DEMAND CHARGE SAVINGS FROM RESIDENTIAL SOLAR

My name is Kent Rowe speaking on behalf of the Faculty Green Group at Wichita State University in **SUPPORT of SB124 Energy Fairness Act**.

A seventeen-year study conducted by National Renewable Energy Laboratory, Berkeley Lab and US Dept. of Energy determined that **Demand Charge Capacity Credit** has, is in some cases, **under-compensated** solar customers to the electric system.

The **recommendation** by this investigation is instead to **compensate** solar customers who feed back into the electric system by establishing **pre-defined Peak Periods** such as 12-4pm.

These data demonstrated:

1. **pre-defined Peak Periods** achieved a **34%** median **reduction** in electrical demand billing with an overall **42%** greater reduction over a wider distribution of PV system sizes and locations.

2. demand charge reductions increased with PV system size but with diminishing returns

3. under **"basic"** Demand Charge Design, solar PV is **not effective** in reducing demand charges

4. demand charge savings from solar PV depend on the hours in which billing demand is set

5. subsequently, a follow-up study by the same research entities revealed similar findings and recommendation for commercial customers.

First Unitarian Universalist Church
Wichita, Ks

7.7Kw solar PV system

An eleven-month onset billing period April 2018 to Feb 2019 experienced a **24% reduction** in electrical demand billing due to on-site generated solar PV.

The above is defined as a small commercial property and as recommended by the larger findings, savings would be greater with a defined peak period (i.e. 12pm---4pm).

We're not asking for residential Solar customers to be reimbursed as stated in these data, but to have the same pricing as all other residential customers. We believe solar customers are not engaged solely for the cost savings and return on investment, but for the environment in which we all live. We expect to be treated fairly and without prejudice.

Sincerely,

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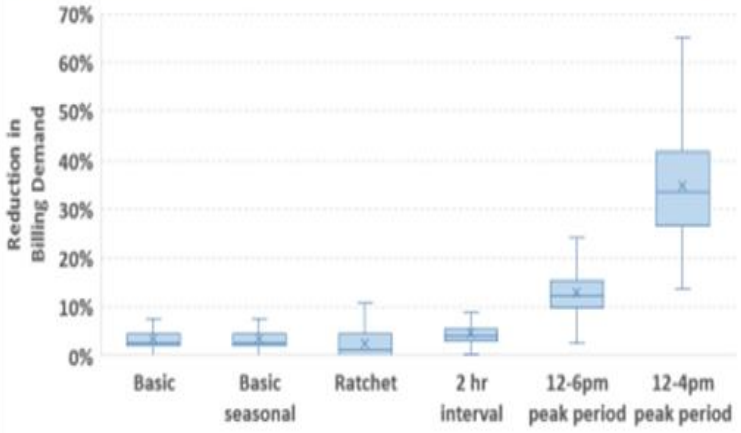
Demand Charge Savings Can Be More Significant when Based on Pre-Defined Peak Periods

Distribution of percentage billing demand reductions for various demand charge designs



*Note: 'x' = mean; shaded box = 25th-75th percentile range; middle line = median; whiskers exclude outliers (quartile ± 1.5*IQR); IQR = inter-quartile range*

- For demand charges based on a 12-4 pm peak period, median reduction in billing demand = 34% (compared to 3% for basic demand charge design)
- Negligible differences in demand charge savings associated with seasonal demand charges, ratchets, or longer averaging intervals (2 hr. vs. 30 min.)
- Further exploration of these design features are provided later in this presentation

(from the LBNL/NREL report)