BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the 2020 Integrated Resource Plan Annual Update for Evergy Metro, Inc. d/b/a Evergy Missouri Metro	)))))	Case No. EO-2020-0280

COMMENTS OF THE MISSOURI OFFICE OF THE PUBLIC COUNSEL

COMES NOW the Office of the Public Counsel ("OPC") and for its *Comments*, states as follows:

1. On March 10, 2020, Evergy Metro, Inc. d/b/a Evergy Missouri Metro ("Evergy Metro") filed its 2020 annual update of the Integrated Resource Plan it first presented to the Commission in its 2018 triennial IRP filing in File No. EO-2018-0268.

2. Pursuant to Commission rule 20 CSR 4240-22.080(3)(D), the OPC now presents its comments regarding Evergy Metro's 2020 annual update.

3. The OPC's comments are found in the memoranda prepared by the OPC's expert witnesses, each of which have been included as an attachment to this pleading and are incorporated herein by reference.

WHEREFORE, the Office of the Public Counsel respectfully requests the Commission accept these *Comments* and order Evergy Metro to take such actions as necessary to address the concerns raised herein.

Respectfully submitted,

By: /s/ John Clizer

John Clizer (#69043)
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CERTIFICATE OF SERVICE

I hereby certify that copies of the forgoing have been mailed, emailed, or hand-delivered to all counsel of record this eighteenth day of May, 2020.

/s/ John Clizer

Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the 2020 Integrated Resource Plan Annual Update for Evergy Metro, Inc. d/b/a Evergy Missouri Metro	)))	Case No. EO-2020-0280

VERIFICATION OF LENA M. MANTLE

Lena M. Mantle, under penalty of perjury, states:

1. Attached hereto and made a part hereof for all purposes is my memorandum in the above-captioned case.

3. My answer to each question in the attached memorandum is true and correct to the best of my knowledge, information, and belief.

Lena M. Mantle
Senior Analyst
Office of the Public Counsel

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Resource Plan of	)	
Evergy Metro, Inc. d/b/a Evergy Missouri	)	Case No. EO-2020-0280
Metro Pursuant to 20 CSR 4240-22	)	

VERIFICATION OF GEOFF MARKE

Geoff Marke, under penalty of perjury, states:

1. Attached hereto and made a part hereof for all purposes is my memorandum in the above-captioned case.

3. My answer to each question in the attached memorandum is true and correct to the best of my knowledge, information, and belief.

Geoff Marke
Chief Economist
Office of the Public Counsel

Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Resource Plan of Evergy Metro, Inc. d/b/a Evergy Missouri Metro Pursuant to 20 CSR 4240-22	)))	Case No. EO-2020-0280

VERIFICATION OF JOHN A. ROBINETT

John A. Robinett, under penalty of perjury, states:

1. Attached hereto and made a part hereof for all purposes is my memorandum in the above-captioned case.

3. My answer to each question in the attached memorandum is true and correct to the best of my knowledge, information, and belief.

John A. Robinett
Utility Engineering Specialist
Office of the Public Counsel

Public

MEMORANDUM

To: Missouri Public Service Commission Official Case File,
Case No. EO-2020-0280

From: Geoff Marke, Chief Economist
Lena Mantle, Senior Analyst
John A. Robinett, Utility Engineering Specialist
Office of the Public Counsel

Subject: Notice of Concern to Evergy Metro 2020 IRP Update

Date: May 18, 2020

Overview of Concerns and Recommendations

OPC appreciates the opportunity to provide comments, concerns and recommendations to the Commission in response to Evergy Metro's 2020 IRP update. This memo outlines eight separate issues that will result in material changes in the operating environment that need to be accounted for in future filings. As such, OPC has also provided recommendations to each of the identified issues for the Company to account for in its upcoming triennial IRP filing.

The sections are broken down as follows:

1. Wind Power Purchase Agreements ("PPAs");
2. Demand Side Management ("DSM");
3. DSM Market Potential Study: Rate Design;
4. COVID-19 Impact on Modeling;
5. Executive Order on Securing the United States Bulk-Power System;
6. Southwest Power Pool ("SPP") Solar and Wind Effective Load Carrying Capability ("ELCC");
7. The Addition of 500 MW Utility-Scale Solar for Evergy; and
8. Sierra Club Recommendation for a Transparent 3rd-Party All-Source Request for Proposal ("RFP") Framework.

Wind Project Purchase Power Agreements

Issue

Evergy Metro and Evergy West have entered into four new Purchased Power Agreements ("PPAs") wind contracts outside of the resource planning process.

Attachment A to this memo is a table provided in response to an OPC data request that provides all of Evergy Metro and Evergy Missouri West renewable resources. This table shows that the Evergy Metro and Evergy Missouri West began receiving energy through a 200 MW PPA with the Prairie Queen Wind Project in August 2019. It also shows four new wind projects – Expedition (150 MW), Jayhawk Wind (155 MW), Ponderosa (100 MW), and **_____ ____ **.

The information in this table begs a few questions:

1. Why is Evergy entering into these PPAs? Its resource planning shows that as a combined utility it does not need additional capacity or energy to meet its customers' needs.
2. Why isn't Evergy building its own wind projects? When a utility builds resources it often comes in for a Certificate of Convenience and Necessity ("CCN") which receives a thorough review before construction begins. With a PPA, costs begin flowing through the FAC without any prior regulatory review for need. Why isn't the capacity from these wind PPAs assigned to Evergy West so that it doesn't have to pay for capacity from Evergy Metro?

These are the type of questions a thorough resource plan would answer. However, because these PPAs are entered into outside of the resource planning process, they are just entered into the analysis as a given such as the Iatan generation units.

Evergy responded to OPC data requests that three of the wind PPAs were entered into to provide renewable energy for large customers through its Renewable Energy Rider. This too raises resource planning questions such as how were the energy and demand requirements of these large customers accounted for in the load forecasts in the resource planning process? Can Evergy West get the capacity benefits of a contract entered into for a renewable energy rider?

OPC Recommendation

Evergy should screen all of its proposed resource additions through the resource planning process to determine if they are least-cost resources before entering into contracts. This analysis should be provided for review in FAC prudence determinations. [1] In addition, these changes to Evergy Metro's resource plans should be filed with the Commission as required by 20 CSR 4240-22.080(12)(B)[2] within 60 days of Evergy entering into any contract that may be allocated to Evergy Metro or Evergy West.

Demand Side Management ("DSM")

Issue

Evergy West/Metro Commission-approved MEEIA programs do not avoid costs and consequently do not benefit all customers "in the customer class in which the programs are proposed, regardless of whether the programs are utilized by all customers."[3]

Compounding the absence of any avoided costs as a result of Evergy Metro/West's MEEIA programs is Evergy Metro and West's continued procurement of Wind PPAs. Unbeknownst to OPC and immediately before and after surrebuttal testimony was filed on September 16, 2019, in its Missouri Energy Efficiency and Investment Act ("MEEIA") Case No: EO-2019-0132, Evergy Metro[4] entered into PPA wind contracts for 305 MW:

- 150 MW Expedition Wind (20 years), Sept. 11, 2019 (contract date); COD of 2Q, 2021;
- 155 MW Jayhawk Wind (15 years), Oct. 18, 2019 (contract date); COD of Oct. 2021; and
- 100 MW Ponderosa (20 years), Oct. 18, 2019 (contract date); COD of Nov. 2020.

Evergy West has since entered into an additional PPA wind contract for **_____ _____ **

[1] Because these resources are PPAs, the cost of the energy passes through to the customers through the FAC prior to their review in a rate case leaving very little risk for cost recovery.
[2] 20 CSR 424-22.080(12)(B) If the utility decides to implement a resource plan not identified pursuant to 4 CSR 240-22.070(4) or changes its acquisition strategy, it shall give a detailed description of the revised resource plan or acquisition strategy and why none of the contingency resource plans identified in 4 CSR 240-22.070(4) were chosen. In this filing, the utility shall specify the ranges or combinations of outcomes for the critical uncertain factors that define the limits within which the new alternative resource plan remains appropriate.
[3] Mo. Rev. Stat. § 393.1075.4.
[4] As described in the previous section, Evergy has not determined how these contracts will be allocated between Evergy Metro and Evergy West. However, the principles in this section remain regardless of how the wind projects are allocated.

The combined procurement of **___ ** MW of wind while OPC and the Commission Staff were contesting the Company's MEEIA application on the basis of a lack of avoided costs only further reinforces the argument that no avoided costs were being realized in the proposed application. The lack of avoided costs associated with MEEIA is further illustrated by the recent Evergy West and Evergy Metro's 2020 SB 564 capital investment plans which call for an additional $700 million (West) and an additional $440 million (Metro) in additional capital investments compared to the 2019 5-year capital investment plan.

OPC Recommendation

OPC is awaiting Commission decision on OPC's second application for rehearing submitted on April 8, 2020, regarding Evergy Metro and Evergy West's MEEIA programs. As currently drafted, the inclusion of reasonable achievable potential (RAP) levels investments in the planned forecasts does not result in least-cost planning or proper valuation of demand-side investments on an equivalent basis with supply-side investments. It represents a default expenditure that does not avoid costs.

DSM Market Potential Study: Rate Design

Issue

Evergy West/Metro is currently fully deployed with AMI investments but does not have modern rate designs in place to realize customer benefits. As such, the 2020 Annual IRP update does not account for the potential impacts to load as a result of properly pricing its cost of service.

OPC Recommendation

Evergy West/Metro's triennial IRP should include robust and transparent modeling scenarios that examine various "potentials" of load impacts under different pricing structures. Because objectives surrounding rate design can vary, OPC recommends that Evergy Metro/West work with stakeholders to receive specific input on possible rate design parameters.

COVID-19 Impact on Modeling

Issue

Evergy Metro/West's 2020 Annual Update does not account for near or long-term load changes or consider alternative planned capital investment strategies as a result of a prolonged economic downturn from COVID-19.

Three recent filings submitted to the Commission, seventy-days apart, illustrate the increasing pressure to add capital to the system but also the expectation that customer's ability to cover that cost of service is being compromised.

March 2, 2020: Case No: EO-2019-0045

- $1.374 billion in planned capital investment as a result of SB 564 (an increase of $700 million from the previous year)

May 6, 2020: Case No: EU-2020-0350

- Request for an AAO to recover increased costs and lost revenues as a result of COVID-19

May 11,2020: Case No: AW-2020-0356

- Order opening a working docket to consider best practices for recovery of past-due customer payments after the COVID-19 pandemic emergency

OPC Recommendation

Evergy Metro/West's triennial IRP needs to account for a greater range of uncertain outcomes in its modeling. At a minimum, OPC would recommend that the Company utilized the historical data from the 2009 recession and double its negative impact over at least a one-year period to account for a loss in load and impact to the economy. OPC would strongly recommend that a greater range of low to high probability be included in each of the relevant critical uncertain factors and work with stakeholders to determine if further modifications are warranted.

Executive Order on Securing the United States Bulk-Power System

Issue

The recent executive order halting the installation of bulk-power system (BPS) equipment "designed, developed, manufactured, or supplied, by persons owned by, controlled by, or subject to the jurisdiction or direction of a foreign adversary" will lead to greater modeling uncertainty and cost increases on existing and future capital investments.

On May 1, 2020, President Donald Trump issued an executive order limiting the installation of bulk power system ("BPS") equipment sourced from adversaries of the United States.[5] The executive order aims to address weaknesses in the utility sector supply chain. According to the executive order, unrestricted foreign supply of BPS electric equipment "constitutes an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States." The order also authorizes the U.S. Department of Energy to establish criteria for recognizing particular equipment and vendors as "pre-qualified" and to identify any now-prohibited equipment already in use. It is expected that promulgated regulations could be done within three to six months.[6] As of this writing, it is unclear what equipment will be covered in the executive order.

OPC Recommendation

This is an evolving issue that will impact the Company's triennial IRP. Evergy Metro should work with stakeholders to discuss possible impacts and appropriate modifications to its modeling and planned investments.

Southwest Power Pool Solar and Wind Effective Load Carrying Capability

Issue

Southwest Power Pool ("SPP") solar and wind generation will likely experience a reduction in nameplate capacity in the near future as wind and solar penetration produces diminishing returns (absent large-scale battery cost-reductions, capacity increases and deployment).

In late 2018, the SPP Balancing Authority ("BA") directed the Supply Adequacy Working Group ("SAWG") to review the processes and requirements needed to maintain reliable supply adequacy in the SPP BA. One of those requirements for review is the accreditation methodology for intermittent resources. In 2019, SPP staff completed a system-wide wind and solar effective Load Carrying Capability ("ELCC") analysis and found that there was measureable difference in the results between the current and ELCC methodologies as wind and solar penetrations increased.

[5] Trump, D. (2020) Executive Order on Securing the United States Bulk-Power System https://www.whitehouse.gov/presidential-actions/executive-order-securing-united-states-bulk-power-system/
[6] Walton, R. (2020) Trump's security order could have 'chilling effect,' slow smart grid deployment, experts say. *UtilityDive*. https://www.utilitydive.com/news/trumps-security-order-could-have-chilling-effect-slow-smart-grid-deploy/577545/

Importantly, the results of the ELCC Wind[7] and Solar Studies[8] demonstrated that as wind and solar generation increases the accredited nameplate capacity decreases for both.

In August of 2019, the SPP released a white paper summarizing the results of the previous studies and proposing:

> A methodology for prioritizing and allocating the available effective load carrying capability ("ELCC") from wind and solar generating facilities that qualify as capacity in the SPP Balancing Authority ("BA"). **Because of wind and solar generation intermittency, the capacity value or effective load carrying capability (ELCC) of wind and solar powered resources are lower than their nameplate values and will decrease as their penetration increases across the BA.** As the penetration of wind and solar generation increases, SPP and its members need to be aware of and understand the changing impact these resources have on the economics of resource adequacy and on the reliability of the system.[9] (Emphasis added)

OPC has previously raised concerns about likely changes to SPP intermittent generation valuation because of diminishing returns from increased solar and wind penetration. For example, the following is a Q&A from OPC's testimony regarding Empire's proposed Customer Savings Plan:

> **Q. Why would an increase in wind generation in SPP diminish Empire's prospects of successfully generating revenues for its ratepayer-funded merchant generation proposal?**
>
> A. Because of the law of diminishing returns as intermittent supply begins to exceed flat demand. This problem of diminishing returns is well documented for both wind and solar power generation. Here is how MIT's Future of Solar study puts it:
>
> > [A]s a result of basic supply-and-demand dynamics, solar capacity systematically reduces electricity prices during the very hours when solar generators produce the most electricity. **Beyond low levels of penetration, an increasing solar contribution results in lower average revenues per kW of installed solar**

[7]SPP (2019) ELCC Wind Study Report.
https://www.spp.org/documents/60434/2019%20elcc%20wind%20study%20report.pdf
[8] SPP (2019) ELCC Solar Study Report. https://www.spp.org/spp-documents-filings/?id=168293
[9] SPP (2019) Solar and Wind ELCC Accreditation.
https://www.spp.org/documents/61025/elcc%20solar%20and%20wind%20accreditation.pdf

> **capacity.** For this reason, even if solar generation becomes profitable without subsidies at low levels of penetration, there is a system-dependent threshold of installed PV capacity beyond which adding further solar generators would no longer be profitable. [10] (Emphasis added).

The same phenomenon is true for wind.[11, 12]

OPC Recommendation

Evergy Metro should adjust its supply-side modeling to include scenarios in which the expected accredited nameplate capacity for future wind and solar projects is lower than what SPP currently authorizes and more in line with proposed SPP ELCC outcomes.

The Addition of 500 MW Utility-Scale Solar for Evergy

Issue

The only material change to the Evergy Metro resource plan is the inclusion of a 500 MW utility scale solar project in 2023 that is void of details and is modeled as an addition to the combined Evergy utilities yet the report is bereft of the impact of any allocation of this project to the individual utilities.

According to Evergy Metro's "Integrated Resource Plan Overview":

> The only material change in the 2020 preferred plan is the anticipated addition of 500 MW of renewable generation (modeled as solar) in 2023 for **Evergy**.[13]

Putting aside the many questions surrounding the rationale of adding 500 MW of solar, astute readers will note the absence of any specific utility referenced for this addition. The declarative sentence only notes that it will be added for Evergy. The Company's report includes the addition as the preferred plan of the Joint Company Results (i.e., Evergy Missouri Metro, Evergy Missouri West, Evergy Kansas Metro, and Evergy Kansas Central).

[10] MIT Interdisciplinary Studies (2015) Future of Solar. p. 189
https://energy.mit.edu/wpcontent/uploads/2015/05/MITEI-The-Future-of-Solar-Energy.pdf
[11] Wiser R. et al. (2017) Impacts of Variable Renewable Energy on Bulk Power System Assets, Pricing, and Costs Berkeley & Argonne National Laboratories.
https://emp.lbl.gov/sites/default/files/lbnl_anl_impacts_of_variable_renewable_energy_final.pdf
[12] Case No. EA-2019-0010 Rebuttal Testimony of Geoff Marke p. 4, 17-25 & p. 5, 1-6.
[13] EO-2020-0280. Evergy Missouri Metro Integrated Resource Plan 20202 Annual Update. p.6

OPC would also note that the Commission's IRP rules do not contemplate the inclusion of modeling resource needs on a joint-basis with utilities from other states.

OPC Recommendation

The correct answer to Evergy Metro's "Integrated Resource Plan Overview" should be that there are no material changes in the 2020 preferred plan.

Evergy Kansas resource needs and the accompanying joint-modeling of Missouri and Kansas utilities should not be included in this or future filings. OPC has repeatedly argued for the consolidation of Evergy West and Evergy Metro as one utility. This recommendation is slowly materializing in certain planning operations (e.g., demand-side management modeling is modeled as one utility instead of two). However, OPC does not support the modeling outcomes that include utilities not regulated by the Missouri Public Service Commission. Framing this entire filing in the context of four utilities instead of one only serves to make what should be a transparent modeling exercise instead into an opaque and confusing outcome that only produces more uncertainty. Literally the opposite of what an IRP is intended to do.

Sierra Club Recommendation for a Transparent 3rd-Party All-Source Request for Proposal Framework

Issue

Best practice all-source requests for proposals ("RFPs") should be followed for any future resource additions.[14]

According to Evergy Metro's "Implementation Plan":

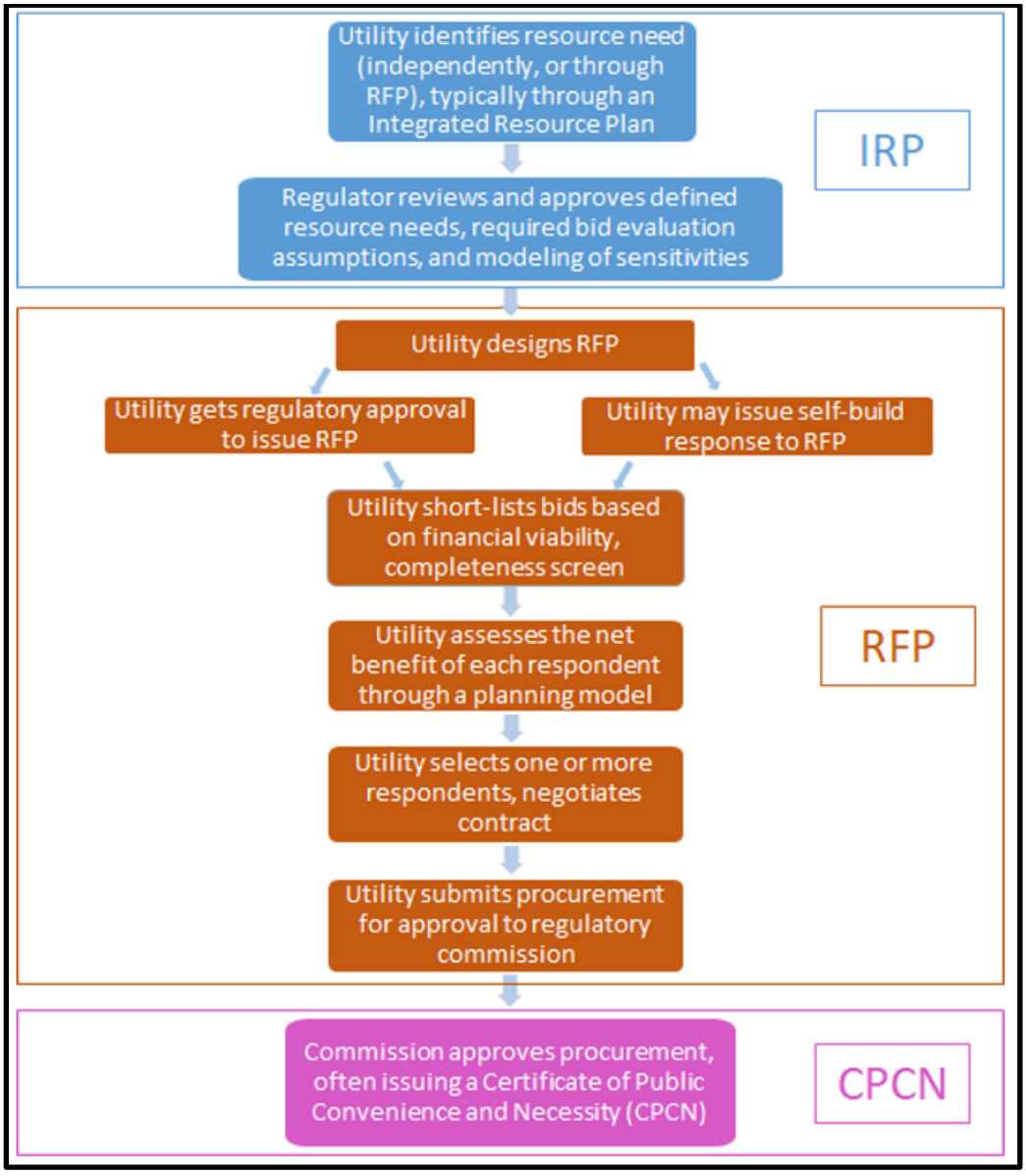
> The Implementation Plan provided in the 2018 KCP&L Triennial IRP is materially changing due to the wind additions announced in the December 2019 Preferred Resource Plan filing. Additionally, **Evergy will issue an all-source Request for Proposal** in the coming months to further refine the solar assumptions used in identifying the potential for adding 500 MW of solar generation in the joint-planning Alternative Resource Plan EAAGS. The 2021 IRP will utilize the results from the RFP to further evaluate solar generation. (Emphasis added)[15]

[14] To be clear, OPC does not believe a resource addition is needed presently.
[15] Ibid. p. 77.

During the IRP stakeholder conference, the Sierra Club recommended that Evergy West/Metro strongly consider procuring the services of a third-party contractor for the all-source request for proposal. Representatives from the Sierra Club pointed to favorable results from Indiana in the North Indiana Public Service Company ("NIPSCO") 2018 all-source RFP, and conversely pointed to unfavorable results from a different Indiana electric utility, Vectren, that failed to issue a reasonable RFP. Finally, the Sierra Club forwarded a copy of a white paper, titled "Making the most of the power plant market: Best practices for all-source electric generation procurement" from Energy Innovation.[16] The white paper lays out a framework for competitive bidding that stresses transparency and stakeholder involvement. Stated differently, the process advocated by the Sierra Club would appear to maximize competitive bids and due diligence. Figure 1 provides a snapshot from the whitepaper of an idealized illustrative framework of robust, transparent utility planning and procurement.

[16] Wilson, J.D. et al (2020) "Making the most of the power plant market: Best practices for all-source electric generation procurement." *Energy Innovation*. https://cleanenergy.org/news-and-resources/making-the-most-of-the-power-plant-market-best-practices-for-all-source-electric-generation-procurement/

Figure 1: Illustrative sequencing of utility planning and procurement



OPC Recommendation

Putting aside the many questions OPC has regarding the results of the four-utility, two-state joint filing of 500 MW solar addition (see above) and the lack of further supply-side investment need for either Evergy West or Evergy Missouri. OPC has reviewed the white paper and strongly supports Sierra Club's recommendation and/or a similar format be applied to all large-scale supply-side resource procurements in the future when warranted.

Evergy Metro ratepayers have needlessly paid millions and will continue to needlessly pay many more millions due to entering into *many* excessively priced PPA contracts. According to FAC monthly submissions to the Commission, Evergy Metro's wind PPAs had a negative margin of over $61 million in 2019, most of which was passed on to Evergy Metro's customers through its FAC. If any utility could stand to have a robust, transparent, all-source procurement process that engages stakeholders throughout, Evergy appears to be it.

Evergy Metro and Evergy Missouri West Renewable Resources

Project	Owner	PPA Date	COD	Capacity	PPA Term	PPA Price	Utility
Spearville-1	Evergy Metro	n/a	Sep 12, 2006	100.5	n/a	n/a	Evergy Metro
Spearville-2	Evergy Metro	n/a	Dec 31, 2010	48	n/a	n/a	Evergy Metro
Greenwood Solar	Evergy Missouri West	n/a	June 21, 2016	3	n/a	n/a	Evergy Missouri West
St Joe LFG	Evergy Missouri West	n/a	Mar 30, 2012	1.6	n/a	n/a	Evergy Missouri West
Project	**Owner**	**PPA Date**	**COD**	**Capacity**	**PPA Term**	**PPA Price **CONF****	**Utility**
Cimarron-II	Duke/Sumitomo	May 6, 2011	June 1, 2012	131.1	20 Years		Evergy Metro
CNPPID Hydro	CNPPID	Nov 3, 2011	Jan 1, 2014	62	10 Years		Evergy Metro
Ensign	NextEra	Nov 3, 2011	Nov 22, 2012	98.9	20 Years		Evergy Missouri West
Spearville-3	EDF Renewables	Nov 3, 2011	Oct 1, 2012	100.8	20 Years		Evergy Metro
Waverly	EDP Renewables	Nov 18, 2013	Jan 4, 2016	200	20 Years		Evergy Metro
Slate Creek	EDF Energies	June 11, 2014	Dec 30, 2015	150	20 Years		Evergy Metro
Gray County	NextEra	Dec 18, 2014	Nov 26, 2001	110	15 Years		Evergy Missouri West
Rock Creek	Enel Green Power	April 7, 2015	Nov 8, 2017	180	20 Years		Evergy Metro
Rock Creek	Enel Green Power	April 7, 2015	Nov 8, 2017	120	20 Years		Evergy Missouri West
Osborn	NextEra	May 22, 2015	Dec 14, 2016	120	20 Years		Evergy Metro
Osborn	NextEra	May 22, 2015	Dec 14, 2016	80	20 Years		Evergy Missouri West
Pratt	NextEra	Oct 11, 2017	Nov 16, 2018	110	30 Years		Evergy Metro
Pratt	NextEra	Oct 11, 2017	Nov 16, 2018	134	30 Years		Evergy Missouri West
Prairie Queen	EDPR	Nov 17, 2017	Aug 10, 2019	90	20 Years		Evergy Metro
Prairie Queen	EDPR	Nov 17, 2017	Aug 10, 2019	110	20 Years		Evergy Missouri West
Expedition Wind	NRS	Sept 11, 2019	**CONF **	150	20 Years		Evergy Metro
Jayhawk Wind	Apex	Oct 18, 2019	**CONF**	155	15 Years		Evergy Metro
Ponderosa	NextEra	Oct 18, 2019	**CONF**	100	20 Years		Evergy Metro
CONF	**CONF**	**CONF**	**CONF**	**CONF**	**CONF**		**CONF**
Evergy Metro				**1,697**			
Evergy Missouri West				**788**			