RELAY POWER

Relay Power Public Comment for DOER Solar Incentive Program

October 13th, 2016

BY ELECTRONIC MAIL to DOER.SREC@state.ma.us
Mike Judge, Director, Renewable and Alternative Energy Division
Massachusetts Department Office of Energy Resources

Dear Mr. Judge and MA DOER Staff:

Thank you for the opportunity to submit public comments on the proposed DOER solar incentives that would succeed the current SREC II program. Relay Power has two years of experience implementing community-based outreach campaigns to enroll residential offtake in community solar programs and managing said offtake post-enrollment. We currently have about 25 employees in Massachusetts dedicated entirely to community solar and are interested in expanding to new states. Relay Power does not develop or finance community solar projects, and is hired by project developers to provide customer acquisition and management services. In our 1.5 years at Next Step Living (as their community solar division) and 0.5 years as Relay Power (a community solar-focused company), our team has enrolled over 17MW of residential offtake in community solar programs in Massachusetts.

We believe that the overall structure of the proposed program – particularly creating an avenue for solar projects to move forward without net metering allocation – is well thought out. However, there are 2 significant risks to the community solar portion of these programs being implemented successfully: 1) insufficient monitoring of community solar offtake and 2) the tariff adder for community solar being too low to incentivize development. We hope the DOER can address these risks to maintain the momentum in the Massachusetts community solar industry, which is arguably the most robust in the nation. Together we can continue to grow jobs in the state while spreading the benefits of solar power to more Massachusetts residents.

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Risk 1: Community Shared Solar (CSS) Offtake Not Verified

An important goal of community solar programs is allowing local residents and small business to participate in the benefits of solar. To achieve this, the DOER proposal requires Community Shared Solar (CSS) projects to have >50% of their offtake to have <25kW of the project's capacity. However, the SREC II program has not effectively provided opportunity for residential and small business customers because it does not prevent: 1) large commercial participants in multiple arrays and 2) replacement of <25kW with an anchor tenant. DOER's new program has to put in place monitoring to ensure these risks do not continue to shut out residential and small commercial participants from the program.

Large Commercial Participants in Multiple Arrays

Under DOER's SREC II program, participants could enroll in multiple community solar projects. This resulted in many developers, representing over 50% of the pending community solar SREC applications, enrolling large commercial participants on many of their projects simultaneously, rather than engaging local residents and small businesses. As an example of how this would work, a developer would:

- Line up 10 projects on adjacent parcels, each 1,000 kW in total size (~10,000 kW total)
- Find a single large offtake to use 499kW for each site as the anchor tenant (4,990 kW total)
- Find 21 large commercial entities, say 21 Staples stores, and allocate 25kW from each store's load to each array (21 stores * 25kW = 5,250 kW total)

Using this strategy, developers qualified for community solar incentives without engaging small business or residents. We have spoken to Mike Judge about this and he confirmed this has been happening under SREC II. Mike Judge also expressed a desire and willingness to prevent this from happening under the new program provided it could reasonably be prevented. To prevent this, the DOER must restrict participants from enrolling in multiple CSS projects.

Relay Power recommends that the application process for CSS projects under the DOER program include a check that all participants in the new project have not previously enrolled on a community solar project. The DOER could simply keep a running list of electric utility account numbers qualified under the DOER program, adding to the list each time a new application was approved. During the approval process, the DOER could index new applicant electric utility account numbers against the existing list to verify that no account number had already been approved.

Replacement of <25kW with Anchor Tenant

Relay Power is concerned that while CSS offtake is being verified up-front, there is no mechanism to ensure the CSS project maintains its base of <25kW participants over time. As <25kW participants leave CSS projects due to nonpayment (delinquency), optional termination of their contract, etc., they should be replaced by <25kW participants to maintain the CSS nature of the project. However, a developer would have to spend more money to find a new participant, underwrite their credit, and enroll them on the project. So given the lack of controls currently in the CSS program, a developer could save these costs by starting with an anchor (<50%) that has a bill large enough to take 100% of the output and gradually increasing the allocation of credits to that anchor as the <25kW participants fell off over time.

Unlike the issue of large commercial participating in multiple arrays (above), we do not have confirmed examples of this already happening on an SREC II project. However, we have heard developers mention this strategy as something they are looking into. **Relay Power recommends that DOER require CSS projects to submit their most recent Schedule Z to DOER every 2 years with an affidavit ensuring that it is the most recent Schedule Z. Then DOER should review the allocations to ensure that at least 50% of the project is still in <25kW allocations.** While this does add administrative time to the program, it is necessary to provide continued residential and small commercial access to CSS projects.

Risk 2: Tariff Adder Does Not Cover Costs of Community Solar (CSS)

The DOER has hired consultants to run financial models on solar projects to determine an appropriate $/kWh for the proposed tariff. The goal of the tariff is to provide a reasonable return to solar developers given the cost structure of their projects. Similarly the CSS Offtaker Based Adder must provide sufficient incentive to cover the incremental costs of managing a CSS project (over the costs of commercial offtake). Without properly accounting for costs, developers will not take advantage of the new community solar programs. Relay Power buckets incremental costs of a community solar project, beyond the costs associated with a commercial solar project, into 4 categories. Each of these categories must be accounted for and at a cost level that represents the current state of the community solar market.

While the current proposal includes $0.04/kWh as an adder for CSS, Relay Power believes the costs require at least $0.07/kWh as an adder for CSS projects – which would compensate developers for the incremental costs outlined below. Included in our comment is a simplified spreadsheet that illustrates these costs and shows the financials behind a developer's decision to implement CSS.

Even at $0.07/kWh, a 250-999kW CSS project would earn $0.25/kWh ($0.18 + $0.07/kWh), which is substantially less than the $0.30/kWh for smaller scale residential systems (<25kW systems), so it is a more economical way to provide benefits of solar to the residential sector. Further, a CSS project from 1-5MW would earn $0.22/kWh ($0.15 + $0.07/kWh), more than 25% lower cost than a <25kW residential system.

Initial Offtake Acquisition

'Initial Offtake Acquisition' includes initial education, credit underwriting, system allocation, and agreement finalization for each customer participating as offtake. Relay Power focuses on 'Initial Offtake Acquisition' for residential participants (i.e., the <25kW offtake for CRDG, <25kW offtake for CNM, and multi-tenant residential offtake for Shared Solar). Given the state of the industry, residential offtake acquisition currently requires face-to-face interactions to move people to action.

Relay Power charges about $0.25/w for <25kW offtake acquired for community solar projects. This price varies based on the project region, credit requirements, discount to the offtake, etc. In September of 2016, Relay Power was quoted cost numbers from the 2 other companies we know of that acquire <25kW offtake for community solar. One was $0.40/w and one was $0.50/w. **The straight average of these three companies would be $0.38/w, but at least $0.25/w should be counted for cost given that it's the lowest price point we could find for residential <25kW offtake acquisition.**

Over time, there are some downward pressures on acquisition costs:

- *Community solar becomes a 'household name'* – This will create more digital traffic and opportunities); however, community-based and face-to-face education is currently required to educate people about this new energy option.
- *Credit qualification terms are reduced* – Community solar projects require a 680-700 FICO score to participate, do not allow renters, and may have additional underwriting criteria e.g., no history of bankruptcy. These credit requirements will only come down through a program that provides a financial backstop for non-payment of people who do not meet these qualifications OR as financial backers of these projects start to build a track record of community solar payments over the next few years.

However, costs will have upward pressures as well, coming from the Implementation of a Minimum Bill. This will reduce the average allocation each CSS participant has and result in more participants being required to fill each project. A minimum bill of $20 would reduce system sizes and increase cost of acquiring participants by about 15%.

Replacement Offtake Acquisition

Despite the 20-year term and credit qualification process of most community solar agreements, participants need to be replaced when they move out of the community solar territory or become delinquent on payments. Based on the US Census, 12% of homeowners move every year (link). Community solar customers have committed to their program so we estimate a slightly lower rate of replacement: 10%.

As mentioned above, costs for community solar may come down over time. Even if this came down to $0.20/w from the above mentioned initial acquisition costs, this would be a **$0.02/w/year cost to the project to replace customers leaving the community solar array.**

Customer Service and Billing

Residential and small business (<25kW) participants of community solar arrays require more ongoing management than a single large commercial offtake. Specifically the project owner must provide the following services for hundreds of participants:

- **Billing:** A billing system, including payment processing and a platform for customers to track their credits (given that the utility bill does not track credits in a transparent way).
- **Customer Service:** Customers need a representative to call for help with questions about their bills, reducing/increasing their allocation of the community solar project to match their usage changes over the course of 20 years, etc. Staffing this call center to provide quality and responsive service is an essential cost for developers.

Billing and customer service combined cost ~$0.03/w/year for Relay Power to provide.

Risk Premium

Once the straight costs (above) are accounted for, a developer would be NPV neutral between a community solar project and a non-community solar project. However, developers and investors look at both the return and the *risk*. Currently community solar is perceived as a higher-risk investment than commercial solar due to the short track record of the industry. So in choosing between an 8% IRR on community solar vs commercial solar, the investors will choose commercial solar every time.

It will not be straightforward to calculate an exact value for this risk premium, but based on our conversations with developers, **setting the tariff for a CSS project to target a 1% higher IRR on the full project than a commercial solar project would more accurately account for this risk premium.**

Lower System Size Under 3rd Party-Supply

Relay Power's current average for system sizes is ~7kW. Our costs are incurred on a per customer basis and then converted to a per watt number for the costs outlined in this comment. However under the proposed program, all of these costs will increase by ~15% due to the switch to volumetric credit transfer.

1. *Current Program:* Currently, credits are transferred on a $ basis and one kWh from a community solar project is worth ~$0.18/kWh (blended G1 rate). This means a community solar kWh offsets <1kWh on a customer's bill given that the average residential rate is ~$0.21/kWh (blended R1 rate). So under the current program, a community solar participant must have an allocation of 16.6% kW more than they would need if they offset their bill at the R1 credit value ((.21-.18)/.18).
2. *Proposed Program:* The Proposed Program would apply credits to a customer's bill through competitive supply, on a direct kWh transfer basis. So one kWh produced at the community solar project offsets one kWh on the customer's bill.

So in the future, system sizes will average ~6kW and the number of customers needed to fill 1MW of community solar will increase from ~140 to ~165. Therefore costs to recruit, manage, and bill participants will increase in line.