



# COMMUNITY SOLAR IN MARYLAND: YEAR 2

---

AUTHOR: SOLAR UNITED NEIGHBORS

1350 CONNECTICUT AVENUE, NW  
SUITE 412  
WASHINGTON, DC 20036



**THIS REPORT MADE POSSIBLE WITH  
THE GENEROUS SUPPORT OF THE  
TOWN CREEK FOUNDATION.**

<b>Executive summary</b>	<b>3</b>
<b>Introduction</b>	<b>4</b>
<b>Program structure and current status</b>	<b>4</b>
Program structure	4
Application process	5
Contract summary disclosure form	7
Current status (November 2018)	7
<b>Project updates</b>	<b>8</b>
1. John Mariani – A small, but powerful example	8
2. North Chevy Chase/Kensington – Community-based negotiation	8
3. Project SolShine – Helping housing authorities	9
4. Cedar Ridge Community Church – Local interest, local changes	10
5. Friends School in Baltimore – Promoting in the community	10
<b>Success &amp; challenges</b>	<b>11</b>
Year two successes	11
Implementation (regulatory)	11
Development	13
Year two challenges	14
Implementation (regulatory)	14
Zoning	17
Development	20
<b>Education and public outreach</b>	<b>23</b>
Marketplace information	23
<b>Future prospects for community solar in Maryland</b>	<b>28</b>
<b>Glossary</b>	<b>29</b>
<b>Contributors</b>	<b>30</b>
<b>Sources</b>	<b>31</b>



# EXECUTIVE SUMMARY

Solar energy helps people take control of where their energy comes from and save money with a clean energy source. Unfortunately, many are unable to benefit from solar where they live. This may be because they are renters or because they simply have too much shade over their roof. Community solar offers the promise of greatly expanding access to solar.

Community solar projects allow a subscriber (this can be an individual, business, non-profit, or municipality) to purchase or lease a share of off-site solar generation and have that electricity credited on their monthly electric bill, just as if the panels were on their own roof. Maryland launched a pilot community solar program in the spring of 2017 with the goal of increasing Marylanders' access to renewable energy. The program is now in its second of a three-year pilot and has seen significant but slow progress. This report highlights the program's successes to date and discusses the obstacles that remain.

Maryland's community solar program was designed to allow for the creation of a variety of community solar projects. This includes projects of varying size, location, and ownership models, as well as those that serve low-to-moderate income subscribers.

Here the pilot has been successful. Pilot rules require that subscribers can only participate in projects that are in their utility service territory. Each participating utility area (Delmarva, BG&E, Pepco, and Potomac Edison) has projects actively looking for customers. With the start of Year Two, solar developers in each area have requested additional capacity.

At the community level, we are also seeing real interest from a variety of actors who want to meaningfully participate in building community solar in the state. Whether it's an individual building owner who has financed and is operating his own shared array; community members working to promote the program to their neighbors; a church offering up their land to host a project; or a school hosting an education event for their community; people care about what community solar can bring to Maryland and they are willing to spend time to make it successful.

There are also signs that low-to-moderate offerings could provide real savings to participants. There has been widespread development activity, and several small, non-traditional projects happening as well.

Obstacles in the programs path have come in a variety of shapes and sizes. There are low-to-moderate related challenges like how best to handle income verification, the impact of personal property taxes, and project financing hurdles. There are project-related challenges like maximum subscriber limits per project and regulation-mandated project deadlines that are proving too tight. There are zoning-related challenges that have proven to be the most significant obstacle for the program to date.

Despite obstacles, the solar industry is still interested in developing community solar projects in the state. Ultimately though, until projects become operational and produce real savings for customers and until public awareness of the program increases, the prospects for the program remain uncertain.

Because of the length of time it has taken to get the program off the ground, and for initial projects to enter the marketplace, it now appears unrealistic that the pilot program will complete on time. Solar United Neighbors recommends that the Maryland Legislature extend the pilot rather than rushing a review of the program. Doing so will allow the Legislature to more fully consider the program's successes and challenges, as well as the changes that may be required to enable a permanent community solar program to empower all Marylanders to benefit from solar energy.





# INTRODUCTION

The sun shines everywhere in Maryland. But too few Marylanders could take advantage of solar energy until the advent of a statewide community solar pilot program. Community, or shared, solar makes it possible for anyone with an electric bill to access solar energy, even if they can't put it where they live. Shared solar allows photovoltaic (PV) systems to be installed somewhere in the community (in a field, on a building, over a parking lot, and elsewhere) while still providing the benefits of solar electricity to participating subscribers. Community solar also represents a significant opportunity to expand direct access to Maryland's renewable energy economy to everyone in the state. A successful program that delivers energy savings to a wide variety of participants and builds a diverse portfolio of shared renewable projects will broaden and deepen the state's constituency for renewable, clean, distributed energy. It will also make the case for a permanent and expanded program.

In the first installment of this report ("Community Solar in Maryland: Year One") we reviewed the history of community solar in the state; the launch of the pilot program; its structure; examples of some community-driven projects and engagement; some successes and challenges identified so far; and education and public outreach needs. In this year's report we will bring you up to speed and provide an updated glimpse into the future of community solar in Maryland. Our purpose is to track the progress of the program and provide analysis for the consideration of solar stakeholders, state and local policymakers, and regulators.



---

# PROGRAM STRUCTURE AND CURRENT STATUS

Maryland's first year of community solar has actually taken closer to a year and a half. It started in May 2017 when the Public Service Commission (PSC) released the first batch of Subscriber Organization approvals. This allowed community solar owner/operators to apply for space in the program through utility applications. Year One of the program ended in early October 2018. Below we review the program's structure as well as updates to its application process for Year Two and Year Three, the official customer disclosure form, and the program's current status.

## Program structure

In "Community Solar in Maryland: Year One" we reviewed in detail the program's structure and key features such as a full-retail rate credit for subscription credits, encouragement to develop projects with low-to-moderate income subscriber participation, and considerations in support of small-scale, non-traditional projects. Aside from changes to the program's Year Two and Year Three application queue structure discussed on the next page, the program's regulatory framework remains unchanged.



## KEY PROGRAM PROVISIONS

- Length of program: Three years (began in March 2017)
- Participating utilities: All Investor-Owned Utilities (IOUs) are required to participate (BG&E, Delmarva Power, Pepco, and Potomac Edison). Municipal and cooperative utilities may optionally participate. None have chosen to do so as of this writing.
- Program size: 1.5% of Maryland's 2015 peak demand (~196 MW) allocated over the course of the three-year pilot period and divided up by utility territory based on that utility's peak demand.
- All projects participating in the program contribute to the state's 1,500 MW net metering cap.
- The Subscriber Organization owns and has title to all Solar Renewable Energy Credits (SRECs) produced by the project.
- Utilities must provide a regularly updated list of projects applying to participate in the program and their current status.
- Projects brought online during pilot period shall continue under the same regulations for 25 years.
- Maximum project size: 2 MW (AC)
- Minimum subscription size: 2 kW average subscription size per project
- Minimum participants per project: 2
- Maximum participants per project: 350
- Project subscription limits: Subscriptions larger than 200 kW must not make up more than 60% of a facility's subscriptions.
- Program space allocations:
  - 40% to Open Category: Any project up to the maximum size for the program.
  - 30% to Small, Brownfield, Other category: Projects up to 500 kW; on brownfields; or on rooftops, parking lots, roadways, parking structures, or serving more than 51% of their output to LMI customers.
  - 30% to LMI Category: Projects serving more than 30% of their output to LMI customers, of which at least 10% must go to low-income customers.
- Low-to-moderate defined as:
  - Low-income = up to 175% of the Federal Poverty Line.
  - Moderate-income = up to 80% of the Area Median Income.
  - An operator of a low-income multifamily dwelling unit may apply to the Commission to qualify as a low-income subscriber for the purposes of the pilot program.
- Customers can be any rate class (residential, commercial, municipal, etc.).
- Customers must be in the same utility territory as the shared array.
- Customers receive full retail rate for all electricity to which they subscribe from the shared array.
- Unsubscribed energy from the shared array will be purchased from the Subscriber Organization by the utility at the generation rate as defined in each company's tariff.



## Application process

The application process for developers seeking space in the program is mostly unchanged from what we described in “Community Solar in Maryland: Year One”. One significant change to this process for Year Two came from requests by some developers who did not get assigned space in Year One of the program. In response, the PSC staff re-structured the second year’s application process. Discussions and decisions on whether and how to do this were partially responsible for the delay in opening the second year of the program with some developers preferring the system used in Year One and others lobbying to see it changed.

At the heart of the issue is whether or not a single developer should be allowed to initially submit as many projects as they have ready to

submit or be limited to one or two, giving more developers a better opportunity to be awarded a project. The solution proposed by PSC staff and ultimately implemented limits each developer to no more than two project submissions to any particular utility (across all program categories) within the first twenty business days of the application period. After this first 20-day period, developers can submit any additional projects. This is important because it may open the program to a greater number of companies and project types.

Any projects applying to the Year Two interconnection queue that do not get access to the program in Year Two will be left on the list in the order they were received and maintain their established position in the queue for Year Three.



## APPLICATION & DEVELOPMENT PROCESS:

Organizations wishing to build and operate a community solar project must do the following to gain access:

### STEP 1:

Apply to the Public Service Commission to be a Subscriber Organization. Receive approval and a Subscriber Organization ID from the Commission. Application requirements<sup>i</sup> include:

- Basic company information.
- Information on projects to be developed.
- Posting a Subscriber Organization bond.

### STEP 2:

Approved Subscriber Organizations can then apply to the utility company for conditional interconnection approval for each project. Each Subscriber Organization is limited to two interconnection applications per utility area during the first 20 business days of the Year Two and Year Three queue period. **NOTE:** The two-application limit is an addition and was not part of the Year One process.

### STEP 3:

Upon receiving conditional interconnection approval from the utility, apply to the utility for space in the program by:

- Filling out the required form.
- Declaring to which program category they are applying.
- Providing conditional interconnection approval.
- Providing proof of site control for the array location.
- Providing proof of having applied for applicable permits in the jurisdiction where the array is located.
- For brown-field projects, applicants must provide evidence of brownfield status.

### STEP 4:

Upon receiving confirmation of admission to the program from the utility, Subscriber Organizations are ready to continue developing their projects. They have 12 months to begin operating their project before being removed from the program. If they fail to do so within that time period they can pay \$50 per kilowatt (kW) to extend their time limit for an additional six months. Projects applying in the LMI category are exempt from this additional payment requirement.

## Contract summary disclosure form

Contract disclosures are an important part of consumer protection. The pilot program regulations include a number of key disclosure requirements that Subscriber Organizations must comply with when signing up customers.<sup>ii</sup> The regulations also require that Subscriber Organizations present a completed contract summary disclosure form that has been approved by the PSC.<sup>iii</sup> These organizations needed the PSC-approved form to begin signing up customers.

In April 2018, the PSC formally approved the contract summary disclosure form for use with potential customers. Developed by the PSC's Net Metering Working Group, the contract summary disclosure represents the collaborative efforts

of industry representatives such as Solar United Neighbors, the Coalition for Community Solar Access, Neighborhood Sun, the Maryland Energy Administration, and the Office of People's Counsel.

The final product includes key items for consumer protection such as subscription type, term, and cost, applicable escalators and fees, and the expected date in service of the community solar array. It also includes detailed instructions for Subscriber Organizations such as requirements on presenting assumptions of current electricity cost and calculations used to estimate cost savings. Visit the PSC's website for an example of the disclosure form and instructions.<sup>iv</sup>

## Current status (November 2018)

Progress on the first batch of projects from Year One has been mixed. Some are expected to come online as early as the end of 2018. Several developers have begun marketing to potential customers, offering terms, and signing up subscribers. At least three projects in Pepco, in BG&E, and in Delmarva have all reached this stage. Notably, in the BG&E utility area (which has the largest megawatt allocation in the program) five projects, representing a significant amount of Year One capacity, are paused due to a moratorium on community solar projects in Anne Arundel County. This moratorium was put in place while the County reviewed its zoning rules. In October 2018, the County Council passed new rules that restrict ground-based solar at community scale. The rules limit projects to a special exception zoning process and

include restrictions on project proximity to one another. This has effectively closed the county to community solar development.

The application period for the second year of the community solar pilot opened for Pepco territory in late October 2018. BG&E, Potomac Edison, and Delmarva opened shortly thereafter. Developers applied for access to the capacity available in Year Two by submitting interconnection applications. At the time of this report, 24 different projects (~41 MW) have submitted applications.<sup>v vi vii viii</sup>

No date has been set for the opening of Year Three. Projects left on the waiting list from Year Two will retain their position in the queue for the allocation of capacity in Year Three.





# PROJECT UPDATES

Solar United Neighbors has assisted individuals and communities in the Maryland Community Solar Pilot Program since its launch. We've conducted public education on the program for non-profits, condo associations, in community centers, at libraries, and during our annual Maryland Solar Congresses. More directly, we've also provided technical assistance to a number of organizations and individuals. In our Year One report we covered some of these efforts to highlight the level of interest and different ways that communities were engaging with the program. Below are updates to some of them that offer insight into community solar's progress to date.



## 1. John Mariani – A small, but powerful example

John Mariani owns a small apartment building with a good roof for solar in the Fell's Point neighborhood of Baltimore. He also owns a home in the same neighborhood that is not a good fit for rooftop solar. After registering to be a Subscriber Organization with the Public Service Commission, John selected a Maryland-based installer to build the 10 kW project. The installer, Solar Energy World, designed his solar array, began the Interconnection process with the local utility, BG&E, applied for local building and electrical permits, and was granted space in the community solar pilot program in the "Small, Brownfield, Other" category. In March 2018 the system came online and began generating electricity. By May, John, his sister, and the host building's common area meter began receiving credits for the electricity produced by the shared array. This earned the project the distinction of being the first fully operational community solar array in the Maryland program.

John's project is a great example of how small-scale community solar, driven and financed by community members themselves, can expand access to renewables. While these projects may not end up making up the majority of community solar capacity in the state, they are an important part of the program. They demonstrate that making community solar possible and accessible to all market segments encourages individual investment in distributed energy resources.

## 2. North Chevy Chase/ Kensington – Community-based negotiation

The community of North Chevy Chase, just outside of Washington, D.C. is heavily shaded. As a result, many dreams of rooftop solar power go unfulfilled. When Dr. Al Bartlett contacted Solar United Neighbors about his neighborhood's interest in community solar, it seemed like the perfect fit for his community. After meeting with Solar United Neighbors and hosting several public information sessions for the community, the group decided to negotiate a group rate with one or more community solar operators. They put together a request for information (RFI) to circulate to developers and spoke with a number of Subscriber Organizations. In doing so they realized these organizations were still too early in their project development cycle to be able to offer real and firm terms to the group for subscriptions for the electricity from their planned community solar arrays. Months passed. By mid-summer several developers were able to provide terms. Despite the group's expected size of up to 100 individuals, the apparent narrow profitability margin of projects resulted in Subscriber Organizations not being able to offer any significant discount to the group. However, the group did develop a dedicated website where they compiled information on those projects available in the Pepco area. It included rates and other contract terms. The website also offered a portal to sign up with the project whose characteristics were most attractive, along with guidance to facilitate sign-up. The project's rate was fixed at below Pepco's Standard Offer Service with a low cancellation fee and no escalator. Neighbors signing up through the portal received the project's discount and a referral bonus if they brought in additional neighbors. Despite the lack of direct savings through the aggregation of their purchasing power in this particular instance, the North Chevy Chase/Kensington group showed that local community involvement in outreach and education to fellow community members drives interest and participation in the program.

This project highlights some of the challenges that such a subscriber aggregation model can face. This may also be an indication of the confidence of Subscriber Organizations that there are more easily found subscribers than the capacity of the program because the program is not large enough to meet the potential demand of Maryland subscribers.

### 3. Project SolShine – Helping housing authorities

In the summer of 2017, the U.S. Department of Energy (DOE) chose Solar United Neighbors to be among a group of community solar consultants available to projects competing in DOE's Solar In Your Community (SIYC) Challenge. Project teams received grant awards to develop their projects along with a voucher for consultant services. One project, led by Clean Energy Solutions, Inc. (CESI) chose Solar United Neighbors to provide services in support of their efforts. CESI's project, SolShine, focuses on bringing the benefits of community solar to public housing authorities (PHAs) in Maryland. The community solar pilot program's special capacity allocations for projects with low-to-moderate income participation make public housing authorities promising partners. The CESI team combined its public housing expertise and connections to find PHA partners with Solar United Neighbors' knowledge of the pilot program and developer relationships to explore project development intended to primarily benefit the residents of public housing.

Unfortunately, due to the way Department of Housing and Urban Development (HUD) enforces its utility allowance regulations, multifamily utility allowances do not support low-income residential participation in community solar. In response to this situation, the SolShine project sought flexibility from HUD in the enforcement of these regulations. Unfortunately, they were unsuccessful and have shelved all future project development plans for HUD multi-family housing and community solar in Maryland until such time that federal regulations are more supportive. This highlights a major opportunity for Maryland to make a serious impact on energy costs for LMI residents, beyond providing a program carve

out. Specialty programs based on the housing type HUD, LIHTC (Low-income Housing Tax Credit), and single family programs should be considered.

### 4. Cedar Ridge Community Church – Local interest, local changes

Bryan Peterson, Pastor of Facilities at Cedar Ridge Community Church (CRCC) in Montgomery County was approached by another local community organization about hosting a community solar array in 2017. He and the church community were intrigued by the idea of hosting renewable energy that could be shared with others in the community. They had space on their property but quickly discovered along with other project organizers that the zoning for their land was not open to community solar. In fact, outdated zoning rules in the county did not permit ground-based solar of any kind that was not directly connected to the electricity usage of a structure on site (also called "accessory use").

CRCC's interest in hosting community solar identified that a county zoning change was needed. In response, Montgomery Councilmember Tom Hucker who represented the community where CRCC is located, introduced zoning text amendment legislation. The legislation passed in May 2018<sup>x</sup> and opened the way for CRCC and others to host community solar arrays. In support of their efforts, Solar United Neighbors has provided technical assistance to CRCC to help navigate the decision on whether to participate. As of this writing, they have signed an agreement with their selected developer to host a 7-acre shared solar array. They are in the process of applying for space in Year Two of the program. This project is a great example of communities who are interested in participating in renewable energy development having a direct impact on local renewable energy policy. It also shows the need for communities to understand and be engaged in their permitting laws and ensure that they evolve with the market.



## 5. Friends School in Baltimore – Promoting in the community

In November 2017 Solar United Neighbors met with the leadership of the Friends School of Baltimore about their interest in community solar. We provided education on the workings of the program and some potential ways the school might participate. With an electricity contract expiring in the near future, the time seemed right for the school to consider supporting and benefiting from locally-produced renewable energy through the community solar program. They are currently considering their community solar subscription options. As part of their support for the program, they will also host a public information session for their school community on how school families and faculty can sign up for community solar. The Friends School's commitment to renewable energy and to outreach and education in their community exemplifies how organizations of all types can directly impact solar adoption through their actions.





# SUCCESS AND CHALLENGES

In “Community Solar in Maryland: Year One” we covered the initial success and challenges of the program from its legislative origins to the regulatory framework created at program launch to initial development efforts. Legislative successes included the encouragement of geographic diversity and low-to-moderate income participation. Regulatory highlights included the establishment of a full retail credit rate for subscriptions, support for small and non-traditional projects, and strong consumer protections. Challenges in the first year included uncertainty around bond requirements for Subscriber Organizations, utility interconnection queue management, financing low-to-moderate projects, and the wider impact of depressed Solar Renewable Energy Credit (SREC) values on project economics. Another challenge highlighted in the first year was the difficulty of siting and zoning projects in several counties across the state.

Many of the challenges outlined in Year One still impact the program while other new challenges have been identified. Nevertheless, the program’s successes are also evident after the first year. Below we provide update on some existing challenges, identify new ones, and highlight some initial successes with the program.



---

# YEAR TWO SUCCESSES

## Implementation (regulatory)

### *Low-to-moderate-income inclusion*

Honoring the spirit of the legislation, the implemented regulations have encouraged development of projects with low-to-moderate income participation. In multiple utility areas, projects are open for subscribers in both the LMI category, mandating at least 30% LMI subscriber participation, and the Small-Brownfield-Other category, requiring at least 51% LMI subscriber participation. Furthermore, the terms for LMI subscriber participation appear to be supportive as well. Multiple projects feature an increased savings level and/or reduced FICO credit score requirements. At least one project so far has no minimum term length, no FICO credit score requirements, and increased savings. These favorable contract terms are expected to make the subscription offering attractive to low-income households, helping to meet the 10% low-income household participation requirement of LMI projects. What is not clear yet is how successful Subscriber Organizations will be in attracting LMI subscribers for whom the acquisition is generally considered to be higher than market rate subscribers. This is due to significant levels of distrust in the LMI community of lower-cost electricity product offerings.<sup>x</sup> This suggests that specific programs designed to benefit this community such as outreach, education, planning grants, etc. could greatly complement the existing community solar program.

### *Geographic diversity*

Program regulations require subscribers to be in the same utility area as the project to which they subscribe. Year One's projects in the program have shown that developers are willing to finance and build community solar all across the state where ground-based commercial solar is permitted by zoning code. Of particular note is that several projects are under way in the Potomac Edison territory in the western part of the state, despite the much lower cost of electricity to consumers in that area.

### *Full Retail Credit Rate for Subscriptions*

One of the primary achievements of the establishing regulations was the inclusion of a full retail credit rate. Subscribers will pay Subscriber Organizations for the kilowatt-hours an array produces, hopefully at a price below the cost they would have paid the utility company. In turn, credits are applied for the kilowatt-hours generated for that subscriber to their utility electricity bill at the full retail credit value.

At the outset of the program many, if not all, of the utilities will be applying these credits manually. This presents an increased opportunity for errors. As the program scales, this could create problems for customers and Subscriber Organizations attempting to make sure the full value of their electricity is applied accurately to customer utility bills. Because there are only two small projects currently online, it is not yet clear whether this will be an issue. We have been able to verify that full retail credits were applied correctly to one of the subscriber's utility bills for one of those initial projects. This is a small but significant step forward and positive news for the program.



### ***Small and non-traditional project inclusion***

The initial regulations for the program took care to make it possible for small and non-traditional projects to participate. Community solar as a concept includes wide flexibility in project structures, ownership, scale, and location. As such, it is a valuable tool to fill in gaps in access to solar that may not be otherwise possible with residential, commercial, or utility-sized projects. In Maryland community solar projects can span from small kW-sized projects to 2 MW projects. We are seeing that take shape. While the majority of the market is and will continue to be made up of multi-megawatt installations serving hundreds of customers, smaller projects offer a

way for engaged individuals and communities to have direct involvement in bringing more solar to their area. Two examples of this were the very first projects to come online in Maryland. In Baltimore, John Mariani's project (highlighted earlier) was the very first completed project. It offered a direct way for him to invest in solar and deliver locally-produced economic benefits to his tenants, another family member, and himself. In Hagerstown, an 80.4 kW array, called the "Antietam Community Solar" project, is offering a \$50/month to lease for 5 kW blocks and delivery of community solar energy credits to participants' utility bills.<sup>xi</sup> Small-scale crops and pollinators are planted in and around the array<sup>xii</sup> to maintain the environmental and agricultural value of the land used for the project.

# Development

## Projects happening

There are projects being built with a variety in the savings offered, low-to-moderate income accessibility, terms, and geographic location despite challenges in the market from depressed SREC values to delayed or blocked zoning processes. As part of our attempt to bring product offering visibility to the marketplace, we list and summarize critical details about projects that are open and looking for customers on our community solar information and comparison site: <http://cs.solarunitedneighbors.org>.

So far, all of the available subscriptions offer a discounted percentage below the utility's standard offer service rate. These discounts range from 5% to 10% depending on the utility area. For qualified low-to-moderate income customers, savings range from 10% to 25%. In some cases, FICO scores requirements are also reduced or eliminated.

One area where we see a wider range of variance is in the contract length and fees. Some projects include 25-year contracts requirements. Others have no stated contract length other than to require 90-day notice for cancellation. Similarly, some projects include cancellation fees up to \$1,000 while others have no cancellation fees. Because community solar is a young market nationwide we expect that these differences are due in part to financing entities being less comfortable with the perceived risk presented by many individual energy customers and their likelihood to continue paying for their subscribed energy. Also, financiers have concerns about risks due to the Subscriber Organization's ability to replace lost customers quickly throughout the life of the project so that there is a paying off taker for most if not all of the energy the project produces. We expect that terms will trend toward less cost and more flexibility of entry and exit as the market flourishes in Maryland and nationwide.

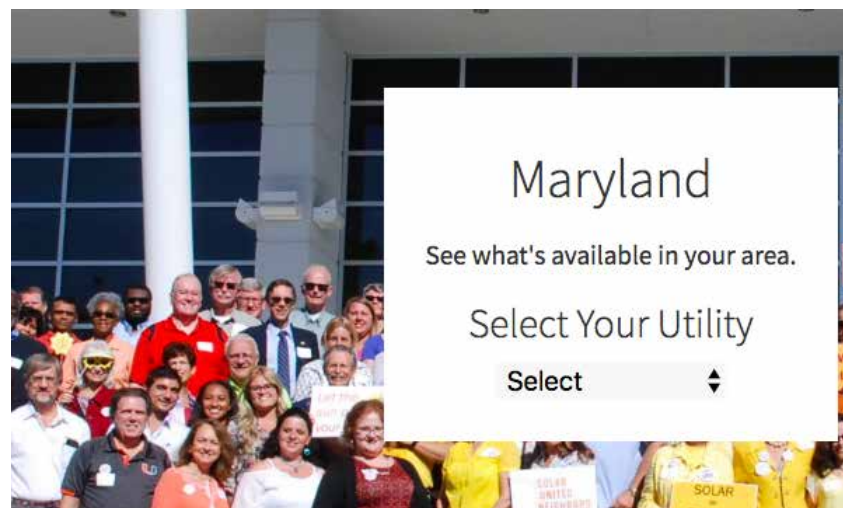
## State grants

At the start of the pilot no additional supports existed to encourage the program in critical areas of performance such as low-to-moderate income adoption and non-traditional direct ownership projects. In response, the Maryland Energy Administration released a number of grants intended to fill this gap in 2018.<sup>xiii</sup> The agency released grant programs for:

- 1) Residential-scale directly-owned community solar arrays.
- 2) Commercial-scale, directly-owned community solar arrays.
- 3) LMI subscription model incentives
- 4) The establishment of a loan-loss guarantee for project developers seeking to include LMI participants.

An additional grant is also forthcoming to support public education in the LMI community about the program, how subscriptions work, applicable terms, and potential savings.

Like the program itself, these grants are experimental and will require evaluation over time to determine whether they are meeting a real need in the marketplace in support of the pilot program's goals.



---

# YEAR TWO CHALLENGES

## Implementation (regulatory)

### *Interconnection queue as gating factor*

The assignment of capacity into the program happens in a two-step process. In the first step a Subscriber Organization submits an interconnection request to the utility. In the second step after all preliminary progress milestones are met (conditional interconnection approval, proof of site control, and proof of having applied for applicable permits), the Subscriber Organization can apply to the utility for allocation of space in the program for that year in a particular category. Despite actual space allocations being provided in step two, the reality is that the order in which projects are accepted into the interconnection queue largely determines who will be admitted into the program for that year.

The request follows the standard net metering interconnection queue procedures in place broadly for the state. But because of the limited community solar program capacity, the acceptance of community solar project interconnection applications is scheduled to begin at a specific date and time each year for each utility. In Year One, this specific start time saw projects eliminated from the program because they were received seconds or minutes after their competitors.

Because the program needs to allocate a scarce resource (megawatts) due to yearly space limitations, there are few good solutions to this problem. Lottery systems have been tried elsewhere but can lead to poorer

outcomes.<sup>xiv</sup> Year Two's procedure limits a Subscriber Organization to no more than two applications submitted by utility area in the first 20 business days after the application period opens. This was done in an attempt to tweak a procedure in Year One. While the Year One procedure largely seemed to work, it did leave some interested and committed Subscriber Organizations on the outside.

It is good to see that Maryland is taking the challenges in this area seriously and working on improvements in the process. Should the program become permanent, adding yearly capacity to the program would also be helpful.

### *LMI income verification*

At the start of Year Two with developers seeking to sign up low-to-moderate income subscribers, the procedure by which they can verify and document income status remains unclear. For low-income subscribers the regulations state that eligible Subscribers are those "whose gross annual household income is at or below 175 percent of the federal poverty level" or those certified as eligible "for any federal, state, or local assistance program that limits participation" to the same 175 percent threshold.<sup>xv</sup>

What is less clear is exactly what kind of documentation for eligible program participants is required and for how long Subscriber Organizations need to keep it. This uncertainty could be removed if the PSC would release supplemental guidance answering these questions and identified all of the state agencies that have programs meeting these qualifications. Solar United Neighbors recommends the Maryland Energy Administration create a simple portal that would verify if a person is currently enrolled in a qualifying state program. That would alleviate the need for duplicative collection of data and concerns around data privacy.

For moderate-income subscribers, the regulations specify that a household be "at or below 80 percent of the median income for Maryland."<sup>xvi</sup> This definition lacks the



specificity needed and in the opinion of Solar United Neighbors, was an oversight of the initial regulations made by members of the working group, of which Solar United Neighbors was also a member.

The most common source of area median income is the U.S. Department of Housing and Urban Development (HUD). Unfortunately, this data is categorized by county or metropolitan area and not statewide. If a statewide definition were used it would likely be less accurate and possibly skew higher than intended in more rural and less populated areas of the state due to denser, higher income population centers in the suburban Washington and Baltimore areas.

Further complicating the moderate-income category is the lack of eligible programs to act as a proxy for income verification. As a result, Subscriber Organizations' only option is to verify income directly by inspecting tax returns and income statements. This is not information Subscriber Organizations want to handle or store because it would be costly, burdensome, and intrusive for potential customers. Giving Subscriber Organizations this responsibility also increases their cost of customer acquisition.

For moderate-income subscribers, here again the Commission could reduce uncertainty by providing supplemental guidance to the regulations. The guidance should clearly indicate what source of data should be used for determining median income, what methods are acceptable for verifying income, specify retention requirements, and, to the extent it can, identify state and non-governmental entities able to verify income for their clients on behalf of a Subscriber Organization.

One immediate solution would be for the Commission to permit the use of a simple affidavit signed by the Subscriber that their household income meets the stated LMI requirements. While this solution would be less rigorous it would reduce the barrier to customer acquisition significantly. It could ultimately result in higher participation rates from low-to-moderate income households. If necessary,

a small percentage of the affidavits could be audited to ensure compliance with the program rules.

Alternately, the state could also consider providing subsidy support for the use of third-party income verification services or, directly select a vendor to perform third-party verification services, making it available for use by all Subscriber Organizations. Similar services are in use in other states such as Massachusetts where they are used to verify eligibility for state run clean energy grants.<sup>xvii</sup>

### **350 subscriber maximum**

As part of the regulations, no community solar facility is permitted to have more than 350 subscribers. This restriction was included in the regulations to address utility concerns about managing the billing process during the pilot period since at least some of them would be manually applying credits to customers' bills each month based on their percentage of the solar array's output. Now that Subscriber Organizations are seeking customers in the marketplace, it has become apparent that this limit has the potential to impact the viability of some projects and in particular their ability to service low-to-moderate income customers.

Several Subscriber Organizations submitted a petition in October 2018<sup>xviii</sup> to the Commission requesting the 350-subscriber limit be waived for their projects. The petitioners said the limit restricts their ability to fully subscribe projects and get them financed. They went on to say the limit creates the perverse incentive of potentially encouraging Subscriber Organizations to subscribe participants to more than 100% of their annual usage, and that, because low-income households use less electricity on average, Subscriber Organizations may exclude them from their marketing and sales efforts. According to the estimates in the petition, affected Subscriber Organizations expect they will need to seek as many as 80% more subscribers for their projects than the regulations currently allow.

In December 2018 the Commission approved two waivers for an additional 100 subscribers per project. One project is located in Delmarva territory and the other in Potomac Edison territory. The Commission rejected the remaining waiver requests made for several projects in the BG&E territory “pending implementation by the affected electric company’s development of an automated billing function for the Pilot”.<sup>xix</sup> Per pilot program regulation COMAR 20.62.02.03(B)<sup>xx</sup>, the availability of automated billing from a utility removes the 350-subscriber cap.

Solar United Neighbors recommends that the 350-subscriber cap be eliminated for the remainder of the pilot program. The burden of adjusting a few more bills is minimal compared to the impact of damaging the viability of LMI project success. Solar United Neighbors also recommends that automated billing be a requirement of utilities as part of any permanent program in the state.

### ***SMECO’s FERC filing and tariff submission***

In August 2016, Southern Maryland Electric Cooperative, Inc. (SMECO) and Choptank Electric Cooperative, Inc. filed a petition for declaratory order at the Federal Energy Regulatory Commission (FERC) asking FERC to review Maryland’s community solar regulations and rule that those regulations do not comply with federal law. Numerous organizations, including Solar United Neighbors with the assistance of Earthjustice, filed comments asking FERC to dismiss the petition, which they did in November 2016.<sup>xxi</sup> The Commission did so in part because SMECO’s participation in the program was voluntary. After the dismissal of their FERC petition, SMECO applied to join the community solar program by submitting a tariff for consideration by the Maryland Commission. In doing so, SMECO asked the Commission to waive the provision of the regulations that require full retail electricity value to be applied as credits carried over for a twelve-month period at that value. Instead of on a yearly basis, the SMECO tariff sought to pay out excess generation on a monthly basis at a lower rate.

Solar United Neighbors opposed this tariff on the grounds that it was unfair and confusing to community solar subscribers in SMECO territory to be treated differently than those in other parts of the state. The Commission rejected SMECO’s tariff request<sup>xxii</sup> in September 2017. In October, SMECO chose to re-file with FERC asking for a re-hearing based on that rejection.<sup>xxiii</sup> Again, with the assistance of Earthjustice, Solar United Neighbors, Sierra Club, Natural Resources Defense Council, and Sustainable FERC Project filed in opposition of this request for re-hearing<sup>xxiv</sup> in November 2017. In January 2018 FERC denied SMECO’s request for re-hearing.<sup>xxv</sup> To date, SMECO has taken no further action to participate in the community solar pilot program.

## **Zoning**

Since the release of our Year One report, it has become extremely clear how much zoning will affect the outcome of the community solar pilot program. Faced with increased zoning applications for ground-based solar arrays, counties are seeking to better understand the impact of these projects in their counties and are making changes to their zoning regulations in response. Public challenges have popped up across the state to planned projects. These objections range from aesthetic concerns of particular projects to broader concerns over the protection of prime agricultural land. In many cases, residents expressed surprise at projects showing up in their communities.

This caused alarm from some community members and resulted in county officials responding in various ways. In Anne Arundel County for example, the County Executive placed a moratorium<sup>xxvi</sup> on ground-based solar zoning while the county decided how to update their zoning requirements. Caught in the middle were five community solar projects with an 18-month clock, established by the pilot program regulations, running out on their projects. Project developers requested an extension from the Public Service Commission due to the moratorium’s extenuating circumstances and were granted that extension<sup>xxvii</sup> while they awaited the outcome of new zoning rules. In

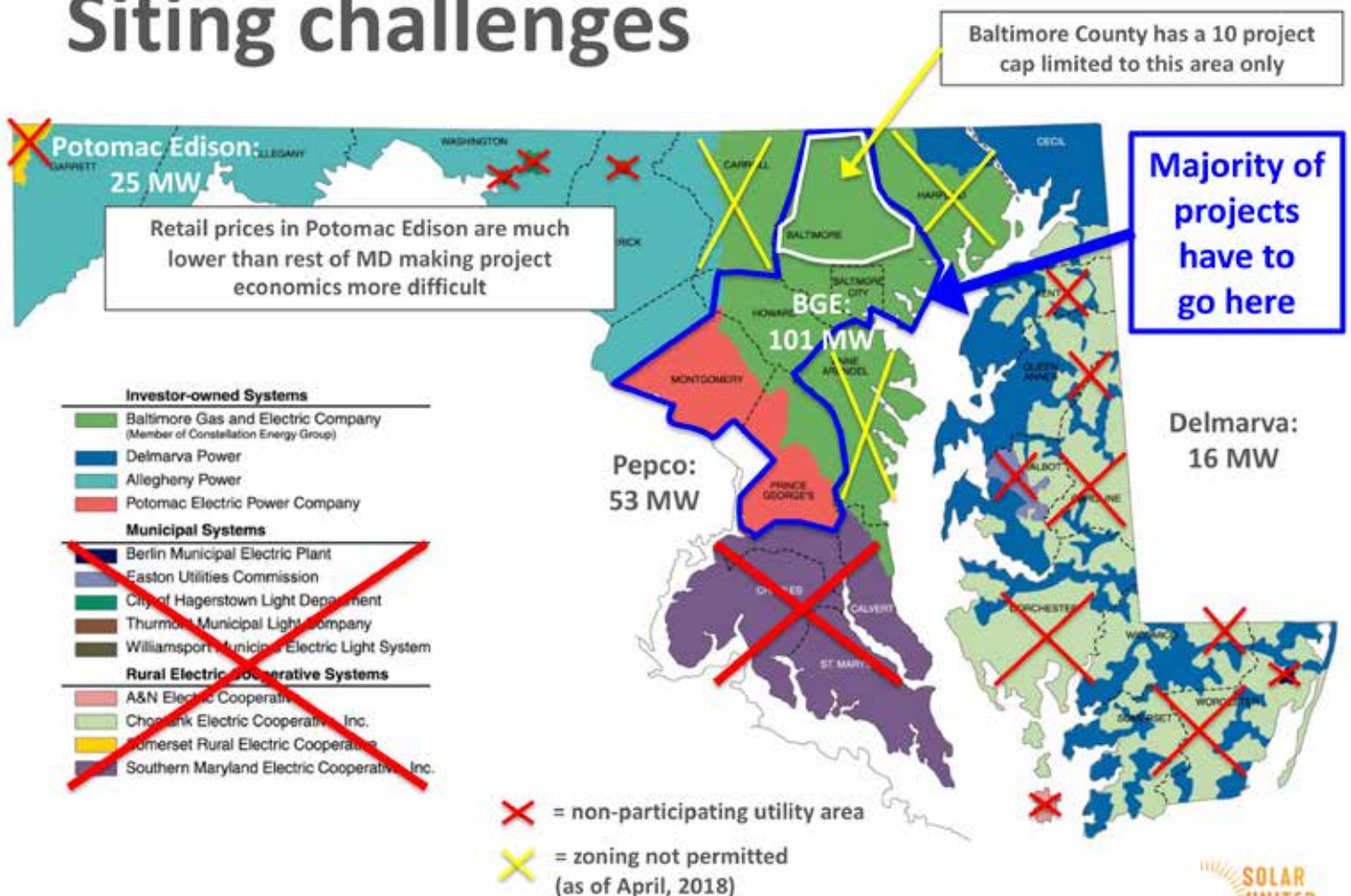
September 2018 the County Council proposed new rules<sup>xxviii</sup> for ground-based solar and passed them a month later. These rules restrict ground-based solar at community scale to a special exception zoning process. The new rules also state that no such facility shall be located within 10 miles of any other community or utility scale facility. This limits the number of projects possible in the county to no more than a handful and effectively closes Anne Arundel to community solar development.

Anne Arundel County is not the only jurisdiction to put limits on community solar projects. Baltimore county limits the number of projects in certain agricultural areas of the county and, while the legislation was withdrawn, it recently considered legislation to temporarily halt

projects already in progress during a proposed moratorium to review zoning rules. Harford and Carroll Counties only allow ground-based solar installations if they are an accessory to a building's energy usage. Both counties are in BG&E electricity territory, the one with the largest share of community solar megawatts in Maryland's Community Solar Pilot Program. These counties are in contrast with Howard county which decided proactively to permit ground-based solar in their agricultural reserve.

Because community solar projects and subscribers must be in the same utility area, the largest capacity requirements are in the highly populated central part of the state primarily served by Pepco and BG&E. Based on the current state of zoning regulations, the number

## Siting challenges



Map courtesy of MD OPC (notations added)



of locations where a 2 MW ground-based community solar array could be located appears to be quite limited.

Montgomery County is a bright spot. Its County Council approved a zoning text amendment that permitted ground-based solar in several new areas of the county in May 2018.

Councilmembers Tom Hucker and George Leventhal introduced the legislation<sup>xxix</sup> in part due to interest from constituents in creating a community solar array to be shared among county residents. Solar United Neighbors, Sierra Club, and other organizations supported this legislation as an important step to bringing more renewable energy access to county residents. While the legislation permits solar in certain rural zones like Rural Cluster it does not permit it in the Agricultural Reserve. County citizens expressed both support and opposition for including the Agricultural Reserve in the new rules. Opponents cited concerns over preserving the agricultural nature of the area and protecting prime farm land. Proponents for inclusion, including Solar United Neighbors, recommended setting a limit but allowing ground-based community solar to permit interested landholders and farmers to explore the economic benefits that hosting such arrays might bring in support of their agricultural activities. Ultimately, the Council chose not to include the Reserve area in the adopted changes.

It's beyond the scope of this paper to dive deeply into the issues and potential solutions around land use and solar, but it's important to note that all sides of the debate have viewpoints that need to be heard in seeking the right way forward. Community members with strong interests in protecting and promoting agricultural activities have meaningful concerns about the loss of productive farmland to any kind of development, including solar. They should have the opportunity to provide direct input into how and where solar development happens in their communities. In many cases these community members express strong support for solar energy and other renewables broadly and are open to finding solutions. Solar developers need clarity and certainty in how and where they can develop projects. Finding suitable locations for

solar installations is not just about finding a sunny patch of relatively flat land. Restrictions and limitations of the electricity grid also determine where projects will be viable and those restrictions can shift over time so some amount of flexibility is needed for developers to realistically find suitable land and willing landholders.

Municipal officials owe it to their residents and to these businesses interested in investing in their communities to provide clarity. But clarity is often not enough. State and or local incentives may also be needed to directly encourage development to take place in locations that match the needs of a community when that means excluding lower cost, "greenfield" agricultural type land. For example, developing industrial and brownfield land is an appealing prospect to many but developing such land for solar is expensive and unlikely to happen at scale absent other incentives. Municipalities can also play a direct role in helping developers find suitable land and interested landholders to develop solar arrays in areas that match county requirements.

At the state level, the legislature and the PSC need to provide clear guidance that reasonable local restrictions are acceptable and appropriate but cannot be used to broadly ban ground-based solar. Going one step further, the legislature could also directly support county attempts to guide solar development toward previously used lands. This might take the form of a tax incentive or some other financial support intended to encourage the market to look for sites where counties want them to go.

The land use conflict involving scaled ground-based solar, including community solar, is a real and significant part of the conversation on how renewables can expand in Maryland. Community solar has the potential to provide direct and equitable access to solar to anyone with an electricity bill, including the states low-to-moderate income residents. It is critical for Maryland's renewable energy future that the state find real and scalable solutions to this problem and maximize the benefits that distributed community solar can provide.



# Development

## *Project timeline extensions*

A number of projects have had to petition for requests to extend their project timelines from the maximum permitted by regulation (18 months) due to delays, primarily related to zoning issues. For example, as noted above, five projects in Anne Arundel County, where a moratorium was in place for months while zoning rules were revisited, requested and received an extension from the PSC. Other projects, due to similar delays have also petitioned the PSC for extensions.

Now that the program is under way it has become clear that changes are needed. Subscriber Organizations have often struggled to complete the necessary approvals in the time allotted. Solar United Neighbors recommends changing the minimum project timeline requirements to 18 months with the option to extend a project's timeline to 24 months. This will allow developers to work through local zoning processes and more frequently avoid the waiver request process needed to get a timeline extension from the PSC.

## *Personal property tax impacts*

In October 2017 the Maryland Office of the Attorney General provided guidance to the Real Property Division of the State Department of Assessment and Taxation (SDAT) that clarified the tax status of aggregate net metering arrays that are not physically attached and offsetting the electrical load of a specific structure. Aggregate Net Metering is a sister program of community solar that allows multiple electric meters of a single utility customer to receive kilowatt-hour credits from a solar array tied to one of those meters. The clarification specified that such systems are subject to personal property tax. This guidance could mean that ground-based community solar arrays will be subject to personal property tax as well.

With the assessment of personal property taxes on ground mount solar systems, additional

barriers and redundancy are inserted when attempting to reduce electricity costs and create jobs for communities in the lowest socioeconomic levels. Counties should have an opportunity to collect revenues from solar farms built within their jurisdictions, however the price sensitivity needs to be taken into consideration and understood that the personal property tax assessment will work directly against the cost savings offered to the low-to-moderate (LMI) income community. Solar projects not serving the LMI community may be able to absorb this personal property tax assessment but the impacts on LMI and non-profit-based projects may be more severe.

The tax assessment does not take the broader context into account. For example, the Maryland Energy Administration is incentivizing investment in LMI projects by offering grants. Personal property tax fees are reducing the impact of state funds like these grants used to support LMI based projects. Developers interested in these grants may come discover that the discounts attempting to be offered to the LMI community can no longer be realized.

Developers can obtain tax abatements on a case-by-case and a county-by-county basis under a statute that enables counties to enter into PILOT (Payment In Lieu Of Taxes) agreements. Doing so however, creates redundancy and additional labor on the part of developers and county officials. We recommend state and local officials work together to identify a sustainable cost model where counties can receive deserved revenues while also allowing state funds to work effectively in support of projects that include LMI-specific benefits.

## *Financing LMI projects*

Financing projects with a low-to-moderate income component remains a challenge for the program, particularly for smaller projects. Year One LMI projects have been primarily 2 MW in size and have been subject to the siting challenges described above. The developers of these projects have sold them (or are in the process of selling them) to national investors



accustomed to financing large-scale commercial and industrial solar projects. These investors are not accustomed to working with LMI subscribers and are concerned about the risk of non-payment.

They have generally addressed this concern in three ways:

- 1) Establishing credit limitations for LMI subscribers (e.g. only those with certain FICO scores may participate);
- 2) Requiring multi-year contracts of their subscribers; and/or
- 3) Writing off the financial risk.

None of these options offers a scalable solution. Requiring certain credit scores and multi-year contracts is likely to make LMI subscriber acquisition more difficult and more costly. This translates into less favorable project economics and smaller savings offered to subscribers. In addition, some developers have taken advantage of the Maryland Energy Administration's (MEA) LMI subscription incentive grant and some have not; those that have tend to be offering 25% savings to LMI customers, and those that have not are generally offering 10-15% savings to LMI customers – arguably not enough savings to compel LMI customers to subscribe. This discrepancy in LMI savings offered could also further complicate subscriber acquisition efforts.

Notably, the solar investors that have purchased

Year One 2 MW LMI projects have not opted to take advantage of the offerings of the Climate Access Fund (CAF), a non-profit Green Bank formed to use flexible capital to fill the credit gap not addressed in the regulation. CAF offers three products in a type of “one-stop shop” for LMI community solar, in exchange for no FICO limitations and a maximum of 3-month contracts: low-cost debt (raised through private social impact capital); coverage of all risk of LMI non-payment (through the MEA loan-loss reserve grant mentioned above); and low-cost partnerships with community-based organizations with pre-existing ties to potential income-qualified subscribers. Despite these offerings, investors have chosen to remain with their existing, capital providers and address the credit risk and LMI subscriber acquisition challenges in more familiar ways.

That said, local developer interest in smaller-scale, rooftop community solar is growing as Year Two of the pilot program begins. Because the economics of smaller-scale commercial solar are not as favorable as they are with 2 MW projects, national investors are less interested in these projects, and CAF's financing is in greater demand in this market. Given the challenges community solar has experienced with solar siting and given the LMI financing challenges associated with 2 MW projects, there is hope that with the help of CAF, the smaller-scale LMI market will grow in Years Two and Three of the pilot program, and a scalable financing model will be demonstrated.

# EDUCATION AND PUBLIC OUTREACH

Now that subscription offerings are actively in the market place and Subscriber Organizations are seeking customers the need for education and significant public outreach for the pilot program is immediate. To date, projects are offering real savings over standard electricity service and initial interest from long-waiting solar supporters has been good. However, the current level of interest represents just a small section of the population who were already aware of the program, waiting, and had already decided to participate. Broader consumer awareness has not yet been achieved and without a healthy, consistent, and long-term flow of customers to projects, the program will not succeed.

## Marketplace information

Each Subscriber Organization is responsible for advertising and finding their own customers. Some have created partnerships with customer acquisition organizations, non-profits, and community organizations. Others, particularly those involved in the retail electricity supply space, are marketing directly to consumers and leveraging their existing customer base. While each must provide standard contract disclosures per program regulations at the time of sale, the ways subscription offerings are marketed will vary. It remains unclear what the most successful value propositions will be for the Maryland consumer and what marketing channels to reach those consumers will be the most fruitful.

As part of our commitment to raising awareness on community solar in Maryland and doing so in a neutral, consumer-friendly manner, Solar United Neighbors launched a web platform in late 2018 for listing known subscription offerings, showing basic savings calculations and providing targeted program education.



## Maryland - PEPCO

Set your monthly estimated bill and check out available projects below. The savings calculator shows you an estimate of savings based on your average monthly bill. Actual savings will depend on the specific project to which you subscribe.



### SAVINGS CALCULATOR:

Monthly Electric Bill:

\$100



623 kWh/mo

## Who can participate

All Maryland Pepco customers including:

- Renters
- Homeowners
- Businesses
- Non-profits
- Municipalities

The program includes provisions to encourage project owners to offer subscriptions to low and moderate-income customers. These subscriptions may include reduced or no credit score requirements and possibly increased savings. Check each project for details.





A subscription agreement can be a long-term contract like a mortgage or car loan. It is important to carefully review the agreement before signing it. The state of Maryland regulates community solar projects, subscriber organizations, and their offerings. Contracts must disclose information such as **contract price, term length, additional charges, renewal, dispute resolution, insurance, and system maintenance**. Check the terms you are offered and ask questions! Make sure you understand what's in your agreement.

## KEY PROVISIONS

### Subscription Type

The subscription type governs how you pay a provider for subscribing to their community solar installation. The subscription type you choose can influence your expected savings and the savings certainty.

#### Contract length and exit provisions

For pay-as-you-go subscription types, providers may require a long-term agreement. This could be as long as 25 years, but can be as short as a few months. Providers offer several ways to exit the agreement early. Fees for terminating an agreement early will vary by provider and circumstance. For example, if you become disabled or move out a utility area you may not have to pay a fee.

<https://cs.solarunitedneighbors.org/states/MD/programs/pepco/learn/billing>

As a community solar subscriber you pay an up-front or monthly fee directly to your Subscriber Organization (the company or group that manages the community solar system's subscriptions). The Subscriber Organization is then responsible for communicating to the utility company how much electricity your share produces each month. The utility will then apply a credit to the your utility bill.

The credit is equal to the per-kilowatt price that the utility charges, multiplied by the number of kilowatt-hours your portion of the community solar system generates. Effectively, you only pay the utility for the amount of electricity you consume, minus the amount of electricity generated by your community solar share. **The total you pay for electricity is the combination of your Subscriber Organization bill and your utility bill.**

#### Community Solar Subscriber Bill

Electricity consumed	700 kWh
Community solar rate *	\$0.125/kWh
Total	\$87.50

#### Utility Electricity Bill

Connection charge	\$10.00
Charges for energy used	
Electricity consumed	700 kWh
Utility rate	\$0.140/kWh
Subtotal	\$98.00
Total	\$108.00
Community solar credit	
Electricity generated	700 kWh
Community solar credit rate	\$0.14/kWh

Each project shown on the platform displays the same key information including the cost, likelihood of savings, fees, and applicable terms.

## The Basics

<b>Utility service territory where project is located</b>	BG&E
<b>Who can participate?</b>	Anyone in the BG&E utility territory who meets the credit criteria and minimum electricity use requirement.
<b>Cost</b>	5% discount below BG&E's standard cost of electricity first year of subscription. 10% for low or moderate income customers.
<b>Is this cheaper than what I pay now?</b>	Yes, it is cheaper than BG&E's standard offer service. If you have chosen a third party electricity supplier your actual savings per kilowatt-hour may vary.
<b>How much can I buy?</b>	80% to 100% of your total annual electricity usage
<b>How often will I pay?</b>	Monthly
<b>How long is the contract?</b>	25 years
<b>Will my cost for this energy go up</b>	No

Summaries also includes extra details like applicable credit score requirements, applicability of incentives, and options for transferring subscriptions.

## The Details

<b>Are there minimum credit scores required to qualify?</b>	650 FICO score for Low or Moderate Income residents. 700 for everyone else.
---	---

<b>Can I claim the Federal Tax Credit?</b>	No
--	----

<b>Can I claim local tax credits?</b>	No
---------------------------------------	----

<b>Will I get any Solar Renewable Energy Credits (SRECs)?</b>	No
---	----

<b>Will I get any other incentives?</b>	No
---	----

<b>Can I stay subscribed and keep the benefits if I move?</b>	Yes, if you stay within the BG&E service territory
---	--

<b>Can I transfer it to someone else if I move?</b>	Yes
---	-----

As an inherently local form of renewable energy generation, community solar has the ability to keep more of a project’s economic value within a community. Because of that potential we also highlight any known community-facing benefits for each project beyond the standard expectation of energy savings for participants.

### Community impacts

<b>Did the community play a role in developing the project?</b>	The local landholder hosting the project had input
<b>Is there community ownership or control?</b>	No
<b>Does it provide local job opportunities?</b>	Unclear
<b>Are there provisions for low-income participants?</b>	Yes, there's a carve-out for 30% of the project's output to go to Low or Moderate Income residents with reduced FICO score requirements and increased savings available.
<b>Are there additional community benefits?</b>	Pollinator friendly ground cover may be used





In addition to online tools like our subscription platform, we expect that local community outreach will play a key role in raising awareness of the program all across the state. Our long-running rooftop solar co-op programs have shown that locally-delivered, consumer-friendly public information sessions can successfully create awareness, interest, and excitement to participate in, and benefit from the local solar economy. We and other non-profit organizations in the state have already begun doing public education of this sort, and we expect interest in this form of outreach will increase over time as individuals, community organizations, and jurisdictions seek to understand and engage with the community solar program.

As projects come online and Subscriber Organizations sign up subscribers, one key component to consumer education will be understanding how the credits for community solar subscriptions are applied to a customer's utility electricity bill. Initial indications are that this will require explanation and refinement over time to improve transparency.

Subscriber Organizations are responsible for reporting what percentage of kilowatt-hour output from a shared array should be applied to each subscriber. The utility in turn takes that information and, using monthly metering data from the shared array, divides up the available kilowatt-hours produced and applies credits to each participating subscriber's utility bill. According to regulations, the utility has the option to apply that credit as a dollar credit or a kilowatt-hour credit. The dollar credit method is being used by Pepco, BG&E, and Delmarva Power & Light. Potomac Edison has chosen to use either and retain the option to choose on a project-by-project basis which method will be applied.

Because the utility electricity billing period of a Subscriber may not match up with the metering period of the shared array, subscriptions credits purchased through a Subscriber Organization will not be applied to that customer's utility electricity bill in the same month but in a subsequent month. It will be the job of the Subscriber Organizations to set proper expectations with customers on when the value of the credits they have purchased from a shared array will be realized on their utility electricity bill.

How that credit is displayed on the utility electricity bill itself is critical to avoiding consumer confusion. For one project already operational, the bill credit appears as a dollar value on the customer's utility bill but does not show the total amount of kilowatt hours used in determining that dollar value.

This simple bill adjustment will likely cause confusion with customers. How many kilowatt-hours does the credit represent? Over what time period was that energy produced? What calculations were used to produce the dollar credit? We expect that additional information will be required as the pilot progresses and utility billing systems adjust to accommodate the program.

**Electric Supplier Charges**

CONSTELLATION NEW ENERGY, INC

Billing Period: Mar 30, 2018 - Apr 30, 2018

Fixed Price Transa 207 KH x 0.0899034 18.61

**Total Electric Supplier \$18.61**

All inquiries on above supplier billing should be directed to CONSTELLATION NEW ENERGY, INC at 855.465.1244

Other charges and credits

Community Solar Adjustment -29.00

**TOTAL -\$29.00**

# FUTURE PROSPECTS

## *for Community Solar in Maryland*

The future of community solar in Maryland remains uncertain. After years of regulatory work and development efforts we are still at the beginning. While the program has demonstrated progress with a number Year One projects seeking customers and Year Two capacity allocation under way, until projects become operational and produce real savings for customers and until public awareness of the program increases, the prospects for the program remain uncertain.

Because of the length of time it took to get the program off the ground and for initial projects to enter the marketplace, it now appears unrealistic to analyze the success of the program and do a proper pilot study in 2019 as originally planned. Rather than rush a study with partial results Solar United Neighbors recommends that the Legislature extend the pilot program's length and associated capacity allocation (MWs), as well as the date of the pilot study after which time the Legislature can more fully consider the program's successes, challenges, and the changes that may be required to enable community solar to empower all Marylanders to benefit from solar energy.

---

# GLOSSARY

**Community solar** – a way for individuals, businesses, non-profits, and other entities to participate in and receive benefit from a shared solar array located somewhere in their area; Benefits are delivered in the form of kilowatt-hour (or dollar equivalent) credits on their utility bills.

**FICO score** – the common scoring system used by national credit agencies like Equifax, Experian, and TransUnion to estimate the credit worthiness of an individual consumer

**Interconnection queue** – a standard application process administered by utilities to review and approve requests to connect an electric generation asset (like a solar array) to the utility's infrastructure

**Kilowatt-hour (kWh)** – a measurement of energy and the unit for the consumption and production of electricity; Solar arrays produce kilowatt-hours to either offset electricity consumption on-site or to send back to the utility grid to provide electricity for other customers.

**Megawatt (MW)** – a measurement of power and common sizing unit for large scale electricity generation assets.

**Solar Renewable Energy Credit (SREC)** – the “green” value of electricity generation from a solar array. SRECs are typically part of a Renewable Portfolio Standard that is established by a state to require a certain amount of electricity used in the state to come from various renewable sources. One SREC is created for each 1,000 kWh (or 1 MWh) of energy production. An SREC is separate from the direct utility bill value received from the actual kilowatt-hours generated by a solar array.

**Subscriber** – a customer of a community solar array; Under Maryland regulations, this could be an individual, a business, and non-profit, or a municipality.

**Subscriber Organization** – the responsible entity that owns and is responsible for the operation of a community solar generating facility; In Maryland the Subscriber Organization is registered with the Public Service Commission.





---

## CONTRIBUTORS

Sincere thanks to the following for their contributions to this report:

- Corey Ramsden, Solar United Neighbors
- Lauren Barchi, Solar United Neighbors
- Anya Schoolman, Solar United Neighbors
- Marta Tomic, Vote Solar
- Dr. Al Bartlett
- Jason Jannati, Power 52 Energy Solutions
- Lynn Heller, Climate Access Fund
- Laurel Passera, Coalition for Community Solar Access (CCSA)
- Todd Chason, Gordon Feinblatt, LLC

---

# SOURCES\*

- i. <http://www.psc.state.md.us/electricity/community-solar-pilot-program>
- ii. <http://www.dsd.state.md.us/comar/comarhtml/20/20.62.05.08.htm>
- iii. <http://www.dsd.state.md.us/comar/comarhtml/20/20.62.05.07.htm>
- iv. [https://www.psc.state.md.us/wp-content/uploads/Community-Solar-Contract-Disclosure-Form-and-Instructions\\_04162018.pdf](https://www.psc.state.md.us/wp-content/uploads/Community-Solar-Contract-Disclosure-Form-and-Instructions_04162018.pdf)
- v. <https://www.bge.com/SmartEnergy/InnovationTechnology/Pages/BGECCommunitySolarPilotProgram.aspx>
- vi. <https://www.delmarva.com/MyAccount/MyService/Pages/MD/CommunitySolar.aspx>
- vii. <https://www.pepco.com/MyAccount/MyService/Pages/MD/CommunitySolar.aspx>
- viii. <https://www.firstenergycorp.com/feconnect/potomacedison/community-solar-md.html>
- ix. [https://www.montgomerycountymd.gov/COUNCIL/Resources/Files/zta/2018/20180515\\_18-43.pdf](https://www.montgomerycountymd.gov/COUNCIL/Resources/Files/zta/2018/20180515_18-43.pdf)
- x. <https://www.nrel.gov/docs/fy18osti/70663.pdf>
- xi. <https://willbumpers13.wixsite.com/website/about>
- xii. <https://willbumpers13.wixsite.com/website/environment-and-agriculture>
- xiii. <https://energy.maryland.gov/residential/Pages/Community-Solar.aspx>
- xiv. <https://www.greentechmedia.com/articles/read/inside-the-chaos-enveloping-illinois-distributed-solar-market>
- xv. <http://www.dsd.state.md.us/comar/comarhtml/20/20.62.01.02.htm>
- xvi. <http://www.dsd.state.md.us/comar/comarhtml/20/20.62.01.02.htm>
- xvii. <https://massceciverify.com/>
- xviii. <https://www.psc.state.md.us/search-results/?keyword=222503&x.x=30&x.y=10&search=maillog>
- xix. <https://www.psc.state.md.us/search-results/?keyword=222503&x.x=0&x.y=0&search=maillog>
- xx. <http://www.dsd.state.md.us/comar/comarhtml/20/20.62.02.03.htm>
- xxi. <https://www.ferc.gov/CalendarFiles/20161115170851-EL16-107-000.pdf>
- xxii. <https://www.psc.state.md.us/search-results/?keyword=206079&x.x=18&x.y=17&search=maillog>
- xxiii. [https://elibrary.ferc.gov/idmws/file\\_list.asp?document\\_id=14611902](https://elibrary.ferc.gov/idmws/file_list.asp?document_id=14611902)
- xxiv. [https://elibrary.ferc.gov/idmws/file\\_list.asp?document\\_id=14617559](https://elibrary.ferc.gov/idmws/file_list.asp?document_id=14617559)
- xxv. [https://elibrary.ferc.gov/idmws/file\\_list.asp?document\\_id=14635591](https://elibrary.ferc.gov/idmws/file_list.asp?document_id=14635591)
- xxvi. <https://www.aacounty.org/news-and-events/news/anne-arundel-county-announces-eight-month-industrial-solar-operations-ban>
- xxvii. <https://www.psc.state.md.us/search-results/?keyword=219903&x.x=19&x.y=17&search=maillog>
- xxviii. <https://www.aacounty.org/departments/county-council/legislation/bills-and-resolutions/an-ordinance-concerning-zoning--conditional-uses--special-exception-uses--solar-energy-generating-facilities>
- xxix. [https://www.montgomerycountymd.gov/COUNCIL/Resources/Files/zta/2018/20180515\\_18-43.pdf](https://www.montgomerycountymd.gov/COUNCIL/Resources/Files/zta/2018/20180515_18-43.pdf)

\* Accessed January 17, 2019.





[SOLARUNITEDNEIGHBORS.ORG](http://SOLARUNITEDNEIGHBORS.ORG)