

ENVIRONMENTAL LAW & POLICY CENTER Protecting the Midwest's Environment and Natural Heritage

March 2, 2015

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Daniel P. Wolf Executive Secretary Minnesota Public Utilities Commission 121 7th Place East, Suite 350 St. Paul, MN 55101

Re: Reply Comments Community Solar Gardens Docket No. E002/M-13-867

Dear Mr. Wolf:

The Environmental Law & Policy Center, Fresh Energy, the Vote Solar Initiative, and Institute for Local Self-Reliance (together, the "Joint Commenters") submit the attached Reply Comments in response to the Commission's January 28, 2015 Notice of Second Extension of Comment Period.

Please feel free to contact me with any questions you may have regarding this filing.

Respectfully Submitted,

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STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger Nancy Lange Dan Lipschultz John Tuma Betsy Wergin Chair Commissioner Commissioner Commissioner

In the Matter of the Petition of Northern States Power Company, d/b/a Xcel Energy, for approval of its proposed Community Solar Gardens Program

Docket No. E-002/M-13-867

<u>REPLY COMMENTS OF THE ENVIRONMENTAL LAW & POLICY CENTER,</u> <u>FRESH ENERGY, VOTE SOLAR, AND INSTITUTE FOR LOCAL SELF-RELIANCE</u>

OVERVIEW

The Environmental Law & Policy Center ("ELPC"), Fresh Energy, the Vote Solar

Initiative ("Vote Solar"), and Institute for Local Self-Reliance ("ILSR") (together, the "Joint

Commenters") submit the attached Reply Comments in response to the Commission's January

28, 2015 Notice extending the comment period in this matter. The Commission seeks comments

on a variety of issues related to the implementation of Xcel Energy's Solar*Rewards Community

("S*RC") Program. On December 1, 2014, ELPC, the Interstate Renewable Energy Council

("IREC"), and the Vote Solar Initiative (collectively "National Groups") filed comments in

response to the Commission's original Notice of Reply Comment Period (dated 10/9/2014). The

National Groups' December 1, 2014 reply comments included the following recommendations:

- The Commission should require detailed information tracking and reporting of the interconnection process for S*RC Program participants.
- The Commission should consider updating Minnesota's Interconnection Procedures to be consistent with current best practices.
- The Commission should require Xcel to work collaboratively with stakeholders to develop online grid mapping and interconnection application tools.

- The Commission should closely monitor market data and consider future steps to adjust S*RC bill credits to avoid a "boom and bust" cycle and ensure a long-term sustainable community solar market.
- The Commission should consider bill credit adders or other mechanisms to promote CSG development on brownfields or other strategic locations on the distribution grid.

Fresh Energy, the Institute for Local Self Reliance, and the Izaak Walton League also

filed Reply Comments in response to the Commission's original notice, and included inter alia,

the following recommendations:

- Rate structure and timeline: the Commission should not set the structure and details of a future value of solar (VOS) rate adder at this time, but should wait to use market data based on the first year of S*RC projects under the current rate structure. While we believe the S*RC program should move to a VOS rate in the future that likely will require an initial adder, the adder design and amount will be more accurately designed, cost-effective and supportable if it is based on market data from a maturing market. We also suggest that the Commission set a timeline for rate structure decisions in the future to limit market uncertainty as much as possible.
- S*RC Interconnection: the S*RC program launch will provide insight into Minnesota's and Xcel's current interconnection procedures.

The Joint Commenters continue to support both the above-mentioned December 1 Comments and incorporate them by reference here. The Joint Commenters also support the February 24, 2015 recommendations from several parties, most notably IREC, calling for the Commission to begin a process to update Xcel's interconnection tariff and procedures to incorporate best practices. We are writing separately here to recommend that the Commission and stakeholders further explore: (1) the potential for using a "capacity-block" incentive structure to create a long-term, transparent roadmap for S*RC bill credit adjustments with the "value-of-solar" (VOS) rate as the final uncapped bill credit rate for future projects; and (2) options for modifying the S*RC program to reward and incentivize projects that are located in highly desirable locations on Xcel's distribution grid or that provide additional public benefits, such as the revitalization of vacant or blighted brownfield areas. We believe both of these concepts could be developed further through the existing S*RC Implementation Workgroup and could be presented to the Commission for approval and implementation in the future. As noted in previous comments, we suggest that any Commission decision on changes to the S*RC program structure or rates apply prospectively only. Specifically, we recommend that the existing rates and program rules continue to apply to all CSG projects that have applications on file as of the date of any final commission order modifying the S*RC program.

I. The Commission Should Consider a "Capacity-Block" Incentive Program to Adjust S*RC Bill Credits Towards the VOS Rate Along a Transparent, Sustainable Schedule.

Minnesota's Community Solar Garden statute requires the Commission to ensure that a utility's plan "reasonably allow for the creation, financing, and accessibility of community solar gardens." Minn. Stat. § 216B.1641(e)(1). This statutory requirement has generated considerable debate among interested parties regarding the level of bill credit necessary to "reasonably allow" the financing of CSGs. Setting solar incentive prices through administrative action requires a careful balancing act. Set the bill credit too low and the program will stagnate. Set the bill credit too high and it could lead to an unsustainable market "boom," which could be followed by a "bust".

The roll-out of Xcel's S*RC program illustrates these challenges. The Commission's April 7, 2014 Order found "general agreement" among some commenters that a rate of "roughly 15 to 20 cents per kWh would be necessary to allow solar-garden developers to obtain financing."¹ Based on this testimony, the Commission determined that a rate of approximately \$0.15 per kWh "is the conservative minimum needed to secure financing and make solar gardens

¹ April 7, 2014 Order at 13.

attractive to subscribers."² ELPC and other stakeholders predicted that this bill credit rate would lead to an "immediate boom" in new CSG development in Minnesota³ — a prediction that, fortunately, has proven true. The key now is to ensure that this boom does not lead to a bust.

The Commission's October 9, 2014 Notice requested evidence regarding whether a \$0.15 per kWh is, or is not, "...the conservative minimum needed to secure financing and make solar gardens attractive to subscribers." Unfortunately, the answer to that question depends on a number of constantly moving variables, including global solar market dynamics, changes in panel efficiency and other technological advances, the pace of local market maturation and competition, the availability of project financing, and the risk tolerance of project developers and potential subscribers. Under these circumstances, it is extremely difficult to set the "right" bill credit (or any other solar incentive for that matter) through an administrative process. Program administrators must shoot at a constantly moving target and must intervene frequently to avoid incentives that are too rich or too lean. This uncertainty about future bill credit rates can create instability for program participants, which can chill investment in the market.

Fortunately, there are some options and proactive strategies that can help promote transparency and long-term stability in the market. The National Groups' December 1 Comments recommended that if the Commission determines an adder in addition to the VOS is necessary, it should consider a declining "capacity-block" incentive structure to adjust the adder on a transparent, pre-determined schedule based on the market response to the program. Under a declining block program, the initial adder bumps down through a series of step-wise blocks of capacity as additional megawatts enroll in the program. The faster the market response to the program, the faster the adder bumps down. This creates a demand-driven incentive program that

 $^{^{2}}$ *Id.* at 15.

³ National Groups Reply Comments at 2 (December 1, 2014).

adjusts solar incentive levels based on local solar market conditions. Instead of frequent interventions to set the "right" price, program administrators simply set the initial design of the program and let the market respond.

The California Solar Initiative ("CSI") is the best-known and most successful example of a capacity block program. As illustrated below, the California Public Utilities Commission divided the overall megawatt goal for the incentive program into 10 programmatic incentive level steps, and assigned a target amount of capacity in each step to receive an incentive based on dollars per-watt or cents per-kilowatt-hour. A chart of the CSI incentive step levels is provided below for illustrative purposes, but it is important to note that the number of blocks, the amount of capacity in each block, and the price offered in each block are policy decisions that will vary from state to state based on local considerations.



PBI: Performance Based Incentive, paid over 5 years, in \$ / KWh EPBB: Expected Performance Based Buydown, paid upfront, in \$ / W

The CSI program is widely acknowledged to be a success, and has helped the solar industry scale up to deliver more solar sooner and at a lower cost than originally anticipated.⁴ As a result, several other jurisdictions, including New York and Massachusetts, are already implementing or considering similar program structures for their state markets.⁵ Xcel Energy is using this type of step-down incentive program in Colorado, which has led to decreasing costs and steady market growth.⁶

One of the advantages of a capacity block program is that incentive levels can be set at different levels for different categories of projects. Thus, for example, the S*RC program could be structured to offer a slightly higher bill credit and different capacity block sizes for small, community-based rooftop projects that have different cost structures than large, ground-mounted projects. The Commission could also structure the program to encourage projects that target residential and small business subscribers by meeting a higher minimum subscriber number or with bill credit rates tied to the number of independent subscribers. This could help ensure reasonable project diversity going forward in the S*RC program. A declining capacity-block program would also accommodate the "uncapped" nature of the Minnesota CSG law while also taking advantage of Minnesota's effort to establish a value-of-solar methodology. As the National Groups pointed out in their December 1 Comments:

If the Commission were to shift to a value of solar (VOS) rate plus an incentive for the CSG program, the incentive could be adjusted downward through a series of transparent capacity blocks based on market response to ultimately reach the published VOS rate alone, without an additional incentive. This would satisfy the statutory requirements for an "uncapped" program and the Legislature's apparent preference for bill credits based on the VOS rate, while still ensuring that the program "reasonably allow[s] for the creation, financing, and accessibility of

⁴ See "California's Landmark Solar Deployment Program - the CA Solar Initiative - has Successfully Lifted the State's Distributed Solar Industry into Orbit," NRDC Switchboard (June 20, 2014) http://switchboard.nrdc.org/blogs/pbull/californias landmark solar dep.html See http://ny-sun.ny.gov/About/NY-Sun-FAQ.aspx

⁶ See http://www.xcelenergy.com/Save_Money_&_Energy/Rebates/Solar*Rewards_-_CO

community solar gardens." Minn. Stat. § 216B.1641(a), (d), and (e)(1). It would also relieve some of the pressure on the Commission to identify the "right" bill credit incentive on an *ex ante* basis and allow the bill credit to adjust based on actual market response.⁷

For all of the reasons discussed in the National Groups' December 1 comments, the Joint Commenters strongly recommend the further consideration of a declining capacity block program to adjust S*RC bill credits for future projects. If the Commission moves to a VOSbased rate for future projects, as we recommend, the capacity block program would focus on any adders the Commission determines are necessary. We believe that this type of program has the potential to create a long-term sustainable market and a stable investment environment in Minnesota and can be structured creatively to ensure S*RC project diversity across Xcel's service territory. We do not have particular recommendations regarding the specific "block" sizes or corresponding prices or market categories at this time. All of these program details could be discussed through a stakeholder process facilitated by the Commission or through Xcel's existing Implementation Workgroup. However, to promote market certainty, we recommend the Commission set a timetable and process for stakeholder or Commission consideration and action regarding rate structures for future projects.

II. The Commission Should Consider Bill Credit Adders or Other Mechanisms to Promote CSG Development on Brownfields or Other Strategic Locations on the Distribution Grid.

As noted in the National Groups' December 1, 2014 Comments, the Commission should consider options to reward and incentivize S*RC projects that are located in highly desirable locations on Xcel's distribution grid or that provide additional public benefits, such as the revitalization of urban brownfield areas. These adders for desirable projects could be layered on

⁷ National Groups Reply Comments at 15-16 (December 1, 2014).

top of a declining capacity block program or the Commission could explore other ways to incentivize such optimal project siting.

Regulators and utilities in many jurisdictions are exploring ways to strategically locate solar and other distributed energy resources (DER) to reduce system costs and develop a more resilient, reliable distribution system. There are many examples of utilities explicitly deploying DER as alternatives to traditional transmission and distribution (T&D) system voltage or capacity enhancements. For example, in 1993, PG&E examined the impact of strategically sited solar PV to defer T&D upgrades, extend maintenance intervals, and reduce line losses. They conducted a demonstration project at Kerman Substation near Fresno, CA and installed 0.5 MW of solar PV on the low voltage side of a substation transformer. The solar PV supplied power during peak periods, reduced the transformer loading, decreased the transformer's temperature, and extended its life. The power from the solar PV also accommodated new load growth on the distribution feeder and allowed PG&E to defer the purchase of a new, larger transformer. PG&E estimated that the PV deferred the purchase of the new transformer by 4.6 years with a value of \$398,000 (or approximately \$657,000 in 2015 dollars).⁸

More recently, in 2013, the Maine Public Utilities Commission established the Boothbay Smart Grid Reliability Pilot project to determine if DER could effectively avoid the need for rebuilding a transmission line. Specifically, the pilot sought to reduce 1.8 MW of load to avoid an \$18 million rebuild of a 34.5 kV transmission line in Central Maine Power's service territory. The DER deployed in the pilot included solar PV, energy efficiency, demand response, energy storage and back-up generation, and collectively have exceeded the demand reduction target. The total cost for the pilot and deployment of the DER is projected to be one-third the cost of

⁸ T. Hoff and D.S. Shugar, "The Value of Grid-support Photovoltaics to Substation Transformers," <u>http://www.cleanpower.com/resources/the-value-of-grid-support-photovoltaics-to-substation-transformers/</u>.

rebuilding the transmission line and will save ratepayers \$17.6 million over the 10-year project life.⁹

Electric utilities in New York State are advancing strategic DER deployment as defined by the state's Reforming the Energy Vision (REV) initiative.¹⁰ One early example of the potential impact is Consolidated Edison's Brooklyn/Queens Demand Management Program, which intends to spend \$200 million in order to shed 41 megawatts of demand by 2018 and defer building a \$1 billion substation.¹¹ The program will include many types of DER including energy efficiency, solar PV, and distributed storage. Minnesota's recent experience with Geronimo's 100 MW Aurora Solar Project also demonstrates the potential for strategic deployment of solar PV to offset peak load, while reducing line losses and increasing transmission capacity in the region.¹²

The Commission should work with stakeholders to begin building a structure to incent S*RC project developers to site projects in strategic locations based on compensation for the additional value to the utility and all ratepayers. It is important for Xcel to develop a clear understanding of which feeders and locations are most desirable from an avoided or deferred capacity- or voltage-related perspective. Once identified, the Commission could adjust the bill credit formula to provide an incentive or adder for projects located in desirable zones. The Commission could also identify other desirable areas for S*RC project development, including landfills or brownfields. Again, this concept requires further discussion but it is important to

⁹ GridSolar, LLC, "Interim Report Boothbay Sub-region Smart Grid Reliability Pilot Project," March, 2014, <u>http://www.scotthemplinglaw.com/files/attachments/maine_interim_report_boothbay_smart_grid_reliability_pilot_p_roject.pdf</u>.

¹⁰ See http://www3.dps.ny.gov/W/PSCWeb.nsf/All/26BE8A93967E604785257CC40066B91A?OpenDocument

¹¹ Scott Waldman, "State Embraces Brooklyn Project in Energy Overhaul," <u>http://www.capitalnewyork.com/article/albany/2014/12/8558393/state-embraces-brooklyn-project-energyoverhaul,</u> December 12, 2014.

¹² Geronimo Energy, "Utility-Scale Distributed Solar Generation Projects: Why the Aurora Project is Historic and Transformative for the Solar Energy Industry," http://www.geronimoenergy.com/wpcontent/ themes/geronimo/pdf/Website%20Edits%2002-15/DistSolar_Aurora%20White%20Paper%20v5.pdf.

begin the conversation now so that future S*RC rate structures can be implemented strategically to maximize a diverse suite of benefits.

CONCLUSION

The Joint Commenters appreciate the Commission's ongoing careful management of Minnesota's landmark community solar gardens program. The program has tremendous potential, and we look forward to continued conversations with Xcel and all stakeholders to improve it even further.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Brad Klein, hereby certify that a true and accurate copy of the foregoing Reply Comments on behalf of the Environmental Law & Policy Center, Fresh Energy, the Vote Solar Initiative, and Institute for Local Self-Reliance has been served upon all parties of record in the above-mentioned case, electronically by eService, e-mail, or by depositing the same in an envelope with postage paid in the United States mail at Chicago, Illinois, this 2nd day of March 2015.

> <u>/s/ Brad Klein</u> Bradley Klein Environmental Law & Policy Center

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