

**Comment Summary
MPSC Staff July 21, 2015 Proposal**

Proposal

From: Jesse Harlow

Dear Solar Workgroup Participants,

Thank you for your participation in the Solar Workgroup meeting held on June 9, 2015 to discuss the capacity component of the bill credit calculation in the Consumers Energy Solar Pilot (Solar Gardens) tariff. Further discussions have been held with Consumers Energy and we have aligned on a modification to the bill credit calculation that we believe is fair and in the best interest of the customer while providing balance with respect to the tariff. We would like your comments on the revised bill credit calculation that utilizes 75% of the MISO Cost of New Entry (CONE). **Please provide your comments via email response by July 29, 2015.**

Current Tariff: The monthly bill credit is generally calculated by summing three components;

1. Energy: multiplying the hourly solar energy production by the hourly day ahead locational marginal price times one plus the avoided line loss factor
2. Capacity: Multiplying the MISO awarded zonal resource credits times the annual MISO Planning Resource Auction clearing price for zone 7
3. RECs: multiplying the monthly RECs generated by the larger of a) the market index price or b) revenue from actual REC sales

Revised Tariff:

1. For the first five years the bill credit will be based on a levelized energy and capacity rate (\$/kWh) established at the time of program enrollment plus the REC value from the current tariff. The energy and capacity forecast used in this calculation was used in our recently approved REP Amendment U-17752. The capacity forecast is based on 75% of CONE.
2. Energy - In years 6-25 the energy component is unchanged from the current tariff.
3. Capacity - In years 6-25 the capacity component is based on 75% of MISOs applicable annually published CONE value for Zone 7.
4. In years 1-25, the RECs component is unchanged from the current tariff

Example Calculation:

In this example, the 5-year levelized rate for the energy and capacity portion of the bill credit is 7.5¢/kWh for the first five years, plus the value of the RECs. The bill credit calculation reverts to the actual energy market price and 75% of MISOs applicable annually published CONE value for Zone 7 for

the energy and capacity portion of the bill credit for years 6-25. In the attached example, the bill credit in years 6-10 is a forecast and not representative of what the bill credit will actually be.

The levelized energy and capacity portion of the bill credit provides some customer certainty and aids in understanding the magnitude of the bill credits in the early years of the program which is likely to increase customer enrollments and simplify marketing of the program. Further, the use of 75% of CONE removes volatility from the bill credit calculation.

Example Bill Credit Calculation 1 kW Subscription										
Assumptions										
Annual production from 1 kW: 1490 kWh										
Line loss factor: 2.37%										
75% CONE (\$/kW-yr)	\$ 80.5	\$ 83.4	\$ 86.4	\$ 89.7	\$ 92.7	\$ 96.0	\$ 99.5	\$ 103.4	\$ 106.8	\$ 110.7
ZRC/kW: 0.00047										
	Year >>	2	3	4	5	6	7	8	9	10
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Annual Energy Credit (\$)	\$ 64.7	\$ 66.8	\$ 67.8	\$ 70.1	\$ 73.0	\$ 77.6	\$ 81.5	\$ 83.3	\$ 87.0	\$ 89.0
Annual Capacity Credit (\$)	\$ 37.8	\$ 38.9	\$ 40.0	\$ 41.2	\$ 42.2	\$ 43.4	\$ 44.6	\$ 45.9	\$ 47.1	\$ 48.4
Annual REC Credit (\$)						\$ 6.9	\$ 6.8	\$ 6.8	\$ 6.7	\$ 6.6
Annual Avoided Transmission Line Loss Credit (\$)	\$ 1.5	\$ 1.6	\$ 1.6	\$ 1.7	\$ 1.7	\$ 1.8	\$ 1.9	\$ 2.0	\$ 2.1	\$ 2.1
Total Residential VoS Payment - (\$)	\$ 104.1	\$ 107.3	\$ 109.4	\$ 113.0	\$ 116.9	\$ 129.7	\$ 134.8	\$ 137.9	\$ 142.9	\$ 146.1
Levelized Energy and Capacity Rate (\$/kWh)	\$ 0.075	\$ 0.075	\$ 0.075	\$ 0.075	\$ 0.075					
REC Rate (\$/kWh)	\$ 0.005	\$ 0.005	\$ 0.005	\$ 0.005	\$ 0.005					
Annual Credit Rate (\$/kWh)	\$ 0.080	\$ 0.080	\$ 0.080	\$ 0.080	\$ 0.080	\$ 0.087	\$ 0.091	\$ 0.093	\$ 0.096	\$ 0.098

Comments Recieved

To SWG
From Konkle

Thanks Jesse,

I have discussed this with a few other energy experts at the Great Lakes Renewable Energy Association who have studied this "modification" and we all agree that we have no idea how to evaluate this. If we can't, then most on this email list can't. It is unfortunate that things have to be so complex and technical that even people who have been employed in the energy business in Michigan their whole lives can't really tell what this means. One goal, if possible, should be to make things simple enough that the average customer (or at least energy professional) can understand and evaluate it.

The goal of GLREA is to have rules and regulations in place that encourage the development of renewable energy in Michigan while being fair to all Michigan citizens. Obviously, the value of solar is a key component. We cannot evaluate this proposal to tell whether it is fair or if it is unfairly protective of the public utility status quo at the expense of a growing solar industry. We believe that solar energy development is important to Michigan's future and encourage the MPSC to continue to protect the interests of the citizens of Michigan.

From the little bit we can understand -

Why the five year delay before allowing the "Annual Credit Rate" to increase from the original starting value? The large increase in "Total Residential VoS Payment" in your sample calculations at year six (\$13 vs \$3 per year for the first 5 years) suggests the payment is being under valued in the 5 years previous.

If there is any way to make this less complicated, we could then more easily support it.

Dave Konkle, Great Lakes Renewable Energy Association

To SWG
From Jeremy Zinn

I'm glad I am not the only one who couldn't understand it. It looked to me like they were going to pay \$.08 per kWh for the energy and the REC? I just sold my RECs to a company in Illinois for the next two years at \$35 per REC. My net metering and RECs add up to a lot more than \$.08 per kWh.

Jeremy Zinn

Project manager/ Master Electrician

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PV Installation
Professional

To SWG
From Kim Walton

I agree, couldn't figure it out either.

Kim

Kim Walton

MAREC Program Director

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To SWG
From Jesse Harlow

The five year credit is fixed and is a levelized value based on an escalated amount. This would be a guaranteed payment and would help to simplify the explanation of what a customer would get in

exchange for their capital investment. This will also help with the marketing of the program. After five years, it will be based on the market so the values in the example are subject to change.

To SWG
From Wayne Appleyard

I agree with the others that this is complex and for the lay people an explanation of many of these terms would be required as well as an example based on best guess for values beyond the 5 year fixed return.(thanks Dave for saying "Doh")

I have not read the entire Consumers proposal, so I am not sure what they buy in cost per peak kW is to see how this return works with the initial buy-in cost.

\$.08/kWhr doesn't sound like the true "value of solar" to me. Didn't Maine just come out with \$.18/kWhr and Minnesota came out with \$.13/kWhr. This looks like the buyer might be subsidizing other rate payers?

Another way to look at this is if an individual can put a system on their own home for \$4/peak watt and gets somewhere around \$.12/kWhr with net metering, and a large array can be built for under \$2/peak watt, shouldn't the Community Solar provider be able to get closer to matching the value of the home system?

I know its a lot more complex than the above, but if we/they really want community solar to go well, and more solar be installed because of this, it might have to be a better deal.

Wayne Appleyard
Wayne Appleyard

To SWG
From Kim Walton

Yes,

I would like to see the purchasers be treated more as investors, after all they are investing in the process.

Kim

Kim Walton

MAREC Program Director

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To SWG
From Karl Rabago

For my part, I don't understand what REC value has to do with the Value of Solar.

RECs prices get set based on market conditions associated with compliance obligations, etc. They have no direct relationship to value.

karl

Karl R. Rabago

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**To SWG
From ELPC and Five Lakes Energy**

Comments of Environmental Law and Policy Center and 5 Lakes Energy concerning
Consumers Energy Solar Gardens Pilot Value of Solar
Informal Proposal dated 23 July 2015

The Environmental Law & Policy Center (ELPC) and 5 Lakes Energy LLC appreciate the opportunity to provide feedback to the Commission's informal proposal regarding the capacity component of the bill credit calculation in the Consumers Energy Solar Gardens Pilot tariff that was emailed to members of the Solar Working Group on July 23, 2015. While ELPC and 5 Lakes Energy do not officially represent other members of the Solar Working Group, we have consulted with a number of other groups and can represent that the following comments generally reflect some of the concerns and suggestions shared by others.

In general, while we appreciate the effort to improve the capacity value calculation we still have very significant concerns about the method proposed to use 75% of the "cost of new entry" (or "CONE") as the basis for the capacity value of solar, as this continues to undervalue the capacity that will be provided by community solar projects in Michigan and is not consistent with the way that Consumers values (and charges) customers for the capacity of its own generation. We believe more discussion is warranted to reach a value that fairly compensates Consumers customers in a predictable, straightforward way that will help facilitate the success of the pilot program.

More broadly, we believe it is very important for the Solar Working Group to continue to meet regularly to discuss further improvements to the utility solar programs and the "value-of-solar" formula proposed

by Consumers here. As the Commission stated in its Final Order in U-17752, “the Commission agrees with ELPC that Consumers’ VoS inputs and calculations will likely require refinement in the future, as the company learns more about how to maximize the capacity benefits of an on-peak generation resource like solar.” (U-17752, Final Order at 20). While the Commission found that the Working Group should “specifically focus” on a “just and reasonable value of capacity” in the VoS calculation, the Commission’s order was not limited to only the capacity value input. Rather, the Commission ordered the Working Group to “continue investigating the appropriate *inputs* to the VoS calculation.” (Final Order at 21, emphasis added). Similarly, the Staff report due on September 30, 2015 is not limited to only the capacity value input, but rather is intended to provide broader “recommendations for a more predictable and fair VoS calculation method.” (Final Order at 21-22). As discussed further below, the best and likely only way to provide a “predictable and fair” VoS calculation method is to conduct an independent and comprehensive value-of-solar analysis rather than rely on formulas proposed by one utility or market participant.

Our specific comments are as follows:

- 1. Consumers should offer either a fixed escalating schedule over five years or should include a floor price to enhance transparency and customer certainty.**

Successful solar programs typically are designed to maximize simplicity, clarity, predictability, and transparency. As was evident in the email responses to Staff’s initial proposal, many Solar Working Group members remained confused about how to translate the method proposed into clear prices for customers. The proposal to use a fixed schedule for the first five years of the bill credit is a welcome reduction of uncertainty for customers. However, levelizing the nominal price creates a situation most customers cannot properly evaluate. They either won’t have the information and knowledge to compare this to expected utility rates during this period, or they will mistakenly assume that they can compare this rate to the current cost of power. The first five years should either be on a fixed escalating schedule corresponding to the Commission’s expectations of Consumers’ future rates, or should be calculated according to the tariff but with a floor price for the first five years. Also, see our comments on energy and capacity below, which should be incorporated into the committed prices for the first five years.

- 2. The proposed method for valuing energy based on locational marginal pricing under-values the energy from solar.**

Incorporating energy into the value of solar as the sum of the products of hourly generation and locational marginal price is theoretically valid in a competitive wholesale market. However, both Consumers and DTE receive revenues through rates that far exceed the wholesale market value of energy and capacity. This allows them to have excess base load capacity that would otherwise be bankrupted, and to thereby suppress locational marginal prices due to the excess of base load capacity with low variable costs of generation. This under-values the energy from solar and will continue to do so, so long as these utilities are allowed to own excess baseload capacity.

More broadly, as explained in the testimony of Douglas Jester in Case U-17752, it is likely that the most appropriate valuation of the power system value of the output from these solar systems is to use exactly

the Company's calculations of the cost of service, since the market for power that is relevant for these subscribers is the one created by Consumers as their monopoly provider. They should be paid for power what they pay for equivalent power.

3. Using 75% of CONE as the value of capacity is arbitrary and under-values the capacity provided by community solar projects.

Consumers currently represents that we have insufficient physical capacity in Michigan's Lower Peninsula and that it will propose to build new capacity in the near future. It will pay at least CONE for that new physical capacity, and likely significantly more if it chooses a generation technology other than an advanced combustion turbine. At the same time, Consumers has argued in both the recent Act 169 case and in their current rate case that the capacity cost that should be charged to customers is 100% of their average cost of owning or contracting for generation capacity of all types. The Commission has decided that 75% of this amount is the appropriate measure of the cost of capacity. Both the Company and the Commission should be consistent in their determination of the cost of capacity and use the implied cost of capacity based on these cases. To do otherwise is just to say arbitrarily, unreasonably, and unjustly that the capacity provided by the community solar systems and paid for by the subscribers is worth less than the other capacity provided by the Company. The implied cost of capacity resulting from these cases is significantly more than 75% of CONE.

Consumers represented in the telephone conference call hosted by Commission staff on July 27 that 75% of CONE represented an average over time of the market value of capacity, which fluctuates between high and low values. This phenomenon occurs largely for two reasons: (1) because there are non-market revenues that enable market participants like Consumers to make investments in capacity when market revenue would not warrant it, and (2) because there are market revenues available to owners of capacity, principally from ancillary services, that are not counted as either energy or capacity costs in Consumers proposal and enable capacity markets to value capacity at "net CONE" which discounts CONE by the value of these additional revenues. Consequently, 75% of CONE does not reflect the full market valuation of capacity. The actual cost of physical capacity is a better metric for this purpose.

4. The Commission should adjust the capacity value to account for line losses.

Consumers is proposing to use 75% of CONE for capacity value, without proposing any adjustment for line losses. The appropriate number to use would be the cumulative loss from generation to the distribution primary, using demand losses. As indicated on page 3 of Consumers' "2013 Loss Study Report – Revised," the appropriate cumulative demand loss is 6.56%, which means that the capacity avoided should be $1/(1-.0656)=1.0702$ times the capacity attributed to the community solar system.¹

5. It is likely that REC values are higher than the amount offered by Consumers.

¹ Consumers' 2013 Line Loss Study was provided in response to discovery question 17735-MEC-CE-58 from Consumers 2014 Electric Rate Case, U-17735). The discovery response is attached to these comments.

The Commission ordered Consumers to “modify its proposal to provide that, to the extent possible, Consumers shall sell the solar RECs at the highest available market price and credit the proceeds to program participants.” (U-17752, Final Order at 21). Commission staff should take note of the representation by Jeremy Zinn that he sells his solar RECs for 3.5 cents per kWh. This significantly exceeds the value offered by the Company for the initial 5-year period. We recommend that the Commission staff undertake a more thorough analysis of solar REC values and consider other methods to ensure that customers are fairly compensated.

6. The Commission should initiate an independent solar valuation study to inform further improvements to the VoS calculation and solar programs used in Michigan.

In the big picture, the Commission should be concerned with any VoS approach that results in a value that is significantly lower than the value attributed to distributed solar in other jurisdictions that have performed comprehensive and independent value of solar analyses.

Independent studies done in many states show that the benefits of net metering (i.e. a “retail rate” credit for customer-generated solar) frequently outweigh the costs:

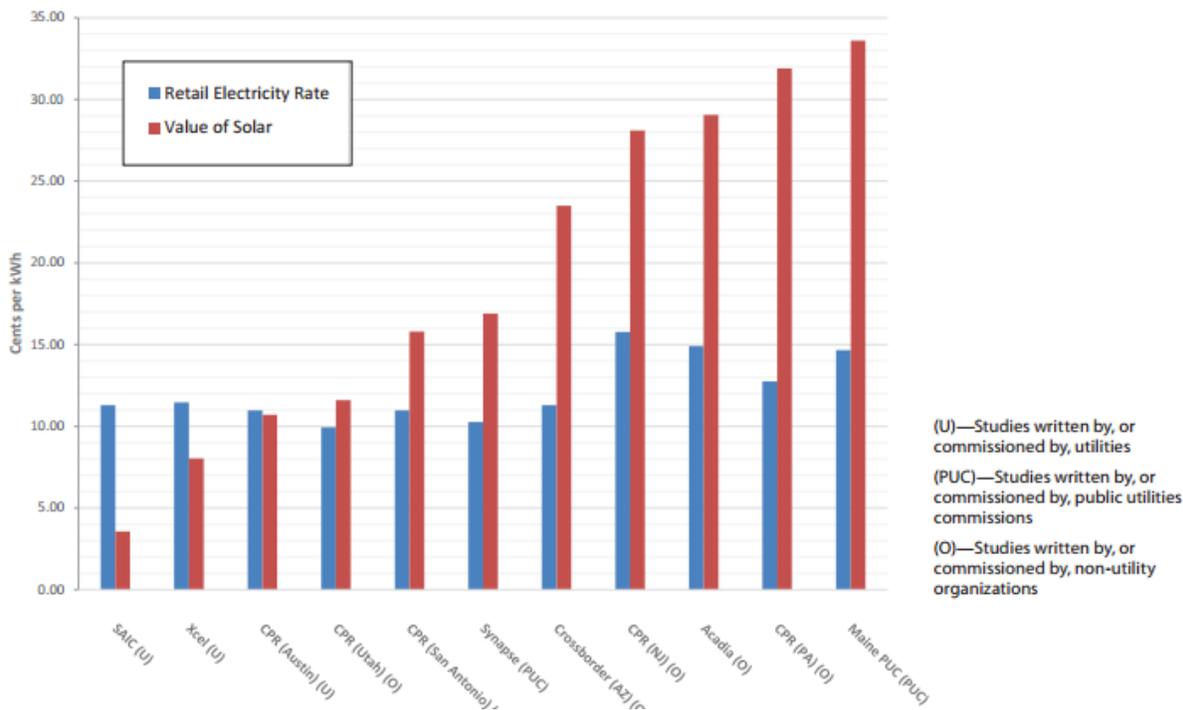
- **Nevada** E3 study: grid benefits of rooftop solar systems installed through 2016 will exceed costs by \$36 million. (<http://www.renewableenergyworld.com/rea/news/article/2014/07/nevada-net-metering-will-save-the-grid-36-million-says-state-report>)
- **Mississippi** PSC study: solar net metering will provide a net benefit to Mississippi in nearly every scenario analyzed. (<http://votesolar.org/2014/10/01/study-net-metering-would-help-keep-rates-low-in-mississippi/>)
- **Maine** PUC study concluding that distributed solar has a value that significantly exceeds the retail price of electricity. <http://www.utilitydive.com/news/maine-puc-study-values-solar-at-33-centskwh-more-than-double-the-price-of/374717/>
- There are many other examples of similar studies from states **like California, Texas, New York, and Vermont.** (<http://www.renewableenergyworld.com/rea/blog/post/2013/01/new-state-study-demonstrates-benefit-to-ratepayers-of-net-metering>)

A recent report profiled 11 recent solar valuation studies and concluded that individuals and businesses that install distributed solar generally deliver greater benefits to the grid and society than they receive through net metering.² This means that, contrary to the positions taken by Consumers and DTE in the Solar Working Group, it is likely that net metering customers are actually subsidizing the utilities’ other customers, not the other way around.

² Environment America, *Shining Rewards: The Value of Rooftop Solar for Consumers and Society* (June 2015), available at <http://www.environmentamerica.org/reports/amc/shining-rewards>.

Importantly, the report mentioned above found that “Studies of the value of solar conducted by utilities routinely arrive at estimates lower than those of studies conducted by public utilities commissions and other organizations.” In fact, all eight of the non-utility and public utilities commission value-of-solar studies evaluated in the report found that solar energy delivered greater value than retail electricity rates, while none of the three utility-commissioned studies came to that conclusion.

Figure 2: Average Retail Residential Electricity Rates Compared to the Values of Solar in 11 Cost-Benefit Analyses.³¹



These results suggest that it in order to arrive at a “just and reasonable” VoS rate in Michigan, it will be critical to conduct a comprehensive, and independent value of solar study.

7. The Commission should be concerned and give appropriate direction to Consumers about the risk of overstating expected system output and bill credits.

Consumers’ representative calculations of solar bill credits in both case U-17752 and in the current discussions are quite optimistic. Under the proposed program, subscribers bear any risk that output will be less than expected. If actual production is less than Consumers represents to potential subscribers, then subscribers are likely to be unhappy and turn to the Commission for relief. It is likely better for all concerned that subscribers are surprised by receiving higher output and bill credits than they were led to expect, rather than lower.

8. Commission staff should continue to work with Consumers to maximize value of community solar gardens to the subscribers

As we have indicated in our discussions, there is strong evidence that (1) solar system value can be increased by positioning panels for maximum value of output rather than maximum energy output, and

(2) that strategically placed solar systems can have significant value in avoiding transmission and distribution costs. Consumers should be working to obtain these benefits in its community solar gardens. To the extent that these values can be obtained in Consumers' projects, they should be reflected appropriately in bill credits to subscribers. We remain interested in working with Staff and Consumers on the technical and policy aspects of these opportunities.

To SWG
From Wayne Appleyard

Jesse, etal,

I appreciate the MPSC allowing the Solar Working Group to comment on the Consumers Energy proposed Solar Gardens project and by and large agree with all of the comments that Douglas Jester and Bradley Klein have submitted.

I would like to add that in many respects if Consumers Energy does really want to support and maximize solar and community solar that they need to be taking a more progressive stance on valuing solar production. Given all of the studies that have shown solar generated electricity to be worth more than the net metering price that individual owners receive and given that theoretically one can install a large array for much less (,\$2/peak Watt)than an individually sized owner system can be installed (\$3/peak Watt);

Basic logic would indicate that a Solar Garden subscriber should be getting at least the net metering value of solar, if not more.

Further, if Consumers Energy can evaluate parts of their grid for locations that would maximize the value of solar that should be a part of the program and should also have its value added to the price paid to the Solar Garden subscriber.

Anything less than this can only be labeled as poor planning and inconsistent with both their claim to desire maximizing solar installations as well as their claim to not subsidize one group of customer's at the expense of another group of customers.

Sincerely,

Wayne Appleyard

To SWG
From Brett Little

I second that.

Brett Little. LFA | Executive Director | GreenHome Institute

501(c)3 Non-Profit | GreenHomeinstitute.org |

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Schedule a meeting with me - <http://doodle.com/BrettAES>

"Empowering people to make healthier & more sustainable choices in the places we live. "



To SWG
From Karl Rabago

I concur.

Karl R. Rabago

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To SWG
From Ed Comer

I disagree. The Brattle Group just issued a study that concludes that utility scale solar can achieve 4 times the carbon savings that rooftop solar can get for the same price.

The value in terms of carbon avoidance is real.

Edison Electric Institute

To Ed Comer, SWG
From Jeremy Zinn

Do you have this report, from what I see it says it's cheaper than roof top solar. Seems like 100kw of solar is a 100kw of solar whether in the field or on a roof and is still going to have the same amount of

CO2 offsets. Mass transportation makes more sense too versus having your own vehicle but honestly I'd rather have my own solar and electric vehicle.

Jeremy Zinn

Project Manager/ Master Electrician

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**To SWG, Jeremy Zinn
From Ed Comer**

You can find it on Brattle.com. It cost much more to customize installations on individual houses than to install solar in bulk. Economies of scale count which is why people buy in bulk at places like Costco. The study also found that individual home solar systems do not track the sun while the utility scale are designed to follow the sun so that they produce twice the energy than the rooftop systems. Between the two utility scale produces for times more energy per dollar than rooftop. This study was done in Colorado.

The valuation methodologies mentioned in the earlier e mails only value distributed systems and do not compare them to utility scale systems and remember wind is much cheaper than solar in the Midwest.

Edison Electric Institute

**To Ed Comer, SWG
From Jeremy Zinn**

Tracking doesn't amount to double the production it gains at most maybe 40%. The reason homes don't utilize it, is it's cheaper to add more solar panels to a rooftop then it is to put it on the ground (at a home) and install tracking with all kinds of added moving parts. Utility scale systems still result in an electric bill to the end-user. The whole idea with people buying Solar today is the fact that they want to get rid of that bill.

Jeremy Zinn

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**To Jeremy Zinn, SWG
From Karl Rabago**

1. I am eager to see the carbon value that EEI or the utilities propose for carbon over the life of the system.
2. I am not sure why we are discussing cost to install of utility scale vs. rooftop - community scale fits in the middle.
3. I still don't know why the offset value does not reflect the full value of the generated energy, including siting value benefits.
4. The most important issues are the deficits in valuation addressed in comments of Jester & Klein. Importantly, a value of solar calculation for a community solar offset credit value should be complete, transparent, and derived from a public workshop process.

Karl

Karl R. Rabago

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**To Ed Comer, Jeremy Zinn, SWG
From Mike Linsea**

Yes I agree, The point that a 100kW of roof top solar off sets the same amount of CO2 as a utility scale 100kW system is correct. Cost per watt installed as an economy of scale...I am sure every utility scale generation project has a same scale of size of investment component in it. The point the utility wants to ignore is the value to the local grid with roof top solar. Decentralized solar provides relief to the peak loads in areas where the grid is straining to keep up with demand at AC peak times. This is the ultimate value of decentralized power generation.

Solar Gardens and Community solar is mostly for customers that ether can't afford a complete solar system or has a poor site for solar generation. Solar farms and Community Solar will still need to be

transmitted long distances, and it will only effect areas near the generation point. This is just another item to control the argument and posture for centralized control “Centralized Solar”

Decentralizing the power grid more is good for the entire grid. We need to invited to be in the planning discussion, not just be allowed to comment on the utilities ideas taken from our work group with no input at the meetings by the utilities...By the way these items are rolling out, they appear to be made in a utility vacuum, only from one perspective.

Mike Linsea Project Mgr.Owner

Solar Winds Power Systems

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To Jeremy Zinn, Ed Comer, SWG

From Mike Linsea

Yes Jeremy, We did a study a few years ago with data from NREL and live sites and have found real data showing dual axis tracker increase power production between 17% and 26%

“ Moving parts mean maintenance”

Mike

**Consumers Energy Response to Comments Provided by Solar Working Group Members
Regarding the Company's Proposal Dated July 21, 2015.**

Consumers Energy (or, the "Company") appreciates the comments provided by members of the Solar Working Group regarding Consumers Energy's July 21, 2015 Solar Gardens program proposal. While Consumers Energy provides specific responses below, in general, Consumers Energy wants to emphasize that the Solar Gardens program is a pilot program, and as such presents the opportunity for the Company to gain experience with and evaluate all phases of the program. Although Consumers Energy recognizes that concerns still exist regarding its recent proposal, Consumers Energy expects that program refinements will continue to occur as the program learnings materialize.

The Company specifically addresses the comments provided by Mr. Douglas Jester, representing 5 Lakes Energy and ELPC, as follows:

- 1. Consumers should offer either a fixed escalating schedule over five years or should include a floor price to enhance transparency and customer certainty.**

Consumers Energy does not believe a floor price will provide more transparency or understanding for customers, as it is a market construct that few customers will fully understand. A floor price is inadequate because it only provides customers with an understanding of the risk mitigants, and does not permit customers to comprehend the overall economics.

Conversely, a levelized value will simplify a customer's evaluation of the program by providing a single value for the customer's consideration. A levelized value such as \$0.075/kWh will allow customers to compare the value to their current cost of power because most elements of the customer bill are in terms of \$/kWh.

The suggestion that the fixed escalating schedule should correspond to the Commission's expectations of Consumers Energy's future rates is inconsistent with the Value of Solar ("VoS") methodology, supported by 5 Lakes Energy and ELPC, where "value," and not cost of service, is what is relevant.

- 2. The proposed method for valuing energy based on locational marginal pricing under-values the energy from solar.**

Mr. Jester concedes that using the locational marginal pricing ("LMP") to value energy is theoretically valid in a competitive wholesale market, but then states that Consumers Energy's revenues are greater and should be used instead of the LMP. Consumers Energy's revenues are not relevant in the Value of Solar methodology. Value of Solar theory purposefully sets aside cost of service theory and replaces it with a value centric methodology. Comparing the market based energy value to utility revenues is an attempt to increase the energy component value at the expense of ignoring the very VoS principles that 5 Lakes Energy and ELPC have promoted.

3. Using 75% of CONE as the value of capacity is arbitrary and under-values the capacity provided by community solar projects.

Consumers Energy's cost of service is not relevant in the Value of Solar methodology. Rather, VoS principles support a program design that assures non-participating customers are *not* subsidizing the program. VoS thus requires avoided cost compensation for the energy and capacity. The challenge is finding a capacity value that represents avoided costs. Consumers Energy's proposed 75% of CONE represents reasonable compensation for capacity given that CONE is the maximum value of capacity, and that the avoided cost for capacity is likely to be substantially lower than CONE in oversupplied periods.

4. The Commission should adjust the capacity value to account for line losses.

The unforced capacity value granted by MISO for meeting the Company's resource adequacy requirements is grossed up for line losses for any resources that are "behind-the-meter" from MISO's perspective. The Solar Gardens projects will be registered as behind the meter generators. As a result, the quantity of Zonal Resource Credits provided to the Company for these facilities will be adjusted by MISO to account for line losses. Therefore, any additional adjustment to the value or rate at which capacity is credited will result in a double-counting of the benefit of line losses related to capacity.

5. It is likely that REC values are higher than the amount offered by Consumers.

Mr. Jester has misconstrued the 5-year levelized energy and capacity payment to include RECs. The \$0.075/kWh only represents the capacity and energy (including losses) component of the payment, and does not include any value for RECs. The Company will seek the highest possible value for RECs and pass that value on to the customer.

6. The Commission should initiate an independent solar valuation study to inform further improvements to the VoS calculation and solar programs used in Michigan.

Application of the Value of Solar methodology across the country has led to varying results for a variety of reasons, including philosophies around externalities and political motivations. As such, the Company would be concerned about the effectiveness of such a study. Also, to the extent this study delays the finalization of the Solar Gardens program tariff, such delay will threaten the Company's ability to launch the pilot Solar Gardens program in time to utilize the Federal tax credits.

7. The Commission should be concerned and give appropriate direction to Consumers about the risk of overstating expected system output and bill credits.

Consumers Energy will make every effort to accurately describe the program in a manner that is comprehensible and transparent to customers. In developing the program, Consumers Energy has used conservative energy production forecasts and typical energy and capacity forecasts used in daily operations. Consumer Energy expects that the guaranteed levelized energy and capacity payment and low estimate for RECs will result in customers' expectations being met.

8. Commission staff should continue to work with Consumers to maximize value of community solar gardens to the subscribers

Consumers Energy is committed to designing facilities that minimize installation costs and maximize bill credits based on the current construct of the tariff, including energy capacity components of the bill credit. Additionally, Consumers Energy has sited the first two facilities in areas with very low interconnection costs. The Company continues to study distribution system benefits from distributed generation resources, but has not yet overcome the hurdle posed by the intermittent nature of solar.