

BEFORE THE PUBLIC SERVICE COMMISSION OF WISCONSIN

Investigation of Parallel Generation Purchase
Rates

5-EI-157

**COMMENTS OF THE CLEAN ENERGY ADVOCATES ON THE
FEBRUARY 25, 2022 NET ENERGY METERING MEMORANDUM**

The below-signed Clean Energy Advocates are pleased to comment generally on this subject and provide responses to the questions posed in the Commission’s memorandum of February 25, 2022 (Memorandum). As noted in the Memorandum, the Commission directed the development of a discussion paper on net energy metering¹ (NEM) rates and practices, focusing on the relationship between this policy area, as it has been practiced in Wisconsin, and ratemaking principles in general. That discussion paper, prepared by the Regulatory Assistance Project and titled “Rate-Making Principles and Net Metering Reform: Pathways for Wisconsin,” provides stakeholders with a useful treatment of this complicated subject. It also provides several entry points to a broader discussion on whether any structural reforms of net energy metering in Wisconsin are necessary. We submit that the only reforms necessary in Wisconsin, especially given the small scale of rooftop solar penetration to date relative to the state’s electric power system, are those that make it easier for solar industry members to do business in the State.

Introduction

RENEW Wisconsin has been deeply involved in customer generation issues since the organization’s founding in 1991. RENEW and the undersigned Clean Energy Advocates have collaborated on these issues periodically since that time. RENEW Wisconsin’s advocacy on behalf of these customer-generators, and the businesses that serve them, began with Advance Plan 6, and it led to an order point issued in September 1992 affirming a requirement on regulated utilities to provide a net energy billing service to customers for generating systems up

¹ The terms “net energy metering” and “net energy billing” are used interchangeably in this document.

to 20 kilowatts (kW). That order point remains the most recent policy ruling on net energy billing rendered by the Commission. The Commission's finding of fact from that proceeding appears below.

“It is also reasonable for utilities to reestablish “net energy billing” (which allows for electric meters to run backwards) where they do not now offer it, for customer-owned renewable energy generators under 20 kW. Net energy billing will tend to promote small-scale renewable energy sources.”

In the 30 years since the affirmation of net energy billing, behind-the-meter generation has emerged as a pathway for customer bill savings, both at the residential and commercial sector. Crucially, customer generation is eligible technology for Focus on Energy incentives. Instituted nearly 20 years ago, Focus on Energy rebates supported customer investments in a variety of technologies generating electricity from wind, hydro, farm-based and wastewater biogas, and solar energy sources. It was not until about 2012 that solar energy, propelled by a combination of rapidly declining prices, improved technological performance, a 30% federal tax credit, net energy billing, and Focus on Energy rebates, became economical to customers who own their own home and can afford the upfront purchase. This value proposition has created a nascent industry in the state, with tens of clean energy companies operating in Wisconsin, providing hundreds of quality jobs to Wisconsinites. As discussed in more detail in the next section, however, this new industry in Wisconsin falls far short of its potential, has only fallen farther behind neighboring states in the past five years, and is vulnerable the type of regulatory risks this docket and the reform-suggestive Memorandum represent.

Once considered a boutique energy resource, solar power has emerged as a mainstream generation source for customers and utilities alike. Wisconsin utilities have committed to an aggressive timetable of reducing the carbon footprint of its generation portfolio, and to accomplish that, they have begun to retire older fossil-fueled power stations and replace them with large solar plants. As a result of its remarkable scalability, as well as the fact that the solar resource is relatively uniform across the state, solar power has become the default resource option for both customer generators and utilities. In our view, this convergence is a driving force

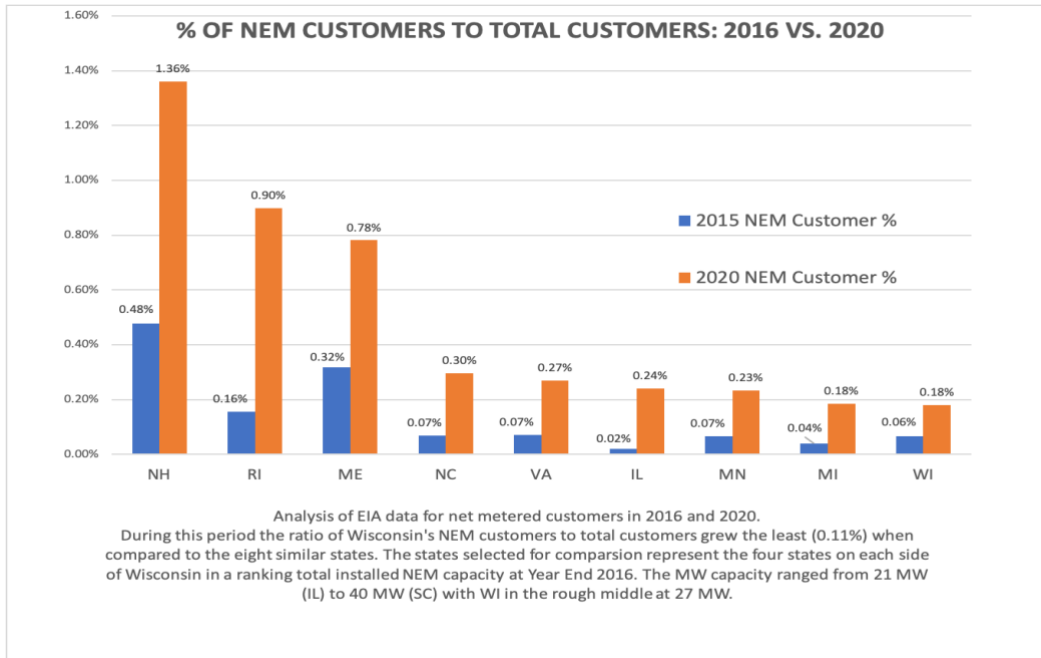
behind utility efforts across the nation to make solar a less economically attractive option for customers desiring to reduce their own contribution to greenhouse gas production with their own source of zero-emission power.

Where Wisconsin is today on customer solar adoption: falling behind our neighbors

While Wisconsin's solar industry has matured to some degree compared to a decade ago, it remains far from reaching its potential. The current patchwork of service terms and other policies in Wisconsin has created artificial market barriers that make the State an unnecessarily difficult place for solar contractors to do business, especially with larger customers.

The result is that penetration of net energy metering is low in Wisconsin relative to the rest of the country, and lagging behind neighboring states. According to the RAP paper (pages 26-27), the percentage of Wisconsin utility customers generating electricity through a NEM service is 0.3%. Notwithstanding the availability of Focus on Energy incentives, only 13 states have lower participation rates. The national average of participating NEM customers is 1.9%.

These barriers contributed to the slow growth of DG systems in the State between 2015 and 2020 compared to other states. The eight states shown in the figure below were the states closest to Wisconsin in terms of cumulative NEM capacity at the end of 2015, i.e., the four states immediately above and below Wisconsin in EIA data listing NEM capacity by state. Note that Wisconsin has fallen behind states it had previously led.



Given this slow growth and Wisconsin's low penetration rates, if the Commission perceives a need to restructure or reform NEM tariffs under its jurisdiction, such an undertaking should be motivated *by a desire to increase customer participation in the distributed energy marketplace to a rough parity with other states.*

Overcoming key barriers will foster successful DG policies to accelerate progress toward the State's goal of 100% carbon-free electricity by 2050:

1. **The absence of a statewide net energy billing policy to follow on the Commission's 1992 order has fostered an inconsistent and confusing patchwork of tariffs across Wisconsin.** Wisconsin's net energy billing landscape is distinguished by utility-specific terms of service that vary significantly from one territory to another. The most glaring example of this phenomenon, the maximum size of a generator that qualifies for net energy billing, is particularly confusing to both customers and contractors. Moreover, this inconsistency can frustrate the installation of a solar PV system that is well matched to a customer load in one territory but not to another, due to the need to minimize low export rates that often stymie installations serving larger customers. It makes no sense for a 21 kW renewable generator in Milwaukee to be able to access CGS-NM, but a 21 MW

renewable generator in WPS’s service territory can only take service under that utility’s PURPA rates. The inconsistency is arbitrary and undermines the achievement of important state goals.

Another example of this inconsistency is the practice by Wisconsin Public Service Corporation (WPS) to set its net energy billing ceiling at the system’s direct current (DC) rating rather than the more commonly used alternating current (AC) capacity rating that other utilities use. A PV system with a total panel rating of 20 kWdc typically feeds into an inverter rated at 15 kWac. The net effect of WPS’s practice is to shrink the window of net energy billing eligibility by 25%.

The unnecessary and unjustified inconsistency between Wisconsin utilities’ tariffs can be seen in the following table:

Comparison of net energy billing tariffs available to customer-generators in Wisconsin					
Category	WPS	NSPW	MGE	Alliant	We Energies
System capacity limit (in kW)	20	100	100	20	300
AC or DC threshold?	DC	AC	AC	AC	AC
Netting frequency	Monthly	Annual (calendar year)	Annual (rolling 12-month period)	Monthly	Monthly
No. of meters	One	One	One	One	Two
Treatment of generation exceeding net billing threshold	Offset of retail rates – exports credited for avoiding energy at wholesale	Offset-only service; exports not compensated	Offset of retail rates – exports credited for avoiding energy at wholesale	Offset of retail rates – exports, if allowed, are credited for avoiding energy at wholesale	Customer’s choice: (1) Direct sale to utility – price set at 4.24 cents/kWh; (2) Offset-only service; exports not compensated

Wisconsin solar installers desiring to operate in different service territories must understand all of these differences, and track any changes to this patchwork of policies. The result is an unnecessarily unfriendly climate for investment in the State.

2. **Low net energy billing ceilings, coupled with low export rates, effectively exclude many larger customers from investing in solar systems.** With the exception of We Energies, most net energy billing tariffs in Wisconsin set a ceiling of either 20 kW or 100 kW. These low ceilings, coupled with low rates for compensating customer exports of self-generated electricity (at issue in the ongoing TE dockets initiated by this proceeding), greatly limit the universe of larger customers that can justify the expense of a larger PV system to supply more than a token fraction of their loads. This is due to the serious financial penalty incurred by a customer whose generator is too large to qualify for net energy billing. The hard choice for larger customers is either to undersize generating systems or to abandon the installation altogether. Apart from customers that have nearly constant loads (e.g., hospitals, cold-storage warehouses, and wastewater utilities), this combination effectively excludes the vast majority of commercial customers whose consumption vary over time (e.g., farms and agricultural operations, office buildings, and schools). Given the barriers faced by many larger customers, if the Commission perceives a need to restructure or reform net energy billing tariffs under its jurisdiction, such an undertaking should be motivated *by a desire to facilitate larger customer access to compensation formulas that are available to residential and small commercial customers.*

3. **Encroachment of utility-owned DG reduces behind-the-meter installation opportunities for customers and solar contractors.** In recent years, utility programs such as We Energies' Solar Now are moving aggressively into what had been a competitive DG market served by nonutility businesses. Guardrails for preventing utilities from using their market power to steer customers to their own programs are not in place. Competition on a level playing field is not possible if utilities have ratepayer-backed financing, legal review, engineering and marketing, essentially unlimited access

to customers, and complete control of an opaque interconnection process with no outside visibility into local DG “hosting capacity.” We Energies has leveraged these advantages to push customers away from non-utility providers towards its own program.²

Furthermore, while Wisconsin utilities possess the ability to develop and market community-based solar programs, no such mechanism exists for nonutility providers to produce similar options that use off-site DG to serve multiple customers.

4. **The lack of clarity over third-party financing of solar weighs heavily on the solar marketplace.** The lack of clarity surrounding various third-party ownership financing structures is an enormous barrier to a healthy DG market in Wisconsin. This regulatory uncertainty extends to leases, service agreements (combining behind-the-meter generation, energy efficiency and load shifting capabilities) as well as retail power purchase agreements, and it affects all market segments (*e.g.*, residential, commercial, industrial, institutional, and other nonprofit entities). Beyond depriving customers of access to greater financing options, this uncertainty contributes to the currently unlevel playing field between utility-owned DG and competitive DG systems because utilities have been allowed to deny interconnection to nonutility projects that allegedly involve a third party financing source.

The regulatory risk posed by this docket adds to these factors and could undermine the solar industry and other clean energy businesses’ ability to create long-term business and employment plans. Reforms to net metering that diminish the solar value proposition to customers would hobble this budding industry. For this reason, we urge the Commission to act deliberately and in a matter that supports the long-term growth of the states’ non-utility DER providers.

² See, *e.g.*, Docket No. 6630-TE-102, *Comments on Wisconsin Electric Power Company’s Renewable Energy Pilot Programs of The Environmental Law & Policy Center and Vote Solar*, pp. 9-10 (describing how “WEPCO recently refused to interconnect seven DG facilities as part of the City of Milwaukee’s ReFresh plan while at the same time steering the City to WEPCO’s Solar Now Program.”).

Questions from the Commission

- 1. Do current net metering tariffs appropriately balance the ratemaking principles of efficient price signaling, maintaining customer understanding and acceptance, equitable cost allocation, and recovery of revenue requirements?**

With regard to customer understanding: If a Wisconsin business with multiple locations desired to reduce its reliance on utility-supplied electricity in order to achieve sustainability goals, it would soon discover that the economics of rooftop arrays on individual buildings will vary widely depending on whether they qualify for net energy billing or not. One health care provider recently discovered that a net energy billing threshold of 20 kW effectively limited an installation at its Cottage Grove clinic to that level in order to make financial sense. Eight miles away, in Madison, a clinic of similar size and operated by the same network is now powered with a 50 kW array. But for the net energy threshold, the installation at the Cottage Grove clinic would be substantially larger and likely more cost-effective for the customer.

With regard to equitable cost allocation, insufficient data exist to answer this question. We are not aware of any robust, third-party analysis in Wisconsin that follows best practices to document the costs and benefits of customer investments in distributed generation. Moreover, the lack of uniformity that characterizes individual utility net billing tariffs, as discussed above, will make this question even more difficult to answer unless the analyses are tailored to individual service territories. Without such analyses, conducted specifically for low-penetration states like Wisconsin and its utilities, any effort to reform or restructure net energy billing runs the risk of weakening the economics of customer-sited solar generation with no justification for doing so.

As noted in the “Principles for the Evolution of Net Energy Metering and Rate Design,” issued in May 2017 and endorsed by the Environmental Law and Policy Center, RENEW Wisconsin, Vote Solar and other solar energy advocacy organizations, “[m]ost studies have shown that the benefits of distributed solar generation equal to or exceeds costs to the utility or other customers where penetration is low. Assertions that current or future solar customers have shifted or will shift costs to others, and/or create new costs, must be demonstrated with valid, transparent data

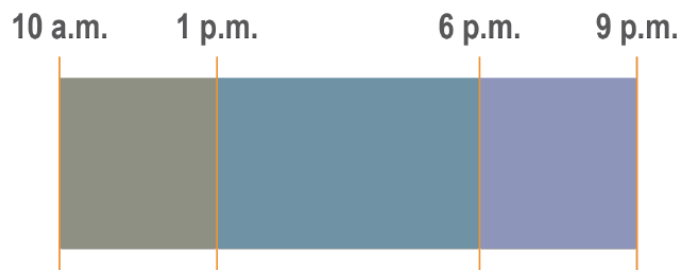
that reflects the values, avoided utility costs, and results of deploying solar at the distribution level, as well as the utility cost of providing service.”

Insufficient data also exist with regard to revenue requirements. We are not aware of any cost of service study that compares net billing customers to non-net billing customers in the same rate class and finds that solar customers impose additional and incremental costs beyond those caused by non-solar customers. In fact, when a customer goes solar, they typically reduce the costs incurred to serve them since they are relying on their self-generation during the time periods in which it is most expensive to serve customers, such as the 1pm-6pm summer timeframe with the highest rates in the time-of-use rates for MGE shown below:

TIME OF USE PERIODS

Customer consumption is divided into four time periods:

- On-Peak
 - One: Mon-Fri 10 a.m. to 1 p.m.
 - Two: Mon-Fri 1 p.m. to 6 p.m.
 - Three: Mon-Fri 6 p.m. to 9 p.m..
- Off-Peak
 - Mon-Fri 9 p.m. to 10 a.m.
 - (All day weekends and holidays)



Charges during **Winter** Season (Oct. 1 - May 31) per kWh

Time Period	Distribution Service	Base Energy all kWh	On-Peak	Total/kWh
Off-peak	\$0.05017	\$0.06225	N/A	\$0.11242
On-peak 1	\$0.05017	\$0.06225	\$0.09093	\$0.20335
On-peak 2	\$0.05017	\$0.06225	\$0.08819	\$0.20061
On-peak 3	\$0.05017	\$0.06225	\$0.09233	\$0.20475

Charges during **Summer** Season (June 1 - Sept. 30) per kWh

Time Period	Distribution Service	Base Energy all kWh	On-Peak	Total/kWh
Off-peak	\$0.05017	\$0.06225	N/A	\$0.11242
On-peak 1	\$0.05017	\$0.06225	\$0.09116	\$0.20358
On-peak 2	\$0.05017	\$0.06225	\$0.10042	\$0.21284
On-peak 3	\$0.05017	\$0.06225	\$0.09526	\$0.20768

While solar Customers will reduce their contributions to utility revenue requirements by purchasing less utility-delivered electricity, such reductions are no different than reductions from customers installing energy efficiency, having kids leave for college, or adopting demand response measures.

2. Do net metering tariffs align with the Commission’s mission and state energy policy goals?

In general, yes. Net metering tariffs encourage the installation of resources that produce energy during peak hours and avoid the need for the utilities to deliver energy to those customers at that time. Such resources provide benefits to non-participating customers, participating customers, the utility, and society, as laid out in the RAP paper. In this way, net energy billing supports the development of resources that are critical to achieving the goals of Executive Order 37, which articulated a goal of 100% carbon-free electricity by 2050.

In its Advance Plan 6 order affirming net energy billing, the Commission specifically recognized this policy’s potential to support customer usage of small-scale renewables generation sources. As a driver of renewable generation, this particular policy aligns well with Wisconsin’s energy priorities law, which was enacted shortly after the conclusion of Advance Plan 6. Net energy billing nicely complements Focus on Energy’s mission to empower state residents and businesses to make “smart energy decisions with enduring economic benefits.” As it exists today, net energy billing, like Focus on Energy’s incentives, supports renewable energy projects “that otherwise wouldn’t happen, or in some cases sooner than scheduled.”

That said, it is clear that the current assortment of tariffs present significant barriers to entry for commercial and industrial customers investigating a rooftop solar option to supply more than a token fraction of their annual electricity consumption. The situation most of these customers face appears to be inconsistent with the Commission’s obligation to ensure fair access to beneficial technologies across all customer classes to the benefits of renewable self-generation.

3. How could net metering tariffs incorporate alternative rate design options to better align with ratemaking principles and policy goals?

As discussed in detail above, rooftop solar penetrations in Wisconsin are low relative to other states. For that reason, we do not foresee a near-term need to explore alternative rate design options.

4. What, if any, further action should the Commission take to review and/or reform net metering tariffs?

The only action the Commission should take in the near-term is to make net billing tariffs more consistent across Wisconsin's utilities. Once that is completed, if penetrations begin to near levels such as four or five percent, the Commission should seek to quantify the costs and benefits of distributed solar power. Such a benefit-cost analysis is a prerequisite to any reform of current net energy billing tariffs that could potentially diminish customers' value proposition for investing in these grid-beneficial technologies. In addition, a cost-of-service analysis demonstrating incremental and increased cost-of-service differences between participating and non-participating ratepayers is required to analyze whether rates are fair, just, and reasonable for solar customers.

If the Commission embarks on a cost-benefit analysis after Wisconsin has reached higher penetration levels, it should articulate a set of principles to guide how it goes about estimating costs and benefits of net energy billing. We recommend that it incorporates the following principles:

- Evaluate eligible generating units as supply side resources;
- Treat benefits and costs symmetrically;
- Conduct forward-looking, long-term and incremental analysis; and
- Ensure transparency.

Other worthy principles are identified in the attached paper titled “Principles for the Evolution of Net Energy Metering and Rate Design,” to which Environmental Law and Policy Center, RENEW Wisconsin and Vote Solar are signatories.

Thank you for this opportunity to provide input on this critical issue.

Respectfully submitted this 22nd day of March, 2022, by:

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Principles for the Evolution of Net Energy Metering and Rate Design



This document provides a consensus view of solar advocates for regulators and stakeholders considering rate design and compensation for distributed solar generation, including potential alternatives to net energy metering. Traditional net energy metering (NEM) is fundamentally a bill credit that represents the full retail value of distributed electricity delivered to the distribution system, and has been a critical policy for valuing and enabling distributed generation. As penetration of solar and other distributed energy resources increases, states and utilities have begun to examine, and in some cases implement, alternative rate and compensation mechanisms.

The principles below are intended to be consistent with the imperative of public utility commissions and energy service providers to maintain reliable, cost-effective service to all customers while protecting the rights of customers to generate their own energy in a manner that provides both system and public benefits, including environmental protection and economic development.

They provide high level criteria for the conditions under which states may wish to consider alternatives to NEM, and high level principles for what distributed solar compensation mechanisms should look like where alternatives to NEM are appropriately considered.

Specifically the paper is organized into four sections:

- ❖ Basic principles, foundational to considerations for considering rate design and compensation for distributed solar generation.
- ❖ Criteria and Conditions for the Consideration of Alternatives to Net Energy Metering
- ❖ Guiding Principles for Solar Rate Design, and
- ❖ Guiding principles for Alternative Compensation

Basic Principles¹

- ❖ Customers have a right to reduce their consumption of grid-supplied electricity with energy efficiency, demand response, storage, or clean distributed generation. Thus, a customer should always receive the full retail price value for behind the meter

¹ The Criteria and Principles herein do not distinguish between regulated and restructured states. However, rate designs, cost allocation methods, avoided costs and cost/benefit analyses must recognize whether the utility is distribution-only or vertically integrated.

Principles for the Evolution of Net Energy Metering and Rate Design

choices that reduce grid-supplied energy consumption, whether installing energy efficiency measures, or consuming on-site generation.

- ❖ Solar rate design and compensation mechanisms should support customer economics to invest in solar that are sustainable, consistent with the full stream of values provided by the system, and fair to all stakeholders.
- ❖ Net energy metering is a proven mechanism for driving solar deployment, liked and understood by customers, and is preferred in most circumstances.
- ❖ Most studies have shown that the benefits of distributed solar generation equal or exceed costs to the utility or other customers where penetration is low. Assertions that current or future solar customers have shifted or will shift costs to others, and/or create new costs, must be demonstrated with valid, transparent data that reflects the values, avoided utility costs, and results of deploying solar at the distribution level, as well as the utility cost of providing service.
 - A cost of service study that fails to consider the benefits of distributed solar generation (DSG) cannot establish a cost-shift.
 - Regulators should require an independent cost-benefit analysis before considering substantial rate design or compensation changes based on cost-shift assertions.
 - The benefits of existing distributed solar should be recognized when considering any asserted cost shift.
 - The time frame for review of costs and benefits must be on par with the life of the particular type of Distributed Energy Resources (DER) assets, e.g. 20-30 years, and be forward looking, not a snapshot of one year of sunk costs as is typical in a general rate case (GRC).
 - Regulators should seek to ensure in GRC, Integrated Resource Plans (IRP) and other relevant proceedings that future avoided costs found in cost/benefit studies related to DSG and other DER are *actually* avoided (e.g. the canceled PG&E transmission projects saving \$200 million and the Brooklyn-Queens Demand Management project avoiding costly upgrades).
 - Since some level of quantifiable cross-subsidization is inherent in all rate design, particularly for large diverse classes, an independent finding of a *material* cost shift should be required before regulators authorize substantial changes to rates or rate design.
- ❖ Net metering can be accomplished through simple energy netting, or in combination with monetary compensation depending on the rate design:
 - For non-time differentiated residential and small commercial rates, i.e. rates based on energy consumed at any time, energy netting on a kWh basis over the billing period is good policy particularly at low to moderate penetration levels, and pending demonstration of a material impact.

Principles for the Evolution of Net Energy Metering and Rate Design

- For time-differentiated rates, monetary compensation is an accepted feature of some current NEM structures and may be necessary to preserve the full value of excess energy.
- ❖ Opportunities for retail customers and third party DSG and other DER developers to provide additional services (e.g. voltage & frequency regulation, VAR support) should be encouraged, especially in States moving towards a service oriented utility/regulatory model, though access to markets, and appropriate compensation mechanisms.
- ❖ Consideration of creating separate rate classes for customers that choose to utilize DER technologies must be based upon a factual demonstration of significantly different load and cost characteristics using publicly available actual data, and should generally be discouraged as potentially discriminatory.

Criteria and Conditions for the Consideration of Alternatives to Net Energy Metering

- ❖ Penetration level should be the leading threshold criteria for consideration of alternatives to NEM.
- ❖ Customers who installed solar under net metering should be grandfathered for a reasonable period of time. Customers have a reasonable expectation that rate structures (as opposed to rates themselves) will not change dramatically. Gradualism is an important rate design principle, and a gradual phase-in to any new compensation methodology should be provided at the end of the grandfathering period.
- ❖ Process: Early, i.e. pre-litigation, data collection and analysis under the guidance of the State Commission can provide opportunities for collaboration toward the development of a factual basis for future changes to rate designs, compensation, and other mechanisms.
- ❖ Simplicity, Gradualism, and Predictability: The simplicity of the NEM compensation mechanism facilitates customer adoption of distributed solar. Any future design should consider customer needs for simplicity and any changes should be applied gradually and predictably.
- ❖ Shadow billing and voluntary pilot programs to analyze opportunities to increase the benefits that net metered systems provide to the grid, and to assess the actual impacts of proposed changes (for example, time-of-use (TOU) pilot programs) should be considered before making substantial mandatory changes to compensation or rate design.
- ❖ Hold harmless policies should be in place for low-to-moderate income (LMI) customers.
- ❖ NEM imports & exports are generally netted monthly in most states, and trued up annually. More granular netting generally reduces solar customer economics, but may be worthy of consideration when penetration levels increase, or in conjunction with deployment of other DERs such as storage.

Principles for the Evolution of Net Energy Metering and Rate Design

Guiding Principles for Solar Rate Design

- ❖ Rate design should seek to send clear price signals to customers that encourage sustainable, cost-effective investments in solar and complementary technologies.
- ❖ Rate designs should not create barriers to the deployment of distributed solar generation or DER technologies other than solar.
- ❖ Rate designs that provide greater incentives for DER technology deployment (e.g. more steeply inverted block rates) can be considered to encourage early adoption of efficiency, distributed generation and storage technologies.
- ❖ Rate designs that emphasize temporal cost-causation (time-varying, critical peak pricing and critical peak rebates) are generally consistent with solar deployment, and may be quite beneficial to customer and system alike when solar is integrated with DERs like storage or demand response.
- ❖ Rate designs that emphasize higher fixed (e.g. customer, service and facility or basic service) charges than necessary for recovery of strictly customer-related costs like service drop, billing, and metering, or quasi-fixed (e.g. mandatory residential demand) charges do not reflect cost causation, disproportionately impact low and moderate income customers, and should be discouraged.
- ❖ Regulatory review of rate design alternatives should consider impacts on low-income customers; e.g. utility fixed or quasi-fixed charge proposals usually put solar and efficiency technologies further out of reach of LMI customers.
- ❖ Any consideration of standby, backup or other supplemental charges for solar customers must (1) be consistent with PURPA requirements, (2) be based upon a customer's ability to control self-generation similar to a conventional fossil resource (e.g. diesel or natural gas), and (3) reflect the probability of customer generation unavailability in the development of any rates.

Guiding principles for Alternative Compensation

- ❖ A fair value of solar (or "stacked benefit") compensation rate can be considered for distributed solar generation exports, at higher penetration levels. Such value should be determined taking into account both short term and long term (life of system) benefits of distributed solar generation.
- ❖ Buy all/Sell all (BA/SA or "VOST") compensation approaches should be at the option of the retail customer, i.e. VOST should not be the only customer option. Critical considerations impacting system economics and the ability to finance include the frequency and effect of future changes to the value proposition. In addition, consideration must be given to the effect on customers of the lack of energy hedging (customer-generated solar energy does not offset the customer's utility-supplied energy).
- ❖ Alternative Compensation methods should take into account the efficacy of integrating solar with other forms of DER (e.g. storage) in the grid of the future, assuring that barriers to new technologies are not created.