

March 1, 2017

Via Electronic Filing

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

Subject: Comments on In the Matter of the Petition of Northern States Power Company, dba Xcel Energy, for Approval of Its Proposed Community Solar Garden Program; Docket No. M-13-867

Dear Mr. Wolf:

The Institute for Local Self-Reliance and allied signers are grateful for the opportunity to comment on the Public Utilities Commission's request for low-income community solar models. Our comments reflect broad principles and best practices for program design, but also three targeted recommendations to expand access to the Xcel-run community solar program.

Definition of Low-Income

We support Fresh Energy's definition of a low-income subscriber, cited in its 4/1/16 comments, as a household earning less than 80% of the area median income, or one that already participates in an existing means-based program, such as the Energy Assistance Program.

Principles of Universal Access to Community Solar

- Participation: everyone should be able to participate in community solar, from education and development to subscription and ownership; projects should be located throughout the utility service territory; and community solar programs should maximize low-income participation, subscription, and employment.
- Location: community solar projects should favor locations that present the highest value to the grid and are closest to subscribers, that use existing structures, and that minimize siting on prime agricultural land. Ground-mounted projects should consider “pollinator friendly” habitat and should consider concomitant food production--e.g., free range fowl and sheep, as in England and Germany.
- Financial Value and Ownership: community solar programs should favor subscriber-owned projects, allow for a variety of ownership structures, and provide both initial and long-term financial value to participants (including pass-through benefits for low-income renters whose landlords opt in).
- Integration: community solar should integrate with existing low-income energy assistance, energy efficiency, and weatherization programs.
- Tracking and Review: participation by low-income subscribers, as well as their energy savings, should be tracked on a per-project basis and reported in the aggregate to the Department of Commerce and Commission; workforce participation should be tracked by race and overall worker income level and reported in the aggregate to the Department of Commerce and Commission; programs should be reviewed periodically against program goals, with options for adjustment.

Near-Term Actions to Improve Minnesota's Program

The following program changes would address the two key challenges in low-income participation: motivating developers to identify low-income participants and reducing the financing risk of serving them. It would also rectify the imbalance that results from low-income customers contributing to solar programs such as Solar Rewards to which they have no meaningful access.

Carve Out Participation for Low-Income Residents

As has been done in three other states, Minnesota's community solar program should require minimum participation by low-income residents. This would guarantee access to residents whose energy dollars already support the program and reduce energy burdens often offset with public funds. We ask the Commission to set a minimum standard of 5% for low-income participants.

The utility should also work with the state's Energy Assistance Program to identify ways to maximize participation. One potential method would be to have the utility or developer grant subscriptions to Energy Assistance to give to qualified households, so that their privacy is protected.

Credit Risk Reduction

There are two relatively simple tools for reducing the perceived risk of serving low-income or non-prime borrowers: backup subscribers and loss reserves. With a low-income adder and the ability to temporarily assume the subscription (with adder), there would be an incentive for developers to seek backup subscribers and for these subscribers to offer additional capacity. We ask that the Commission adopt an appropriate adder for subscriptions held by low-income customers in its review of appropriate program modifications.

Additionally, providing a loss reserve for pay-as-you-go subscriptions could reduce or eliminate borrowing barriers. A small amount, from the Renewable Development Fund or Solar*Rewards program -- in proportion to contributions by low-income customers -- would provide surety for hundreds or thousands of subscriptions, provided the subscriptions are provided without credit scoring. We ask the Commission to explore sources for a loss reserve for pay-as-you-go subscriptions for low-income subscribers.

Study Tariff-Based Financing

A growing number of utilities are providing tariff-based financing for on-site energy improvements -- efficiency or solar -- that could also pay for community solar. The Commission should study the use of tariff-based, on-bill financing for community solar subscriptions, using only bill payment history for eligibility. The study should scope administrative costs, potential energy bill reduction, difference in the eligible market (especially among low-income participants), reduction in energy burden, and potential impact on demand for Energy Assistance.

Long-Term Strategies for Broadening Access

Fostering low-income access to community solar falls into two broad sets of strategies: (i) targeted policies that lower costs and barriers to low-income participation specifically, and (ii) policies that reduce barriers for everyone. We believe the Commission should study a series of policies successfully implemented in other states, including those listed below, in order to shape standards for more inclusive community solar in Minnesota. These recommendations are sorted by the timing of required intervention in the development process in order to include them in a community solar project. Some items are duplicated from the near-term actions, to show the complete menu of options in context.

Pre-Development

These policies address community solar development before application and interconnection.

Mandates for Minimum Participation

Three states have tried minimum low-income participation mandates in their community shared solar programs. Colorado is the only one that has thus far reported significant low-income participation. It recently shifted away from a per-project minimum in favor of a per-program target, with the utility serving as the backstop for reaching prospective low-income participants. Colorado legislation, passed in 2010, requires developers to reserve 5% of electricity generated from each community solar garden for subscription by low-income households in order for their projects to qualify for state Renewable Energy Credits. Because of this move, the target became the ceiling for participation, as developers simply wrote off 5% of the project to comply and donated the shares to low-income recipients. A recent settlement [agreement with the state](#) tweaks the program, requiring the coordinating utility -- also Xcel Energy -- to aggregate the low-income requirement from commercial solar gardens and build one or two installations expressly for low-income customers.¹ Developers are expected to tap grants for low-income solar gardens, and Xcel will make Renewable Energy Standard Adjustment funds available. Xcel customers pay 2% of their bills into the fund, to promote renewables.

In New York, the first phase of the state's Community Distributed Generation program favored proposals including 20% or greater low-income participation, offering them expedited interconnection. However, no projects were installed under Phase I, due to a

¹ Energize Weekly, <https://www.euci.com/xcel-plans-for-large-low-income-solar-energy-program-in-colorado/>

number of factors such as pending changes to community solar compensation, overarching interconnection difficulties, and the rapid expiration of the Phase I program..

Maryland's community solar program [sets aside 30%](#) of total program capacity for solar installations that serve low- and moderate-income households.² The program is in its infancy, however, and provides no lessons learned to date.

In short, goals for proportional or maximum low-income participation are important and do result in low-income participation. However, mandates for participation do not address the underlying barriers of outreach or access to capital nor do they ensure meaningful energy savings. In other words, they should be paired with tools to address the other barriers.

Points or Incentives

Lowering costs for low-income projects and giving them preferential treatment in queue status represent another set of crucial tools. In New York, NYSERDA [recently announced](#) funding to support community organizations in several pre-development activities, including customer acquisition and education, securing financing, and creating legal agreements with project developers.³ Given its recency, we have no evidence yet of the success.

Ontario's feed-in tariff program (with capacity caps) gives priority points, provides per-kilowatt-hour adders, and reduces application fees for projects with [aboriginal](#), community, or municipal ownership.⁴ The program's fourth round in 2016 [awarded contracts](#) for a combined 241 megawatts of new generation, spread across 936

² Groundswell, <https://groundswell.org/what-marylands-new-guidelines-mean-for-community-solar/>

³ NYSERDA, <https://www.nyserda.ny.gov/About/Newsroom/2016-Announcements/2016-12-06-Governor-Cuomo-Announces-Millions-Available-to-Help-LMI-Residents>

⁴ Ontario Power Authority, <http://fit.powerauthority.on.ca/program-resources/faqs/aboriginal-participation>

projects.⁵ Of those, 96 projects (41 megawatts) had aboriginal support, 186 (60 megawatts) had community ownership, and 413 (67.26 megawatts) had municipal or public sector participation.

Financial aid to projects in pre-development can certainly funnel more projects serving low-income customers into the queue.

Customer Acquisition

The Minnesota Department of Commerce, and the corresponding local community action agencies, should direct their clients to the community solar program (where applicable). The program administrator (Xcel), community solar garden operator, and subscriber organization should coordinate and work in partnership with energy assistance providers/community action agencies to sign up low-income subscribers. Subscriptions could be designated for Energy Assistance recipients and the benefits passed through. Participants' community solar subscriptions and benefits should be considered an integral piece of their overall energy assistance and work with (and not reduce benefits of) energy assistance, energy efficiency/weatherization programs, etc.

Location and Siting

California requires 100 megawatts (MW) of its 600 MW solar program to be located in "disadvantaged communities," though the policy does not specify whether subscribers themselves must be low-income. Still, this mandate may result in greater opportunity for workforce development in these communities. It may be worth considering a designation for location as part of a low-income program if combined with a workforce development initiative.

⁵ Ontario Power Authority,
<http://fit.powerauthority.on.ca/newsroom/newsroom-2016/June-29-2016-Contracts-Offered-for-FIT-4>

Other solar installation programs provide a model for workforce development, including California's Single-family Affordable Solar Homes (SASH) program. Every SASH installation team includes either local volunteers or graduates from related job training programs, providing them hands-on experience. Crews on sub-contracted installations must include at least one paid job trainee. Through 2016, [more than 6,800 people](#) pursuing careers in the solar industry have received training through SASH projects -- nearly 250,000 hours of combined experience.⁶

A sister program, Multifamily Affordable Homes (MASH), also requires contractors to [staff job trainees](#) -- up to five, based on the size of the project.⁷

Application and Interconnection

The cost and complexity of applying to the community solar program can also present a barrier to projects serving low-income participants, who may be harder to reach and require more financial security.

Reducing or Waiving Fees

- Application and Interconnection fees are a significant portion of the cost of project development. As recommended by Fresh Energy in [comments](#) to the Commission on 4/1/16, low-income community solar projects could benefit from exemption from the \$100-per-kilowatt application deposit and engineering study fees required in the interconnection process.⁸

⁶ GRID Alternatives,
http://gridalternatives.org/sites/default/files/Semi%20Annual%20SASH%20Program%20Status%20Report_January%202017.pdf

⁷ Center for Sustainable Energy,
https://energycenter.org/sites/default/files/docs/nav/buildings/businesses/solar_pv/mash/MASH_Job_Training_Affadavit.pdf

⁸ Minnesota Public Utilities Commission,
<https://ilsr.org/wp-content/uploads/2016/05/13-867-Low-Income-CSG-Draft-3.18.16-Clean.docx>

- Ontario's feed-in tariff program (with capacity caps) gives priority points and per-kilowatt-hour adders, and reduces application fees for projects with [aboriginal](#), community, or municipal ownership.⁹

Subscriber Compensation

An adder for low-income subscribers could offset higher costs for acquiring and serving low-income customers, as seen with higher compensation for participants in smaller community solar projects. It's also essential that community solar subscriptions not jeopardize access to energy assistance funds such as LIHEAP, by counting both the cost and savings from community solar subscriptions in the calculations of energy burden.

- Minnesota's community solar program and Ontario's feed-in tariff both provide incentives for projects with certain characteristics, such as size or ownership.
- Under Washington DC's [Affordable Solar Program](#), income-qualified residents (both homeowners and renters) can opt in to solar installations at no cost.¹⁰ A forthcoming iteration of the program promises to extend the subsidized offer through a newly launched community solar program.
- The [Massachusetts Green Communities Act of 2008](#) includes a carve-out that guarantees solar installations serving low-income customers receive a higher ratio of Renewable Energy Credits for each MWh produced, helping to offset costs.¹¹

Lowering Financing Risk and Cost

Of all the potential solutions to increasing low-income participation in community solar, policies that directly address the issue of financial wherewithal and credit risk will likely have the largest impact. Financing tools that expand access without means-testing may

⁹ Ontario Power Authority, <http://fit.powerauthority.on.ca/program-resources/faqs/aboriginal-participation>

¹⁰ GRID Alternatives, <http://gridalternatives.org/regions/midatlantic/news/dcseu-solar4all-program-wraps>

¹¹ Low-Income Solar Policy Guide, <http://www.lowincomesolar.org/models/single-family-massachusetts/>

also lower administrative costs, since means-testing subscribers or cross-referencing with existing energy assistance recipients is non-trivial.

Backup Subscribers

A tool introduced last year is the “backup subscriber,” which would allow institutional subscribers to act as the backstop for churn or default of low-income participants. Fresh Energy [proposed this](#) in Minnesota in April 1, 2016, comments.¹² The “backup” framework, designed well, reduces concerns about taking on subscribers otherwise deemed risky by traditional financiers. The backup subscriber model also encourages developers to exceed minimum low-income participation thresholds, because the only limit is the capacity of the anchor institution (or the 40% limit on the share of project electricity).

Loan Loss Reserves or Loan Guarantees

Loan loss reserve funds (or loan guarantees) have long been used to eliminate risk from novel investments, and could be used to attract financing for community solar projects serving low-income participants. Loan loss reserve programs keep public funds on hand to cover a loan provider’s losses if a customer defaults. The [Mass Solar Loan program](#), for example, [offers](#) loans to moderate-income customers to purchase community solar subscriptions, while at the same time offsetting credit risk for lenders.^{13 14}

Pay-As-You-Go Subscriptions

Pay-as-you-go subscriptions allow customers to avoid upfront charges and instead cover subscription costs over time, as their energy savings come in. This payment plan can be offered by the developer, but typically requires a prime credit score (or a credit

¹² Minnesota Public Utilities Commission, <https://ilsr.org/wp-content/uploads/2016/05/13-867-Low-Income-CSG-Draft-3.18.16-Clean.docx>

¹³ Mass Solar Loan, <http://www.masssolarloan.com/>

¹⁴ Massachusetts Clean Energy Center, <http://files.masscec.com/solar-loan/MassSolarLoanProgramManual.pdf>

backstop like the backup subscriber or loss reserve). Utilities like Xcel Energy can also offer payment plans using a opt-in tariff.

- Tariff-based or [inclusive financing](#) is used by a number of electric cooperatives to support investments in energy efficiency or on-site renewable energy.¹⁵ Xcel Energy could pay the upfront cost of subscriptions for income-qualified customers that opt in and set the repayment terms such that the investment would be cashflow positive from day one. Broadening access to all customers regardless of income, as is done in most inclusive financing programs, would cut administrative costs associated with income-qualifying access.
- Grand Valley Power, a co-op in Colorado, offers [a \\$0 down option](#) for its member-owners ([regardless of credit check](#)) to buy into a solar farm.^{16 17} Subscribers pay a \$15 monthly charge for four years, then see an average of \$4 per month in bill credits over a 20-year term.
- The acceptance rate for participation in [Ouachita Electric's energy efficiency program](#) in Arkansas exceeds 90% for customers who have an energy assessment completed, because inclusive financing is available to anyone without requiring a credit check.¹⁸

Signed,

/s/

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¹⁵ Institute for Local Self-Reliance, <https://ilsr.org/report-inclusive-energy-financing/>

¹⁶ Grand Valley Power, <http://www.gvp.org/content/solar-farm>

¹⁷ Solar Electric Power Association,

http://solaroutreach.org/wp-content/uploads/2015/08/SEPA_SolarOPsCaseStudy_GVP_FINAL.pdf

¹⁸ Ouachita Electric Cooperative, <https://www.oecc.com/help>

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