

Next Grid WG7, Rate Design for Higher DG Penetration Future



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Rebecca Stanfield
Sr. Director, Western States

Vote Solar is...



- » Independent, non-profit solar advocacy organization;
- » Our mission is to make the benefits of solar more accessible to more people across the country;
- » State policy focus;
- » Actively working in 26 states;
- » Believe in solar as a way to solve multiple problems for customers and communities – lower bills, job opportunities and less pollution. Focus on equity.

What Principles Should Drive Rate Design Decisions in Illinois?



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- > Paraphrasing Jim Lazar: Rate design should make the choices the customer makes to minimize their own bill consistent with the choices they would make to minimize system costs.

- > Advance the goals of the PUA and FEJA.
 - + First, do no harm.

- > Based on analysis, not hype –
 - + About whether and to what extent there is a “problem” to be solved;
 - + About the efficacy of the “solution”;

- > Gradualism: Avoid sudden, drastic changes that sow confusion among customers or market actors, or result in bill shock.

Two often intertwined questions to unpack:



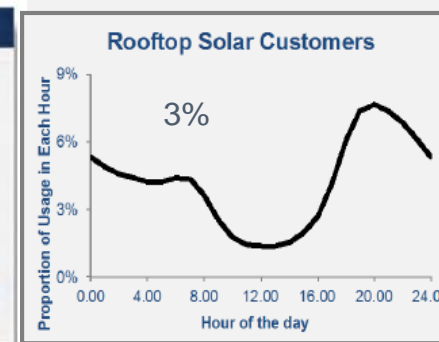
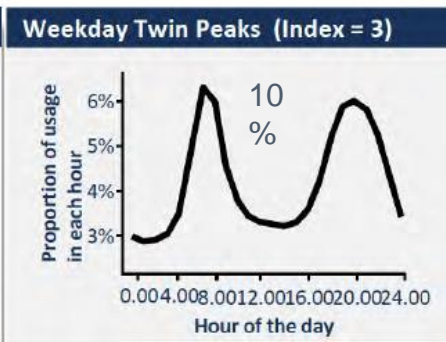
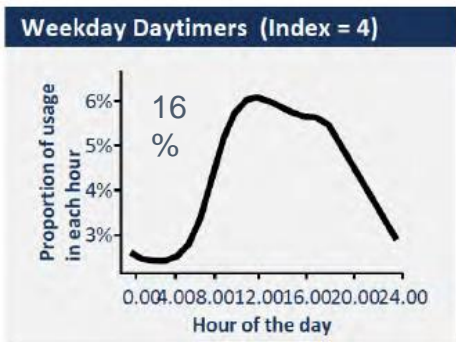
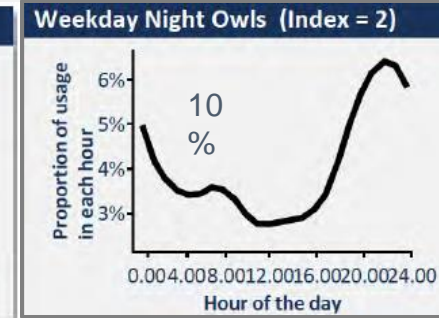
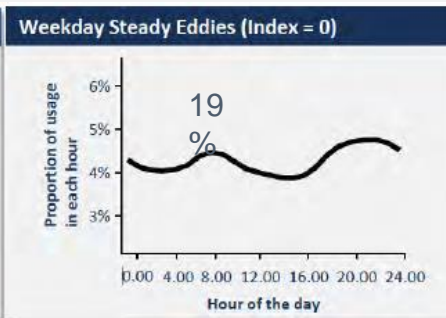
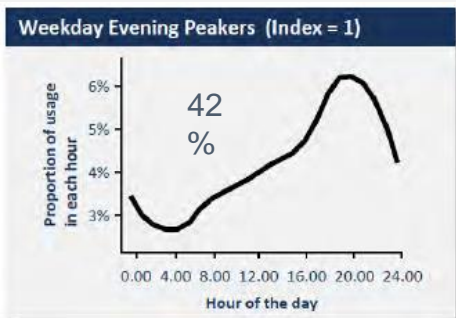
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1. Are DG customers paying their “fair share” of grid costs?
2. Are DG customers fairly compensated for their exports to the grid? – Separately addressed under FEJA through the rebate.

Analysis Produces Different Results from Rhetorical Hype –AZ example re load factor



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DG load factors pretty similar to resi class - Westar



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Load Factors	Residential Load Research	Non- Grandfathered DG	2015 Grandfathered DG	2016 Grandfathered DG
Range Low	3%	2%	5%	4%
Range High	39%	33%	25%	26%
Mean	16%	15%	13%	13%
Std. Deviation	0.06	0.09	0.04	0.05

Table 4. Comparison of Residential DG and non-DG Load Factors, including Grandfathered DG in 2015 and 2016

Are DG customers paying their fair share for distribution service?



- » Relative to COS, not to how much they were paying before DG.
 - > Adding DG does not mean you're under-paying relative to your COS. Why?
 - + COS studies often demonstrate that DG customers are less costly to serve. DG customers often contribute less to NCP, which drives distribution system investment, than non-DG customers for the residential class.
 - + Analysis may show that DG customers in a given territory are larger users, and therefore are, on the whole and on the average, contributing more to system costs than average residential customer.
 - + Analysis often shows that DG customers impact on nonparticipants is insignificant in comparison to the many other things customers are doing to change their demand (+/-) behind the meter (eg, EE, EVs, conservation, or simply empty nest homes, telecommuting, etc).

Value of DG Exports

- » Separate process set out in statute – 3% trigger for study to determine compensation effective post-5% penetration.
- » PNNL led stakeholder group.
- » Data transparency critical: Hosting capacity analysis; DER growth projections; grid needs assessment.
- » Value streams --

DER value streams

- » Fuel cost
- » Plant O&M – fixed
- » Plant O&M – variable
- » Generation capacity
- » Reserve capacity
- » Transmission capacity
- » Distribution capacity
- » Environmental cost
- » Economic development benefits/jobs

Contact information, Resources

- » Becky@VoteSolar.org
- » NARUC Electric Utility Cost Allocation Manual
- » NARUC Rate Design Manual
- » SEIA Rate Design Principles:
<https://www.seia.org/initiatives/principles-evolution-net-energy-metering-and-rate-design>
- » Joint Paper: Guidance for Utility Commissions on Time of Use Rates (Solar and Consumer advocates)
<https://votesolar.org/files/9515/0039/8998/TOU-Paper-7.17.17.pdf>