MEMORANDUM

To: Missouri Public Service Commission Official Case File, Case No. EW-2019-0002

From: Geoff Marke, Chief Economist
Missouri Office of the Public Counsel

Subject: Allocation of Solar Rebates

Date: July 16, 2018

General Comments:

The Office of the Public Counsel ("OPC") appreciates the opportunity to file comments to the Commission's Staff regarding the Rules Regarding Solar Rebates: 4 CSR 240-20.100 (4). OPC recommends that the solar expenditures required from SB 564 be targeted at commercial, nonprofit, and tax-exempt business customers that are doing business to provide social services to low income public, including homeless shelters, food banks, food pantries, soup kitchens, employment/housing services, worker training, job banks, childcare facilities, and low income elderly nursing homes.

The aforementioned examples all operate to alleviate economic hardships and material deprivation for Missouri's low income population which in turn should provide the basis for more stable utility customers (e.g., customers not dropping on-and-off for service) and reductions in bad debt. There are also many practical and progressive economic arguments for strategically targeting these low income service entities as opposed to providing rebates on a first-come, first-serve basis as previously implemented or by attempting to provide a subscription-based low income community solar program.

The Flawed "First-Come, First-Serve" Solar Rebate Model:

OPC believes the original offering of ratepayer-funded rooftop solar rebates, particularly on a first-come first-serve basis, represented a largely regressive energy policy decision. The large "up front" capital costs and requisite available rooftop functioned as both an effectual barrier and an indirect form of intra-class price discrimination for many within the residential class—most acutely for low income customers. Furthermore, it could be reasonably argued that the basis for dispersing the original rooftop solar rebates included at least some percentage of free riders, or, customers who would have opted to invest in rooftop solar regardless of the rebate.[1] Furthermore, the opacity of the utilities "solar que" and the uncertainty of whether or not solar rebates would be available proved to be a material concern for all parties involved.

[1] OPC makes this generalization based in part on the research associated with income brackets and US Clean Energy Tax Credits. See also: Borenstein, S. and L. Davis, (2015) The distributional effects of U.S. Clean Energy Tax Credits. National Bureau of Economic Research. http://www.nber.org/papers/w21437.pdf

The framework surrounding net metering is also at odds with how a utility recovers its revenue requirement. Electric utilities have a lot of fixed costs that are not dependent on how much electricity is consumed. Every time ratepayers use electricity, they are paying for these fixed costs. With rooftop solar, there is an opportunity to radically reduce the amount of electricity a rooftop solar consumer buys from the utility. However, rooftop solar homes continue to be connected to the grid. Rooftop solar homes use the grid just as much as non-solar homes, as they are always either importing or exporting electricity, it's just that they consume much less grid-electricity.

Presently, rooftop solar consumers contribute much less to paying for utility fixed costs, but the fixed costs have not gone away—those are costs are merely shifted to nonparticipants. Admittedly these costs have historically been very small. It is estimated that only 0.33% of Missouri's electricity is generated from solar with most of that renewable generation derived from utility-scale solar plants not rooftop solar.[2]

The Low Income Burden:

One of the most difficult barriers faced by many low income ratepayers is the insufficiency of income to cover all basic necessitates. In nearly every single case before the Commission in which an investor-owned utility requested to raise rates, both Staff and OPC are contacted by members of the public pleading to the Commission to consider the bill impact of ratepayers on fixed incomes. Of important note, customer related costs associated with involuntary termination of service result in a cost transfer to existing ratepayers via uncollectible bad debt.

As costs for residential heating, cooling and other household energy needs steadily increase, they account for a higher percentage of household budgets and represent emerging disparities between richer and poorer households. Empirical data substantiate that many families are struggling. For example:

1. The U.S. Consumer Financial Protection Bureau's *2017 National Financial Well-Being Survey* found that more than 40 percent of U.S. adults struggle to pay bills, and 34 percent have experienced material hardships in the last year such as running out of food, or not having enough money for medical treatment or paying a utility bill.[3, 4]

2. The U.S. Federal Reserve's *Report on the Economic Well-Being of U.S. Households in 2017* found that:
    - Four in 10 adults, if faced with an unexpected expense of $400, would either not be able to cover it or would cover it by selling something or borrowing money;

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[2] Solar Energy Industries Association (2018) Solar State by State: Missouri https://www.seia.org/states-map
[3] THE CFPB defines "material hardships" as: Running out, or worrying about running out, of food, not being able to afford medical treatment or a place to live, or having utilities turned off.
[4] CFBB (2017) Financial well-being in America.
https://files.consumerfinance.gov/f/documents/201709_cfpb_financial-well-being-in-America.pdf

- Over one-fifth of adults are not able to pay all of their current month's bills in full; and
- Over one-fourth of adults skipped necessary medical care in 2017 due to being unable to afford the cost.[5]

3. According to Freddie Mac, the number of apartments deemed affordable for very low income families across the United States fell by more than sixty percent between 2010 and 2016.[6]

4. Speaking to Missouri-specific housing and utility concerns, the National Low Income Housing Coalition estimates that:
    - In Missouri, the Fair Market Rent ("FMR") for a two-bedroom apartment is $815. In order to afford this level of rent and utilities—without paying more than 30% of income on housing—a household must earn $2,716 monthly or $32,588 annually. Assuming a 40-hour work week, 52 weeks per year, this level of income translates into an hourly housing waged of **$15.46**. [7]

    - To put that number into context, the State minimum wage is $7.85. Which means that a minimum wage worker would have to work approximately 79 hours a week to afford a 2-bedroom rental home or 62 hours for a one-bedroom home at fair market value. In Missouri, there is an estimated 787,627 renters, representing roughly 33% of the State's population.[8]

5. The nonpartisan Congressional Research Service estimates only sixteen percent of those eligible for LIHEAP ("Low Income Heating Energy Assistance Program") assistance receive it.[9]

6. A University of Colorado Denver study found, not being able to pay utility bills is the second leading cause of homelessness, behind domestic violence in households with children.[10]

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[5] Board of Governors of the Federal Reserve System (2018) Report on the Economic Well-Being of U.S. Households in 2017. https://www.federalreserve.gov/publications/files/2017-report-economic-well-being-us-households-201805.pdf

[6] Jan. T. (2017) America's affordable-housing stock dropped by 60 percent from 2010 to 2016. *The Washington Post* https://freddiemac.gcs-web.com/news-releases/news-release-details/new-freddie-mac-analysis-finds-widening-shortfall-affordable

[7] U.S. National Low Income Housing Coalition. Out of Reach 2018: Missouri http://nlihc.org/oor/missouri

[8] Ibid.

[9] Congressional Research Service (2018) LIHEAP: Program and Funding https://www.everycrsreport.com/files/20180201_RL31865_b8be422272b48a2f5eefe5881be52c9821464e57.pdf

[10] Colorado Statewide Homeless Count (2007) University of Colorado at Denver. http://www.ucdenver.edu/academics/colleges/SPA/researchandoutreach/SPA%20Institute/Centers/CEPA/Publications/Documents/HomelessExecutive%20Summary-FINAL-2-27-07.pdf

Low Income Community/Subscriber Solar:

As articulated separately in OPC's pleading, OPC is concerned with the legality of targeting certain recipients without a clearly defined public policy rationale. Assuming that undue price discrimination was not an issue for the moment, there are practical design, implementation, and general policy concerns that need to be broached before a low income community/subscriber solar program could reasonably be considered. The terms, conditions, eligibility, credit level, and subsidy levels all need to be determined and accounted for.

Given the finite amount of funds available for any given year, coupled with fluctuations in eligibility and the long-life of solar assets, there will undoubtedly be winners and losers at the intra-class level if a low income community/subscriber program is pursued. OPC welcomes other perspectives on this issue and will seek to elicit further dialogue at the workshop; however, presently, we do not believe such an approach is a prudent use of ratepayer funds.

Low Income Commercial Non-Profits:

Targeting low income, commercial, non-profits through a holistic consideration of economically premised goals provides a more equitable, administratively easier, and seemingly greater opportunity to maximize net benefits to non-participants given the amount of statutorily-authorized funding available. OPC has listed reducing instances of bad debt or encouraging the stabilization of volatile bill fluctuations, supporting customers on existing utility sponsored low income programs, maintaining service reliability and providing solar energy for public areas where benefits are shared by all ratepayers as four goals that are neutral in discrimination but effectively aid all customer.

It is OPC's primary recommendation that homeless shelters satisfy the four aforementioned factors, and should therefore be prioritized. Homeless shelters service a population that will ideally result in "new" customers. Freeing up much of the electricity costs normally set aside for service for these organizations through subsidized solar installations will represent an immediate opportunity to better serve the existing low income population. For example, the money saved from solar installations could be allocated to homeless families needing money to cover the down payment for utility service or help pay off existing bad debt which prevents service from being turned-on.

OPC further recommends that the solar panels and installation be fully covered with the pool of money available for rebates in a given year. The homeless shelters and other low income, commercial, non-profits should be allowed to receive the rooftop solar free of any costs through the available rebate funds. Per SB 564, this would result in up to $5,600,000 per year for Ameren Missouri and $1,600,000 per year for KCPL and GMO. OPC has very little concern that enough eligible low income commercial non-profits could be identified each year.

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

AFFIDAVIT OF GEOFF MARKE

STATE OF MISSOURI)
) SS.
COUNTY OF COLE)

COMES NOW GEOFF MARKE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *PROPOSED SOLAR REBATE ALLOCATIONS;* and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Geoff Marke
Chief Economist

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 16th day July, 2018.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI
JERENE A. BUCKMAN
My Commission Expires
August 23, 2021
Cole County
Commission #13754037

Jerene A. Buckman
Notary Public

My Commission expires August 23, 2021.