff for cost-effectiveness, but remains in the range of 1.0 to 1.7.

57. Despite evidence from Missouri of substantial potential for cost-effective DSM, Evergy Kansas has targeted minimal investment in its 2021 IRP. Figure 8 shows that the planned DSM investment in Kansas is less than even the minimal DSM scenario considered in Missouri.

⁶¹ *Id.*, Appendix 5C: ICF 2020 DSM Potential Study - Vol 3 – Evergy DSM Potential, pages 81-82.

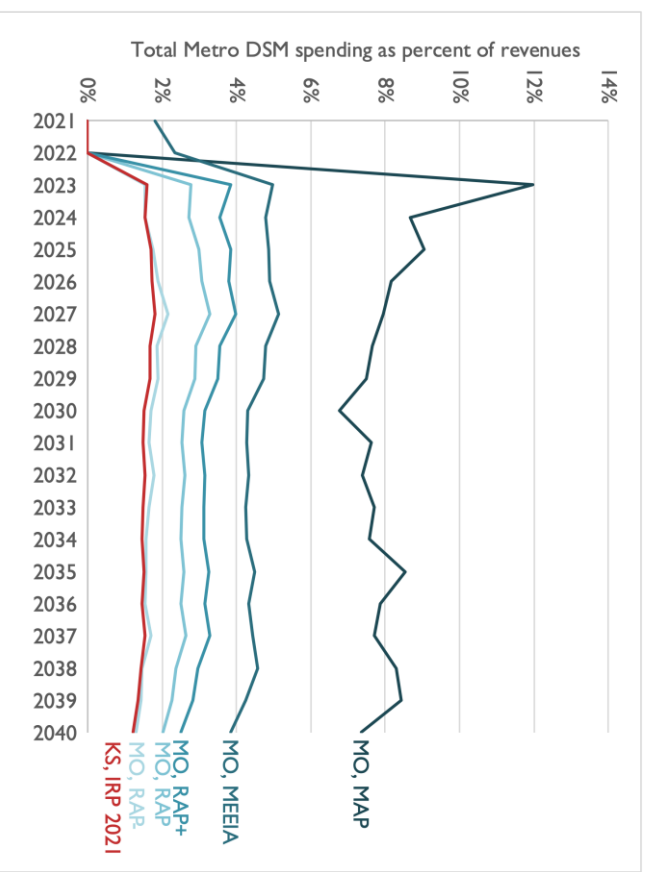
Figure 7. Impact of achievable potential scenarios on Evergy's baseline load forecast



Source: ICF Resources, LLC. 2020. Evergy 2019 DSM Potential Study. Prepared for Evergy, Inc. Figure I-25.

Includes five achievable DSM potential scenarios: Realistic Achievable Potential (RAP), RAP-, RAP+, Missouri Energy Efficiency Investment Act (MEEIA), and Maximum Achievable Potential (MAP)

Figure 8. *Evergy demand-side management and energy efficiency spending as a percent of revenue*



Source: Synapse analysis of Metro 2021 IRP - Expected Value Performance Measures, "Metro 2021 IRP - _____.xlsx", "Central 2021 IRP Final 20Yr Plan Rankings.xlsm" Assumes revenues from scenario CHEBV (Evergy's highest ranked plan), "QCURB-3_Metro 2021 Plan Rankings.xlsm" Assumes revenues from MCGDU (Evergy's highest ranked plan); the split of Evergy Metro future revenues earned in KS and MO is estimated based on historical revenue data from US EIA Annual Electric Power Industry Report, Form 861 (2020 data).

Includes five achievable DSM potential scenarios: Realistic Achievable Potential (RAP), RAP-, RAP+, Missouri Energy Efficiency Investment Act (MEEIA), and Maximum Achievable Potential (MAP)

58. As the above shows, there is a respectable amount of disparity between Kansas and Missouri in the use of DSM. CURB believes that this analysis helps to quantify the amount of work that may need to go into developing a robust DSM program in Kansas. As previously stated, Evergy is gearing up to bring something to the Commission for DSM. To the extent that any of those plans incorporate or abandons numbers and conclusions from the 2021 IRP update, CURB reserves the right to amend its position.

V. External factors such as market volatility and sudden stranded asset costs present financial and reliability risks for ratepayers if they go unaddressed

59. 2021 has seen natural gas prices reach the highest level since 2014 and the potential for volatility within the natural gas commodity market still exists.⁶² The extreme cold weather and freezing conditions that came with Winter Storm Uri in February 2021 provided the exclamation point on this trend of gas price volatility. Yet, this winter event does not necessarily mark the end of extreme weather conditions or price hikes. Global supply and labor shortages still run amok as a result of the COVID-19 pandemic. This has the effect of stifling the economy on many different levels and may not ease up for a considerable time. The myriad of logistical levels involved with the use and delivery of natural gas for energy generation compound costs that get passed directly onto ratepayers.

60. CURB believes it is vital for all utilities to develop resource plans and strategies to cope with sudden and slow rises in commodity prices. The Commission opened Docket No. 21-EKME-329-GIE as a result of Winter Storm Uri and the substantially higher natural gas prices during that event. CURB is actively participating in that docket and evaluating Evergy's actions during the event and strategies for future events. It is vitally important that Evergy consider the volatility risk of each portfolio, especially if the utility includes new gas plants or coal-to-gas conversions in their preferred portfolio. In addition to current high natural gas prices, which have driven NYMEX futures far above Evergy's forecasts in the near-term, a review of natural gas prices in the last ten years shows how volatile natural gas can be. Spikes in the cost of natural gas in 2009, 2014, and now in 2021 are far above Evergy's high natural gas price forecast. While specific actions towards natural gas purchases for emergency events will be developed within the

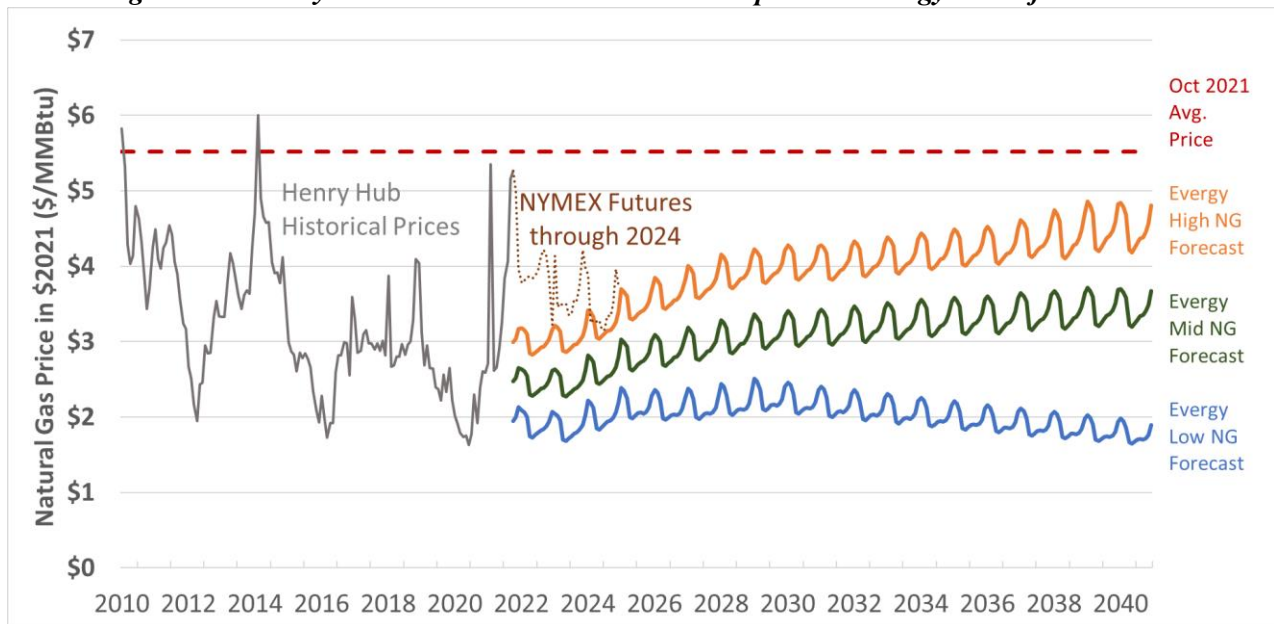
⁶² Kemp, John. "[Column: Global Gas Prices Soar as Industry Struggle to Meet Resurgent Demand](#)," *Reuters*, 9 September 2021.

21-329 docket, an analysis of Evergy's projections on this matter generally is appropriate to understand the current market environment.

61. The risk to Evergy consumers from high natural gas prices should not be ignored. At the time of writing, the Energy Information Administration projects that household heating bills might increase by up to 54 percent during the winter of 2021-2022 for households that rely on fossil fuels for heating.⁶³ The historic frequency and the present-day reality of high natural gas prices means that Evergy should be more proactive by planning for similar high gas prices in the IRP. Figure 9 below shows historical gas prices compared to Evergy's gas price forecasts in its IRP. Historical prices, with the exception of one spike in 2014, are at the highest point we have seen since 2010. The red dotted line shows current gas price for the month of October 2021 as a point of comparison. We also show the near-term NYMEX Futures for the next three years, which are higher than Evergy's projections, but come down to around the level of the Company's high forecast by 2024.

⁶³ JuYeon Kim, "[Heating bills could jump as much as 54% this winter due to higher prices of energy.](#)" *Kansas City KSHB*, October 16, 2021.

Figure 9: Monthly Natural Gas Price – historical compared to Evergy’s IRP forecasts



Source: Calculated from NYMEX futures available at <http://www.cmegroup.com/trading/products/#pageNumber=1&sortField=oi&sortAsc=false&group=7&page=1>, historical EIA Henry Hub data available at <https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm>, and Evergy's Response to Request CURB-18.

62. Evergy’s IRP includes new gas builds and rigid retirement dates, as mentioned above. The risk of creating stranded assets that burden ratepayers with additional costs is present with every new build. The lack of assessed retirement dates for existing units between 2024 and 2029, modeling choices that favor fossil units and downplay renewable alternatives, and volatile high natural gas price scenarios provide limited protection against stranded asset risk. This risk inevitably falls upon ratepayers to cover, and it is vital that the IRP process considers how to protect ratepayers from costly investments that may prove excessive or unnecessary in the changing energy landscape. In conjunction with Evergy’s modification to its solar portfolio per the 22-141 docket, Evergy should continue weighing considerations that go into significant plant investments, whether it is renewable or gas-powered.

63. A S&P Global Market Intelligence report released in August 2021 projected that up to \$68 billion in coal and natural gas investments may become stranded, based on the current

pace of renewable energy deployments and the potential of a federal clean energy standard.⁶⁴ The report found that the stranded cost risk for coal plants mainly exists for pollution control investments, because the U.S. coal fleet largely consists of legacy plants that are approaching or are past the end of their expected life. According to S&P, this means that the largest stranded asset risk facing utilities actually comes from new gas builds, because “the utilization and therefore value of these plants has declined faster in the wake of growing renewable generation than was anticipated even a few years ago.”⁶⁵

64. Evergy has set a target of net-zero carbon emissions by 2045, with an interim 70 percent reduction target by 2030.⁶⁶ According to the IRP, Evergy currently has 15,249 MW of generating resources. Of this total, 64.7 percent (9,863 MW) is either coal, gas, or oil plants.⁶⁷ In Evergy’s preferred portfolio, 44.7 percent of new generating resources (3,495 MW of 7,823 MW) will be gas combustion turbines.⁶⁸ Although the percentage of new fossil builds is lower than the current percentage of fossil capacity amongst Evergy’s current generating resources, new gas builds face a higher risk of burdening ratepayers with stranded costs in the event of tighter CO₂ regulations and displacement by renewables.

65. As part of recent and ongoing IRP processes, many utilities are developing low carbon portfolios that comply with proposed federal carbon legislation. Doing so does not imply endorsement of climate legislation, but it does allow utilities to understand the risks and opportunities associated with their preferred portfolio and all alternative plans, in the event that

⁶⁴ Adam Wilson and Steve Piper, “[A nationwide push for clean energy could strand \\$68B in coal, gas assets.](#)” *S&P Global*, 05 August 2021.

⁶⁵ *Id.*; Emma Penrod, “[Push for green energy could strand more than \\$68B in coal and gas assets, says S&P.](#)” *Utility Dive*, 09 August 2021.

⁶⁶ Evergy, “[Evergy Sets Goal for Net-Zero Carbon Emissions by 2045, Interim Carbon Reduction Target of 70 percent by 2030.](#)” 30 April 2021.

⁶⁷ 2021 Evergy IRP, p. 58.

⁶⁸ 2021 Evergy IRP, p. 164.

carbon limits are implemented in the future. This approach could be reasonable in helping Evergy understand how climate legislation could impacts its selected plan in the event some is enacted during the planning period.

66. In light of all the factors discussed in these comments, the study of this plan will need to continue and input from all stakeholders will be key in developing a reasonable balance to address future problems. As technology develops and gets adapted by the market, so should too the inputs and considerations that Evergy uses in its resource planning.

C. Conclusion

67. CURB again appreciates the opportunity to participate fully in this docket in discussing Evergy's annual update to the IRP. Without incurring too much hyperbole, CURB believes that the energy market is experiencing one of its most substantial evolutions in how customers get their power. New technologies and constantly fluctuating financial considerations make the task of effective long-term planning an unenviable one. CURB commends Evergy on its efforts to integrate an IRP for Kansas, while respectfully describing in these comments areas for improvement. CURB looks forward to further collaboration on the future of Kansas electricity.

Respectfully submitted,



David W. Nickel, Consumer Counsel #11170
Joseph R. Astrab, Attorney # 26414
Todd E. Love, Attorney #13445
Citizens' Utility Ratepayer Board
1500 SW Arrowhead Road
Topeka, KS 66604
(785) 271-3200
d.nickel@curb.kansas.gov
j.astrab@curb.kansas.gov
t.love@curb.kansas.gov

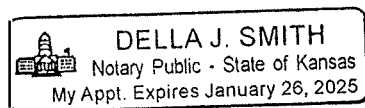
VERIFICATION

STATE OF KANSAS)
)
COUNTY OF SHAWNEE) ss:

I, Joseph R. Astrab, of lawful age and being first duly sworn upon my oath, state that I am an attorney for the Citizens' Utility Ratepayer Board; that I have read and am familiar with the above and foregoing document and attest that the statements therein are true and correct to the best of my knowledge, information, and belief.


Joseph R. Astrab

SUBSCRIBED AND SWORN to before me this 1st day of November, 2021.




Notary Public

My Commission expires: 01-26-2025.

CERTIFICATE OF SERVICE

19-KCPE-096-CPL

I, the undersigned, hereby certify that a true and correct copy of the above and foregoing Comments of the Citizens' Utility Ratepayer Board Related to the 2021 Annual Update to Evergy's Integrated Resource Plan was served by electronic service on this 1st day of November, 2021, to the following:

DOROTHY BARNETT
CLIMATE & ENERGY PROJECT
PO BOX 1858
HUTCHINSON, KS 67504-1858
barnett@climateandenergy.org

CATHRYN J. DINGES, CORPORATE
COUNSEL
EVERGY KANSAS CENTRAL, INC
818 S KANSAS AVE
PO BOX 889
TOPEKA, KS 66601-0889
Cathy.Dinges@evergy.com

ROBERT J. HACK, LEAD REGULATORY
COUNSEL
EVERGY METRO, INC D/B/A EVERGY
KANSAS METRO
ONE KANSAS CITY PLACE
1200 MAIN ST, 19TH FLOOR
KANSAS CITY, MO 64105
Rob.Hack@evergy.com

ROGER W. STEINER, CORPORATE
COUNSEL
EVERGY METRO, INC D/B/A EVERGY
KANSAS METRO
ONE KANSAS CITY PLACE
1200 MAIN ST, 19TH FLOOR
KANSAS CITY, MO 64105
roger.steiner@evergy.com

TERRY M. JARRETT, ATTORNEY AT LAW
HEALY LAW OFFICES, LLC
3010 E BATTLEFIELD, SUITE A
SPRINGFIELD, MO 65804
terry@healylawoffices.com

HEATHER H. STARNES, ATTORNEY
HEALY LAW OFFICES, LLC
12 PERDIDO CIRCLE
LITTLE ROCK, AR 72211
heather@healylawoffices.com

BRIAN NOLAND
IBEW LOCAL 304, KANSAS CITY, MO
117 W 20TH STREET, STE. 201
KANSAS CITY, MO 64108
noland.brian@gmail.com

JOHN GARRETSON, BUSINESS MANAGER
IBEW LOCAL UNION NO. 304
3906 NW 16TH STREET
TOPEKA, KS 66615
johng@ibew304.org

KIMBERLY B. FRANK, COUNSEL
K&L GATES, LLP
1601 K STREET NW
WASHINGTON, DC 20006
Kimberly.Frank@klgates.com

TERESA A. WOODY
KANSAS APPLESEED CENTER FOR LAW
AND JUSTICE, INC.
211 E 8TH STREET, SUITE D
LAWRENCE, KS 66044
twoody@kansasappleseed.org

BRIAN G. FEDOTIN, GENERAL COUNSEL
KANSAS CORPORATION COMMISSION
1500 SW ARROWHEAD RD
TOPEKA, KS 66604
b.fedotin@kcc.ks.gov

MICHAEL NEELEY, LITIGATION COUNSEL
KANSAS CORPORATION COMMISSION
1500 SW ARROWHEAD RD
TOPEKA, KS 66604
m.neeley@kcc.ks.gov

TERRI PEMBERTON, CHIEF LITIGATION
COUNSEL
KANSAS CORPORATION COMMISSION
1500 SW ARROWHEAD RD
TOPEKA, KS 66604
t.pemberton@kcc.ks.gov

SUSAN B. CUNNINGHAM, SVP, Regulatory
and Government Affairs, General Counsel
KANSAS ELECTRIC POWER CO-OP, INC.
600 SW CORPORATE VIEW
PO BOX 4877
TOPEKA, KS 66604-0877
scunningham@kepc.org

MARK DOLJAC, DIR RATES AND
REGULATION
KANSAS ELECTRIC POWER CO-OP, INC.
600 SW CORPORATE VIEW
PO BOX 4877
TOPEKA, KS 66604-0877
mdoljac@kepc.org

REBECCA FOWLER, MANAGER,
REGULATORY AFFAIRS
KANSAS ELECTRIC POWER CO-OP, INC.
600 SW CORPORATE VIEW
PO BOX 4877
TOPEKA, KS 66604-0877
rfowler@kepc.org

JAMES GING, DIRECTOR ENGINEERING
SERVICES
KANSAS POWER POOL
100 N BROADWAY, STE L110
WICHITA, KS 67202
jging@kansaspowerpool.org

LARRY HOLLOWAY, ASST GEN MGR
OPERATIONS
KANSAS POWER POOL
100 N BROADWAY, STE L110
WICHITA, KS 67202
lholloway@kansaspowerpool.org

TIMOTHY J. LAUGHLIN, ATTORNEY
LAUGHLIN LAW OFFICE, LLC
P.O. BOX 481582
KANSAS CITY, MO 64148
tlaughlin@laughlinlawofficellc.com

TIMOTHY S. MAIER, GENERAL MANAGER
MCPHERSON BOARD OF PUBLIC
UTILITIES
401 W KANSAS AVE
PO BOX 768
MCPHERSON, KS 67460
TIMM@MCPHERSONPOWER.COM

WILLIAM DOWLING, VP ENGINEERING &
ENERGY SUPPLY
MIDWEST ENERGY, INC.
1330 CANTERBURY DRIVE
PO BOX 898
HAYS, KS 67601-0898
BDOWLING@MWENERGY.COM

PATRICK PARKE, CEO
MIDWEST ENERGY, INC.
1330 CANTERBURY DRIVE
PO BOX 898
HAYS, KS 67601-0898
patparke@mwenergy.com

ASHOK GUPTA, EXPERT
NATIONAL RESOURCES DEFENSE
COUNCIL
20 N WACKER DRIVE, SUITE 1600
CHICAGO, IL 60606
agupta@nrdc.org

ANNE E. CALLENBACH, ATTORNEY
POL SINELLI PC
900 W 48TH PLACE, STE 900
KANSAS CITY, MO 64112
acallenbach@polsinelli.com

FRANK A. CARO, ATTORNEY
POL SINELLI PC
900 W 48TH PLACE, STE 900
KANSAS CITY, MO 64112
fcaro@polsinelli.com

ANDREW O. SCHULTE, ATTORNEY
POL SINELLI PC
900 W 48TH PLACE, STE 900
KANSAS CITY, MO 64112
aschulte@polsinelli.com

ROBERT V. EYE, ATTORNEY AT LAW
ROBERT V. EYE LAW OFFICE, LLC
4840 BOB BILLINGS PKWY, STE. 1010
LAWRENCE, KS 66049-3862
BOB@KAUFFMANEYE.COM

SCOTT L. BROWN
SCOTT L. BROWN, ATTORNEY
475 NEW BROTHERHOOD BLDG.
753 STATE AVENUE
KANSAS CITY, KS 66101
slb@blake-uhlig.com

SUNIL BECTOR, ATTORNEY
SIERRA CLUB
2101 WEBSTER, SUITE 1300
OAKLAND, CA 94312-3011
sunil.bector@sierraclub.org

TONY MENDOZA
SIERRA CLUB
2101 WEBSTER, SUITE 1300
OAKLAND, CA 94312-3011
tony.mendoza@sierraclub.org

CONNOR A. THOMPSON
SMITHYMAN & ZAKOURA, CHTD.
7421 WEST 129th STREET
OVERLAND PARK, KS 66213-2634
connor@smizak-law.com

JAMES P. ZAKOURA, ATTORNEY
SMITHYMAN & ZAKOURA, CHTD.
7400 W 110TH ST, STE 750
OVERLAND PARK, KS 66210-2362
jim@smizak-law.com

DAVID RICHARDSON, SR. FINANCIAL
ADVISOR
THE COUNCIL FOR THE NEW ENERGY
ECONOMICS
1390 YELLOW PINE AVENUE
BOULDER, CO 80304
david.richardson@newenergyeconomics.org

ROBERT TITUS, ATTORNEY
TITUS CONNORS, LLC
6600 W 95TH STREET, SUITE 200
OVERLAND PARK, KS 66212
rob@tituslawkc.com


J. T. KLAUS, ATTORNEY
TRIPLETT, WOOLF & GARRETSON, LLC
2959 N ROCK RD STE 300
WICHITA, KS 67226
jtklaus@twgfirm.com

KACEY S. MAYES, ATTORNEY
TRIPLETT, WOOLF & GARRETSON, LLC
2959 N ROCK RD STE 300
WICHITA, KS 67226
ksmayes@twgfirm.com

TIMOTHY E. MCKEE, ATTORNEY
TRIPLETT, WOOLF & GARRETSON, LLC
2959 N ROCK RD STE 300
WICHITA, KS 67226
TEMCKEE@TWGFIRM.COM

FRED WICKHAM
WICKHAM & WOOD, LLC
107 W. 9TH STREET, 2ND FLOOR
KANSAS CITY, MO 64105
fred@wickham-wood.com

BRIAN WOOD
WICKHAM & WOOD, LLC
107 W. 9TH STREET, 2ND FLOOR
KANSAS CITY, MO 64105
brian@wickham-wood.com


Della Smith
Senior Administrative Specialist