BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

ENTERGY MISSISSIPPI, INC.	IN RE:	NOTICE OF INTENT OF ENTERGY MISSISSIPPI, INC., TO IMPLEMENT A NEW RATE SCHEDULE AND RELATED AGREEMENTS
EC-123-0082-00		
2016-UN-32		

SUBMITTAL OF REPORT ON FEASIBILITY OF COMMUNITY SOLAR

COMES NOW Entergy Mississippi, Inc. ("Entergy Mississippi", "EMI," or the "Company") and hereby submits its Report on the Feasibility of Community Solar in the service territory of Entergy Mississippi ("Community Solar Report") in compliance with the Commission's December 3, 2015, Order in Docket 2011-AD-2 ("Order Adopting Net Metering Rule"), and states as follows:

1. In its Order Adopting Net Metering Rule, the MPSC ordered "all utilities subject to these Rules to file, by July 1, 2016, a report on the feasibility of community solar and other options that may broaden solar choice to a wider group of customers in the utilities' services territories. The report should include the feasibility and potential cost-effectiveness of community solar, including options on how such projects and concepts could be implemented."[1]

2. In compliance with the 2011-AD-2 Order, the Company submits the Community Solar Report attached hereto as Attachment A.

[1] EMI subsequently received an extension until July 15.

WHEREFORE, PREMISES CONSIDERED, Entergy Mississippi hereby requests that the Community Solar Report be received and accepted in compliance with the Order Adopting Net Metering Rule and further prays for any other and general relief as may be necessary, beneficial, or required.

This the 15th day of July, 2016.

ENTERGY MISSISSIPPI, INC.

BY: William H. Hammett

WILLIAM H. HAMMETT
REGULATORY AFFAIRS COORDINATOR

Jeremy C. Vanderloo, MSB No. 101678
Shelly Mott Bass, MSB No. 103857
Entergy Services, Inc.
P.O. Box 1640
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(601) 969-4838

ATTORNEYS FOR ENTERGY MISSISSIPPI, INC.

STATE OF MISSISSIPPI

COUNTY OF HINDS

Personally appeared before me, the undersigned authority in and for the jurisdiction aforesaid, WILLIAM H. HAMMETT, who after being by me first duly sworn stated that he is Regulatory Affairs Coordinator at Entergy Mississippi, Inc., and that as such is fully authorized to make this affidavit; and further states that the matters and things contained in the foregoing are true, accurate, and correct as therein set forth to the best of his knowledge, information, and belief.

William H. Hammett

WILLIAM H. HAMMETT
REGULATORY AFFAIRS COORDINATOR
ENTERGY MISSISSIPPI, INC.

SWORN TO AND SUBSCRIBED before me, this the 15th day of July, 2016.

Angela D. Reeder

NOTARY PUBLIC

My Commission Expires:

RP 6.111 CERTIFICATE OF SERVICE

I, SHELLY MOTT BASS, Attorney for Entergy Mississippi, Inc., hereby certify that on this day I have hand-delivered the original and twelve (12) copies of the above and foregoing document to:

Katherine Collier
Executive Secretary
Mississippi Public Service Commission
2nd Floor
Woolfolk State Office Building
Jackson, Mississippi 39201

and that on this day I have delivered via electronic mail a copy of the above and foregoing document to:

Virden C. Jones
Executive Director
Mississippi Public Utilities Staff
3rd Floor
Woolfolk State Office Building
Jackson, Mississippi 39201

Chad Reynolds
General Counsel
Mississippi Public Utilities Staff
3rd Floor
Woolfolk State Office Building
Jackson, Mississippi 39201

Shawn Shurden
General Counsel
Mississippi Public Service Commission
2nd Floor
Woolfolk State Office Building
Jackson, Mississippi 39201

and that, in the filing of the foregoing, I have complied with Rule 6 of the Commission's Public Utilities Rules of Practice and Procedure.

This 15th day of July, 2016.

SHELLY MOTT BASS
Entergy Services, Inc.
Post Office Box 1640
Jackson, MS 39205-1640

Attachment A

Entergy Mississippi, Inc. Community Solar Report

I. Executive Summary

Entergy Mississippi, Inc. ("EMI") believes that it potentially could develop a community solar project as a feasible option for EMI's customers, including specifically low-income customers. In order for a community solar project to be economically feasible and provide benefits to participants without unduly increasing costs to non-participants, the community solar generating facility (i.e., solar array) needs to benefit from economies of scale associated with larger solar projects. Therefore, it is unlikely for the associated solar project supporting a community solar program to be located in close proximity to neighborhoods or commercial load (e.g., a solar array embedded within or adjacent to the community solar participants). Deployment of community solar in this way may not comport with perceived expectations of size and location (i.e., more centralized generation vs. distributed-scale generation embedded within a community). However, EMI believes this approach is necessary to make community solar viable in Mississippi given the current economics of solar generation and the policy goals to minimize cross-subsidization of community solar participants by non-participants. There are multiple ways to design of a community solar program that are outlined within this report. Within Section V, EMI provides recommendations as to how a community solar program could be structured within Mississippi and plans to discuss these recommendations and other policy considerations with the Commission.

II. Community Solar Overview

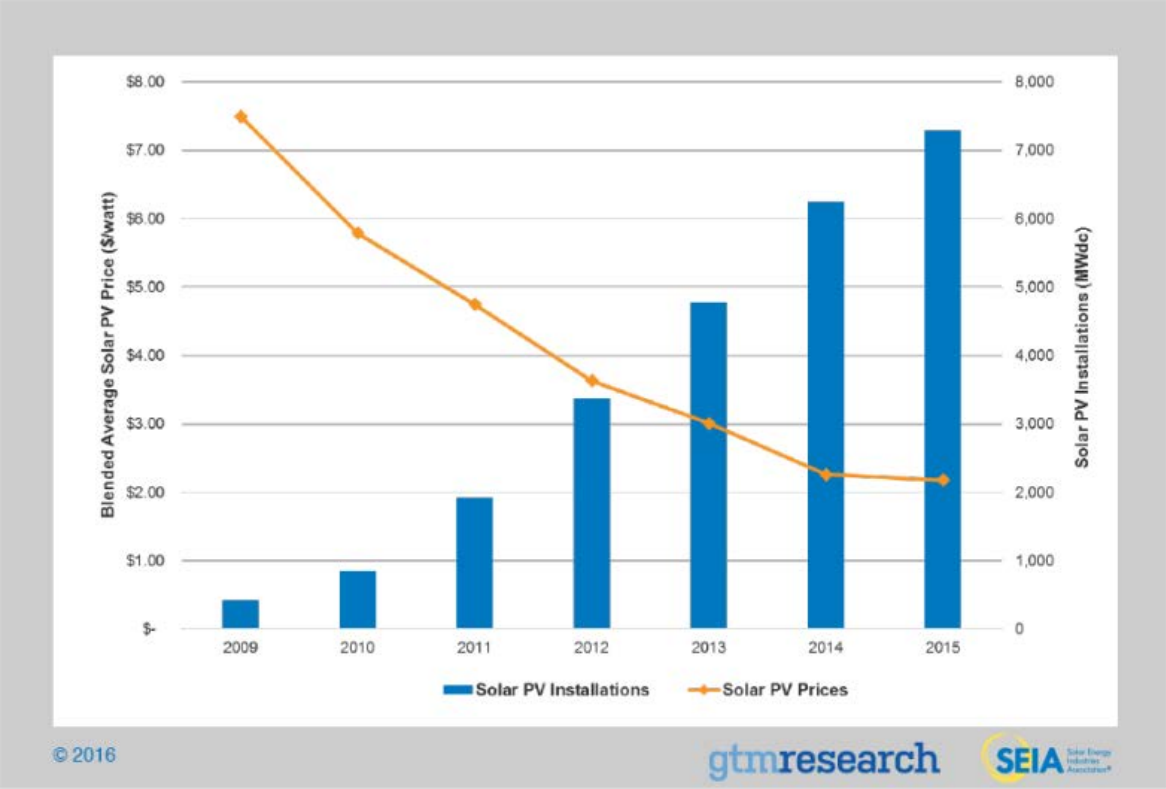
For the purpose of this report, the Smart Electric Power Alliance's ("SEPA") definition of community solar is a useful reference point:

> *SEPA considers…community solar a business model with three defining elements: (1) a group of participants voluntarily pay for a share of a solar array that is located external to their properties; (2) the electricity produced flows into the electric grid; and (3) the subscribers receive benefits for the electricity produced by their share of the solar array.*[1]

EMI is using these three elements to define community solar discussed in the report.

[1] SEPA, *Community Solar: Program Design Models*, November 2015, p. 2; SEPA changed the name of its organization in 2016. At the time this report was published (and since its inception in 1992), SEPA was the Solar Electric Power Association. In April 2016, while maintaining the acronym SEPA, the organization changed its name to the Smart Electric Power Alliance in recognition of the growing connections between solar and other technologies (e.g., demand response, smart grid, energy storage, etc.); last accessed July 14, 2016, report available at: https://sepa.force.com/CPBase__item?id=a12o000000Id07sAAB

Interest and deployment of solar photovoltaic ("PV") technology has increased rapidly in the United States, particularly with the steep decline in installation costs over the last 5-10 years, both at a smaller distributed generation ("DG") -scale and larger utility-scale. As noted in the GTM/SEIA chart below, the blended average cost to install solar PV has fallen significantly since 2009 concurrent with significant growth of installed capacity.[2]



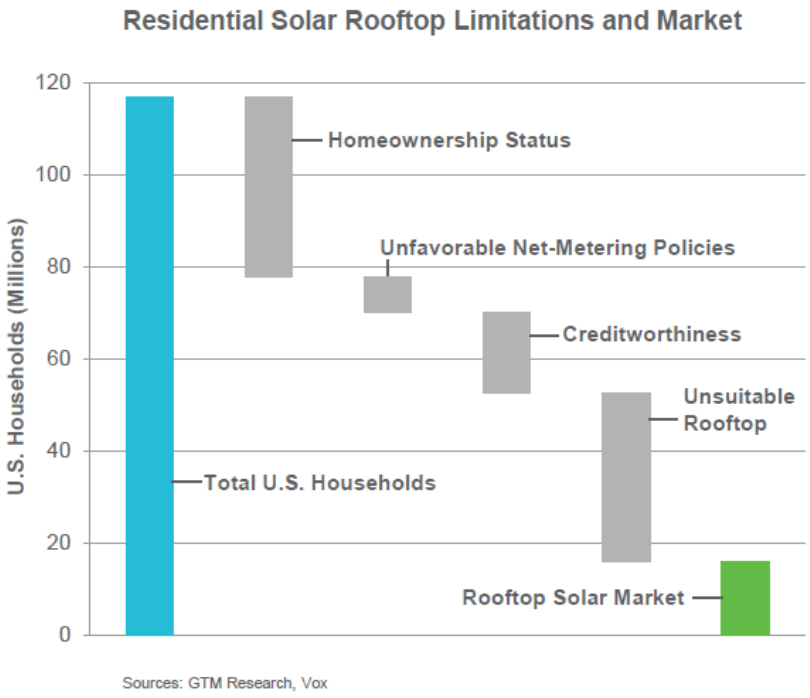
The vast majority of customer-owned rooftops across the U.S. are not suitable for direct installation of a solar PV system due to factors like shading, roof age and condition, rental property where tenants are directly billed for usage, weak customer credit limiting financing and leasing options, and limitations like homeowner's association restrictions. In fact, the Commission noted this issue in the Order:

> *During the October 6, 2015 public hearing, a representative of the Mississippi Chapter of the American Solar Energy Society testified that only forty percent (40%) of Mississippi homes are currently suitable for rooftop solar. That leaves the majority of Mississippi ratepayers, many of whom are low income families, potentially shouldering*

[2] Solar Energy Industry Association ("SEIA") and Greentech Media ("GTM") Research; last accessed July 14, 2016, chart available at: http://www.seia.org/research-resources/solar-industry-data

increased costs. As EMI pointed out in its Supplemental Post-Hearing Comments, by way of example, Congressional District 2, in which most of EMI's customers are located, has the highest poverty rate in Mississippi at 28.2% (nearly double the national poverty rate). The percentage of renter-occupied housing in that district, moreover, is 37.2% (also above the national average), and rental housing is more likely to be occupied by customers who struggle to pay their utility bill and/or fall below the federal poverty level.[3]

Many residential customers across the U.S. that might otherwise be interested in installing a solar PV system on their property are unable to do so as a result of one or more of these limitations. The chart below depicts these limitations.[4]



Interest in community solar programs in the U.S. as an alternative to rooftop solar continues to rise due to: (1) customer demand for more renewable energy options (solar in particular); (2) efforts by utilities to gain more experience with solar and to take advantage of optimizing the location and benefits of solar projects within their service territory; and (3) state policies that foster interest and adoption of community solar concepts.

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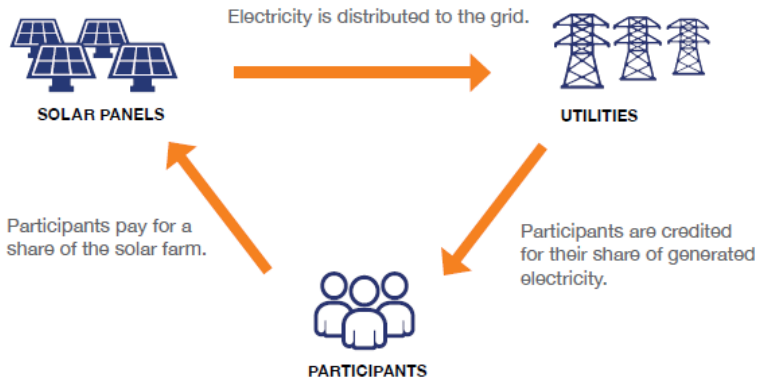
[3] MPSC Order Adopting Net Metering Rule (Docket 2011-AD-2), December 3, 2015, footnote 22 on page 16

[4] GTM/Vox analysis cited within the following Scott Madden report: *Community Solar, Overview of an Emerging Growth Market*, August 2015, p. 1; last accessed July 14, 2016, report available at: http://www.scottmadden.com/insight/community-solar-overview-of-an-emerging-growth-market/

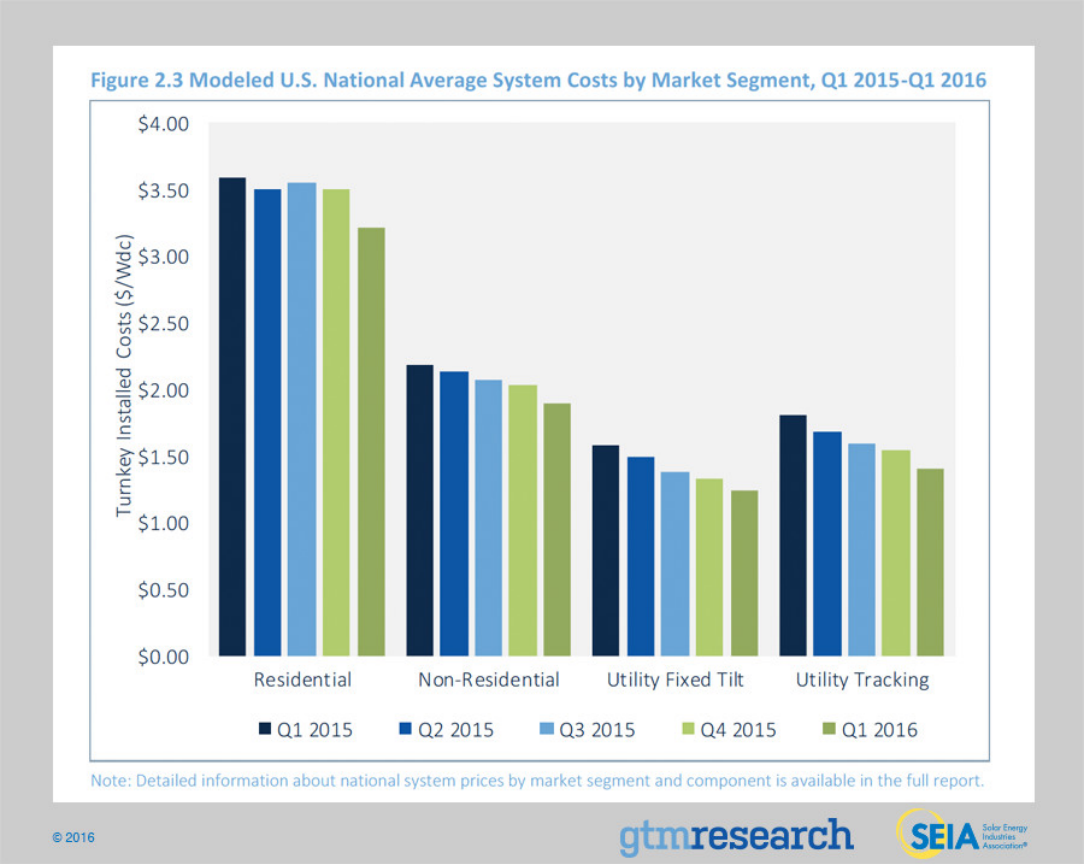
Utility-led community solar programs in Mississippi can provide eligible customers with more opportunity and access to the potential benefits of solar PV. Participants in an EMI community solar program generally could receive several benefits. First, they could obtain economic benefits from solar without actually installing and maintaining solar PV equipment on their property. Second, they could receive additional benefits through sharing in the economies of scale associated with larger, utility-scale solar PV projects. Third, community solar provides a more fungible product to access solar that a participant can continue to benefit from in the event of a move within the utility's service territory. Finally, community solar programs could allow higher recognition of benefits of solar for churches, schools, governmental agencies, and other non-profit entities that may not have the capital to invest and are unable to leverage federal tax benefits associated with solar technology. Sponsoring utilities would also see benefits from community solar programs. For example, these programs provide a way to offer customers an alternative, value-added product, which should be seen favorably by customers and could increase customer satisfaction.

With respect to design, community solar programs generally allow participating customers to subscribe to a certain amount of energy (kWh) or the energy associated with a specific amount of capacity (kW) of a solar project. The associated solar project can either be owned directly by a sponsoring utility or a utility can purchase the energy via a power purchase agreement ("PPA") where the solar project is owned and operated by a 3rd-party. Participants (or sometimes referred to as "subscribers") in the program either make an upfront payment, a series of installment payments, or on-going payments while in the program in order to participate and receive their commensurate share of the community solar project's energy output. In exchange for these payments, subscribers generally receive monetary on-bill credits associated with the value of their pro-rata share of the community solar project. This general model is outlined in the following graphic from a SEPA report:[5]



[5] SEPA, *Community Solar: Program Design Models*, November 2015, p. 3

Community solar programs are able to realize the benefits of deploying a larger, utility-scale solar PV system instead of a smaller residential-sized solar system (typically < 10 kW). These benefits include economies of scale (i.e., lower cost per kilowatt of installed solar PV capacity), improved design and configurations to allow higher solar output and efficiency, and more optimal siting. Lower upfront costs for utility-scale projects are well-documented. For example, GTM and SEIA jointly provide quarterly reports on the U.S. Solar Market that include average pricing for various solar configurations (residential, commercial, utility-scale fixed tilt and utility-scale tracking). The data provided within the most recent such GTM/SEIA report indicates utility-scale pricing is significantly lower than average residential-scale system pricing (see chart below).[6]



In addition to lower system costs, utility-scale projects benefit from other design configurations that can further improve their relative economics and, thus, the overall value to

[6] GTM/SEIA, *U.S. Solar Market Insight - Q2 2016 Report*, p. 13-14; residential rooftop system prices in the quarter are shown to average $3.21/Wdc and utility fixed-tilt and tracking projects in Q1 2016 saw an average pricing of $1.24/Wdc and $1.41/Wdc, respectively; last accessed July 14, 2016, report available at: http://www.seia.org/research-resources/solar-market-insight-report-2016-q2

customers and the power grid. For example, larger, utility-scale projects are typically not as limited by available space. A larger footprint allows these projects to maximize resulting energy production relative to rated inverter capability, and (where appropriate) to cost-effectively deploy single- or double-axis tracking technology.

Several recent studies have assessed the overall economies of scale capturing upfront costs, increased output, and other factors. A 2015 study by the Brattle Group examined the comparative economics of generating power from equal amounts of utility- and residential-scale solar PV resources within Xcel Energy's Colorado service area.[7] The study found that:

> "*…customer generation costs per solar MWh are estimated to be more than twice as high for residential-scale systems, than the equivalent amount of utility-scale PVs. [More specifically, the analysis concluded] projected 2019 utility-scale PV power costs in Colorado range from $66/MWh to $117/MWh across* [the] *scenarios, while residential-scale PV power costs range from $123/MWh to $193/MWh for a typical residential-scale system owned by the customer. For leased residential-scale systems, the costs are between $140/MWh and $237/MWh.*"[8]

Brattle's analysis focused on solar project costs in the State of Colorado, so cost projections may not be representative of solar PV in Mississippi. However, the relative difference in installed costs, operating performance, and economies of scale between an equivalent amount of residential-scale solar PV systems and utility-scale solar PV would be expected in other areas of the U.S. In fact, a recent IHS Energy report considered this likelihood. IHS Energy's projections for 2020 suggests that utility-scale solar PV projects can realize roughly 50% lower energy costs as a result of economies of scale and improved efficiencies, including for solar PV systems located within the Southeastern U.S.[9]

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[7] The Brattle Group, *Comparative Generation Costs of Utility-Scale and Residential-Scale PV in Xcel Energy Colorado's Service Area*, July 2015; in the context of this report, community solar projects have the economic structure at the facility level of "utility-scale" projects assessed by Brattle Group study; last accessed July 14, 2016, report available at: http://brattle.com/system/publications/pdfs/000/005/188/original/Comparative_Generation_Costs_of_Utility-Scale_and_Residential-Scale_PV_in_Xcel_Energy_Colorado%27s_Service_Area.pdf?1436797265

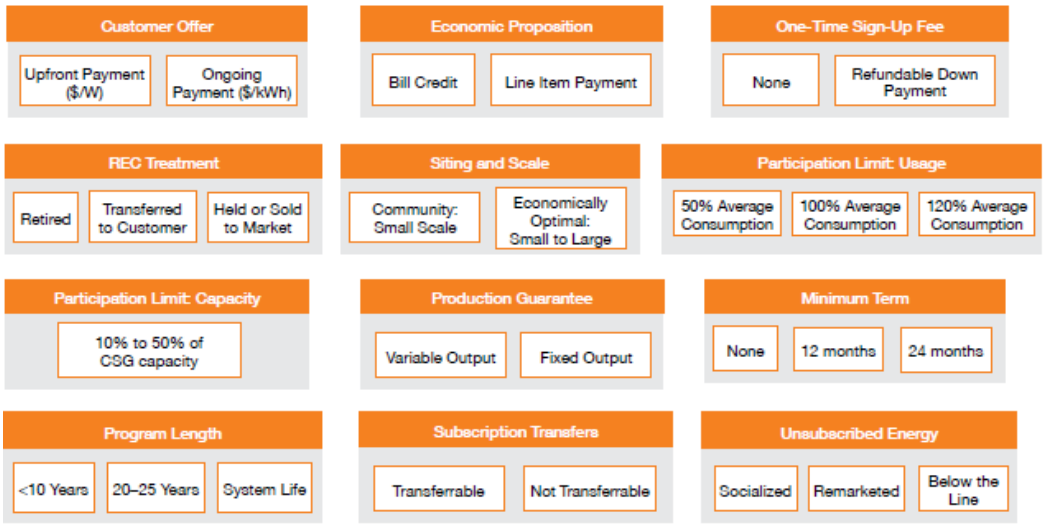
[8] *Ibid*, p. 44

[9] IHS Energy, *Wind and Solar Power Costs, in the Era of Tax Credits and Beyond*, May 24, 2016, p. 15

III. Community Solar Program Design Options

A. Attributes of Program Design

While the type of community solar program contemplated by EMI and discussed in this report must contain three main elements, (see above definition), there also are differences in program design that must be considered. A 2015 SEPA report highlights the key decisions a sponsor of a community solar program must make when designing its program:[10]



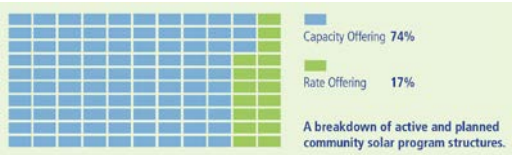
Four of the design choices noted above relate to the costs paid by participants and how benefits are provided to those participants in a community solar program. The *Customer Offer* choice relates to how a participant pays to subscribe to a program, essentially funding that customer's share of the solar facility. Payment can occur via an upfront payment, an on-going payment (which can be expressed in $/month, $/kW-month or $/kWh depending on program design), or a third option not shown above: an upfront payment split into several installments over the first few years of participation. These payments will vary by program and subscription size, but upfront payments required in some programs can be fairly large. The *Economic Proposition* choice (otherwise referred to as the method of crediting program participants with associated benefits) relates to how customers receive value for the energy produced by their share of the solar facility. The *One-time Sign-up Fee* choice captures whether certain administrative and related costs are collected up-front, which serves to guarantee the customer's ability to participate in the program or to provide some incentive for the participant to remain in the program for a minimum term. The final choice relates to how a participant's share of

[10] SEPA, *Community Solar: Program Design Models*, November 2015, p. 11

Renewable Energy Credits ("RECs") is treated.[11] Depending on program design, RECs can be: (1) retired by the program administrator on behalf of customers, (2) transferred to participating customers, or (3) sold to external parties with the resulting value used, for example, to offset some of the costs of the program.

The next few design choices relate to how the program will target potential subscribers. First, the *Siting and Scale* of a project may be a factor in a customer's decision to subscribe and will ultimately affect the economics and benefits to be achieved by the project. For example, some subscribers may be more inclined to participate in a solar PV project that is located within their community in a visible location, which could limit the size of the project and its potential to produce benefits comparable to its costs. Another key factor is the *Participation Limits*, if any, that would serve to cap the level of subscription for different classes of customers and/or any specific customer, thereby ensuring an opportunity for a broader number of customers to participate. These limits typically fall into two categories: usage limits and capacity limits. Usage limits are determined on a per customer basis, and cap a subscription level at some proportion of the customer's expected annual energy usage (*e.g.*, a customer may not subscribe to more than 100% of their historic annual energy usage). Capacity limits typically apply to customer classes to ensure that different classes of customers have the ability to participate in a community solar program (*e.g.*, commercial class may be limited to 40% of the available capacity to ensure that residential customers can participate). Capacity limits also prevent a scenario where a few large commercial or industrial customers secure the entire output of a community solar project, preventing other, smaller customers from enrolling.

The last few choices relate to the inherent flexibility of a program. First, the *Production Guarantee* sets how a participating customer's subscription is determined. Some community solar programs set subscriptions based upon a set amount of kWh produced by the solar project each month, *e.g.*, each subscription equals 250 kWh of solar energy each month. By contrast, most programs set subscriptions based upon a share of the capacity of an overall solar system as shown by the following graphic provided within a 2014 SEPA report:[12]



[11] A renewable energy credit or "REC" is a legal instrument that conveys to its owner the right to claim the associated environmental attributes of a generating resource; one REC is generated for each MWh of renewable power.

[12] SEPA, *Expanding Solar Access Through Utility-Led Community Solar*, September 2014, p. 7; last accessed July 14, 2016, report available at: http://www.solarelectricpower.org/media/214996/community-solar-report-ver5.pdf

In a capacity-based program, the output tied to the subscription will vary by month based upon actual energy output of the associated solar project, and the participating customer will receive value based upon their share of the total monthly energy output from the project. In other words, the customer's share of energy produced each month is tied to the capacity of their subscription as a proportion of the total system capacity. The *Minimum Term* sets the minimum amount of time a subscriber must maintain their enrollment. While there may be some community solar programs that do not have a minimum term, most programs using an ongoing payment structure require a commitment of at least 12 months. *Program Length* can range from less than ten years, 20-25 years or the entire expected life of the solar system. In general, the program length reflects how long a participating customer should expect to receive benefits from their share of the solar project. *Subscription Transfers* (which can also account for subscription portability) refers to whether and how an enrolled customer can pass their subscription to another party or, in the case of portability, continue their subscription in the event of a move within the same utility's service territory. Finally, *Unsubscribed Energy* relates to the accounting treatment of any energy produced by a community solar project that is not subscribed in a particular billing cycle. Most often, given solar PV's zero marginal cost, unsubscribed energy would simply offset energy that the utility would otherwise have purchased or generated itself to serve customer load.

B. Illustrative Programs Previously Deployed in Other States

Below are descriptions of three different utility community solar programs, which are intended to illustrate different design elements. The three utility programs highlighted below are: Consumers Energy (MI), Salt River Project (AZ), and Gulf Power (FL). Several additional utility community solar programs are outlined in a Navigant report prepared in conjunction with the Community Solar Value Project, one of fifteen projects funded in 2015 by the U.S. Department of Energy's SunShot Initiative.[13]

1. Consumers Energy

In 2015, Consumers Energy ("Consumers"), an investor-owned utility with operations in Michigan, obtained approval from the Michigan Public Service Commission ("PSC") to implement a 3-year community solar pilot program for up to 10 MW of solar PV facilities.[14]

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[13] *Community Solar Utility Programs*, Andrea Romano – CSVP Team Consultant, Navigant Consulting, November 2015; last accessed July 14, 2016, report available at: http://www.communitysolarvalueproject.com/uploads/2/7/0/3/27034867/20151201_css_case_studies.pdf

[14] Michigan Public Service Commission Case No. U-17752; Consumer Energy's initial application seeking approval of a community solar pilot was filed within the docket in January 2015; conditional approval was issued in May 2015, and the Michigan PSC granted updated, final approval in August 2015 of the updated tariff and bill credit calculation methodology applicable to participating customers.

Under the program, participants subscribe to the output associated with a set portion of capacity from new solar PV resources, and each subscription share, or "SolarBlock," is 0.5 kW of solar PV capacity. The cost to participate depends upon the number of SolarBlocks chosen by the participant, and the payment plan option selected. Customers currently select from four possible payment plan options: (1) a lump-sum, upfront payment of $1,289/SolarBlock, (2) $40 per month per SolarBlock for three years, (3) $20 per month per SolarBlock for seven years, or (4) $10 per month per SolarBlock for 25 years. If a customer selects the first option (a lump-sum, upfront amount), the payment is due from the participating customer upon the start of solar energy production from the associated solar project. The original application requested slightly different payment options: while it included the same upfront, three-year and seven-year payment options, it included a 5-year payment option instead of an ongoing monthly payment spread across the entire expected term of the program (25 years).[15] The filing requesting this change notes, "the addition of a 25-year payment term will reduce the customer's monthly subscription costs, which will further lower enrollment barriers."[16]

Consumers initially required a $100 pre-subscription, sign-up fee to reserve the ability to participate in the program. However, the sign-up fee was reduced to $50 in the first modification to the program in August 2015, and was completely eliminated in a later modification to the program, approved in June 2016, "because Consumers has determined that the pre-subscription payment was a deterrent to customer participation."[17]

Monthly subscription payments are set to recover the anticipated costs and associated revenue requirement of the project, including operations and maintenance ("O&M"), property taxes, depreciation, insurance, debt service, the return on investment associated with the cost of construction, required interconnection and electric system modifications costs, and program management costs. Monthly bill credits (or Solar Energy Credits) received by the subscribers over the 25-year expected life of the solar asset(s) will be provided after the first solar garden is constructed and operating, and are based upon subscription level and the corresponding actual amount of solar energy production per SolarBlock. The value of the monthly Solar Energy Credits is based on the expected value of energy and capacity in the Midcontinent Independent System Operator ("MISO") market (*i.e.*, Consumer's forecasted avoided cost). If the monthly

[15] Michigan Public Service Commission Case No. U-17752: *Order Approving Tariff*, August 14, 2015; last accessed July 14, 2016, available at: http://efile.mpsc.state.mi.us/efile/docs/17752/0044.pdf

[16] Michigan Public Service Commission Case No. U-17752: *Consumers Energy Company's Application to Amend its Customer Renewable Energy Tariff*, August 7, 2015, p. 3; last accessed July 14, 2016, available at: http://efile.mpsc.state.mi.us/efile/docs/17752/0040.pdf

[17] Michigan Public Service Commission Case No. U-17752: *Opinion and Order*, June 9, 2016, p. 1; last accessed July 14, 2016, available at: http://efile.mpsc.state.mi.us/efile/docs/17752/0052.pdf

Solar Energy Credits are greater than the enrolled customer's monthly bill before application of the credit, any remaining difference will be applied to the enrolled customer's bill for the next month.

Under the current program rules, the Solar Energy Credit rate provides subscribers with a bill credit based on their pro-rata share of energy produced by the solar PV resource multiplied by $0.075/kWh for the first five years after enrollment (as noted above, Consumers' forecasted avoided cost). For years 6-25, the Solar Energy Credit rate will change and will be based upon the value of energy (the MISO market-clearing price, specific to the solar project's locational marginal price ("LMP") on a day-ahead hourly basis) and capacity (updated annually).[18] The calculation of the Solar Energy Credit was a key issue debated in the regulatory proceeding. The original proposal called for the Solar Energy Credit to vary across the entire program based upon a value of solar approach that is now limited specifically to years 6-25. The calculation was later fixed for the first five program years, and the original calculation was retained for years 6 and beyond. The rationale for this change was to provide more "certainty related to [participants'] bill credits in the early years of the program and [to] further customer understanding of the economics of the program. The Company believes that this change will increase customer enrollment."[19]

Consumers has revised the treatment of RECs several times since the program was first proposed. At one point, participants were allowed to choose from two options regarding the treatment of RECs: Consumers could retire RECs annually on their behalf, or subscribers could elect for Consumers to sell RECs, in which case the subscriber would receive an additional credit on their bill for the REC value. In the most recently approved modification to the program, Consumers will no longer offer the second option to new participants. Instead, Consumers will retire all RECs annually on participants' behalf. The Michigan PSC recounts this change in its approving order:

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[18] In the applicable portion of *Consumers Energy Company Rate Book for Electric Service* (Section B, Part II, C10.5): the Solar Energy Credit in Years 6-25 includes two key components: (1) Long Term Program Capacity Value - the product of the Zonal Resource Credits for the facilities, as determined by Mid-Continent Independent System Operator (MISO), and 75% of the applicable MISO published Cost of New Entry for the resource zone in the lower peninsula of Michigan, adjusted annually, and (2) Long Term Program Energy Value - the kWh production of the Solar Program at each hourly interval, multiplied by the hourly day ahead Locational Marginal Price (LMP) at the CONS.CETR pricing node, adjusted for applicable line losses; last accessed July 14, 2016, available at: https://www.consumersenergy.com/uploadedFiles/CEWEB/SHARED/Rates_and_Rules/electric-rate-book.pdf#page=106

[19] Michigan Public Service Commission Case No. U-17752: *Consumers Energy Company's Application to Amend its Customer Renewable Energy Tariff*, August 7, 2015, p. 4

> *"Instead of providing an option whereby the company sells the RECs at the highest available market price on behalf of the participant, Consumers proposes to retire the RECs associated with the Solar Gardens Program. Consumers explains that as the program has developed, the price of RECs has decreased considerably, thus only 5% of customers are electing to have the company sell their RECs. In addition, Consumers contends that retiring RECs on behalf of customers in community solar programs is a best practice, and if a customer sells RECs from the program, the customer is not counted as participating in a renewable energy program. Consumers points to Federal Trade Commission Guides for the Use of Environmental Marketing Claims, which states that: "[i]f a marketer generates renewable electricity but sells renewable energy certificates for all of that electricity, it would be deceptive for the marketer to represent, directly or by implication, that it uses renewable energy." 16 CFR 260.15(d). Accordingly, Consumers contends that because it markets the Solar Gardens Program as one that provides solar energy to customers, the sale of RECs to a third party allows the third party to claim ownership of the environmental attributes of the solar energy, rather than the customer who enrolled in the program. This would be contrary to the intent of the program."*[20]

Consumers' first solar project associated with the program was a 3 MW solar PV project located at Grand Valley State University that started operations in April 2016. A second 1 MW solar PV project located at Western Michigan University is under construction and is expected to be operational by July 2016. Based on a quarterly report filed with the Michigan PSC in May 2016, 497 customers have enrolled in the program so far representing ~55% of the 4 MW (or ~8,000 SolarBlocks) of subscriptions available for the first two announced projects.[21] Consumers started pre-enrolling customers in the fourth quarter of 2015. With the first project operational in April, pre-enrolled customers would have started making subscription payments in June 2016.

There are additional rules for the program involving eligibility. In general, the program is available upon request to customers taking service under certain rate schedules and who have not received a shut-off notice in the previous nine months. Enrollment is also on a first-come, first-served basis. In the event the program is oversubscribed, participants' names will be maintained on a Consumers' list in the order in which they were received, and the participants will be enrolled on a first-come, first-served basis if the program is expanded. Finally, customers that relocate outside of Consumers' service territory may elect to receive an equitable pro-rated refund of any upfront subscription amount if they provide appropriate notice per program rules.

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[20] Michigan Public Service Commission Case No. U-17752: *Opinion and Order*, June 9, 2016, pages 1-2.

[21] Michigan Public Service Commission Case No. U-17752: *Consumers Energy Company's Solar Gardens Report*, May 9, 2016, p. 1; last accessed July 14, 2016, available at: http://efile.mpsc.state.mi.us/efile/docs/17752/0051.pdf

As noted above, the first two solar projects built through the program are just coming online, and, according to Consumers' latest quarterly report, enrolled customers will incur their first subscription payments in June 2016. With limited history on the program thus far, it is difficult to make definitive conclusions regarding the program. However, EMI notes several of the changes Consumers made to the design of the program since its original application was filed in January 2015 that could better inform how a community solar program might work in Mississippi. For example, EMI will continue to monitor the effect on Consumers' program of the addition of an on-going monthly payment option for the Subscription Payment that is spread across the entire program length, since this could be a more affordable choice that would allow the program to be feasible for more customers. In addition, EMI is interested in the effect on the program of two other recent program revisions with respect to sign-up fees and the treatment of RECs as to whether eliminating sign-up fees and retiring RECs on behalf of customers are a more effective choice for those attributes of program design that would improve enrollment rates.

2. Salt River Project

In 2011, Salt River Project ("SRP"), a quasi-state-owned utility in Arizona that currently serves about one million customers in the Greater Phoenix area launched a community solar program for its customers. Under the program, customers purchase the output associated with 1-kW increments of capacity from the associated project. With respect to their share of the project, participants were limited by the customer's total kWh consumption in the prior 12 billing periods or an estimation if historical usage data was not available. As a result, the amount of energy associated with the customers' subscription varies from one month to the next given the inherent intermittent nature of a solar project.

The SRP program is similar to the Consumers Energy program described above from the perspective of a participant being entitled to the energy (kWh) output from a set amount of capacity. However, the monetary contributions from participants and benefits enrolled customers receive are quite different under the SRP program. Instead of providing customers with a credit in exchange for upfront and/or on-going participation fees, participants in the SRP program were able to lock in a fixed rate for solar energy that lasts five to ten years.[22] SRP sources energy for the program via a long-term PPA with Iberdrola from the 20 MW Copper Crossing solar PV project located in Florence, AZ.

[22] Residential customers were limited a 5-year price lock through the program. Eligible business and school accounts were able to obtain price lock for up to 10 years through the program. The program was frozen with respect to new enrollment as of the April 2015 billing cycle; *SRP Standard Electric Price Plans*, Community Solar Pilot Riders, p. 139-148; last accessed July 14, 2016, available at: https://www.srpnet.com/prices/priceprocess/pdfx/TempJuly2016RatebookPUBLISHED.pdf

After rolling out the program, SRP found initial participation to be low and less than the company might have expected, especially among their commercial customers. SRP ultimately modified the program design in 2014 by reducing the fixed rates in an attempt to increase program participation.[23] At the time the lower rates were announced in December 2013, only about 12 MW (or 60% of the solar project) was subscribed, including about 100 schools (interested in the 10-year price lock offered to those customers) and 1,170 residential customers (limited to a 5-year price lock). Since the reduced rates were announced, the number of enrolled residential customers has increased to over 2,800. When combining residential, school, and commercial subscriptions, enrollments have increased to approximately 15 MW (or 75% of the solar project).[24] The community solar program was frozen to new subscribers as of the April 2015 billing month. SRP later explained the freeze was to allow "the program [to be] redesigned to be more in line with [its] new rates for solar rooftop customers."[25]

The experience and history of SRP's program provides several insights for future community solar programs, including ones in Mississippi. Overall, SRP has struggled with enrolling customers, and has still not fully subscribed the program. The program itself was fairly large (20 MW) for a new concept that had yet been tested in a pilot.

A second factor that appears to have affected the subscription levels is the economic value proposition to participating customers. As noted above, upon the initial deployment of the program, SRP offered participants a fixed energy rate ($/kWh) that they would pay for their share of the output of the project that was set at a premium to the customer's standard retail rates. However, once a customer was charged a community solar rate that provided a slight discount to SRP's average retail rates (at least in the case of residential customers), enrollment levels in their program significantly increased. The table below outlines the difference in the economic value proposition for customers based on the 2011 rate at the start of the program versus the revised rate starting in 2014.

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[23] Randy Randazzo (reporter for The Arizona Republic), *SRP Community Solar Prices Cut*, April 22, 2014; last accessed July 14, 2016, available at: http://www.azcentral.com/story/money/business/2014/04/22/srp-community-solar-prices-cut/8015135/;

[24] Randy Randazzo (reporter for The Arizona Republic), *SRP Breaks Ground on New Florence Solar Facility*, July 19, 2015; last accessed July 14, 2016, available at: http://www.azcentral.com/story/money/business/2015/07/19/new-srp-solar-plant-florence-arizona/30333829/

[25] *Ibid.*

	Residential customers	Business customers
Initial community solar rates offered in September 2011	$0.1125/kWh	$0.099/kWh
Average rate paid by SRP customer class in 2011[26]	$0.1072/kWh	$0.082/kWh
Premium or (discount) to average rates offered by program at the time of the 2011 launch	*$0.0053/kWh or 4.9% premium*	*$0.017/kWh or 20.7% premium*
Revised community solar rates offered when program was revised in May 2014	$0.099/kWh	$0.089/kWh
Average rate paid by SRP customer class in 2014[27]	$0.1132/kWh	$0.083/kWh
Premium or (discount) to average rates offered by program after 2014 modifications	*($0.0142/kWh) or 12.5% discount*	*$0.006/kWh or 7.2% premium*

It is important to note that SRP was one of the first utilities in the U.S. to offer a community solar program. The underlying solar project supporting their program (Copper Crossing) was built at a time when installed solar costs were much higher, as presumably was the PPA price between SRP and the project's owner, Iberdrola. New solar projects built to support community solar programs will benefit from the significant cost reductions in solar technology that have been realized in the last few years.

A final observation regarding the results of SRP's program is that it has resulted in a large amount of unsubscribed energy. The solar energy associated from the program comes from the long-term PPA between SRP and Iberdrola. The original rates set in 2011 would presumably have covered the cost of the PPA and administrative costs for the program. However, once the fixed rates were reduced in 2014 to foster greater participation, the revenue associated with the community solar program would presumably have no longer covered the full costs of the PPA and program administration costs. As a result, SRP is likely recovering any shortfall related to the reduced rates and unsubscribed energy from non-participants, which would only be a concern if the underlying solar resource did not provide overall net economic benefits.

3. Gulf Power

Gulf Power obtained approval for their Energy Share program in March 2016 from the Florida PSC.[28] The program is available to all customer classes, and has two components: (1) an

[26] EIA Form-826 data for 2011; business customers calculated based on an average of all non-residential customers; last accessed July 14, 2016, available at: https://www.eia.gov/electricity/data/eia826/xls/f8262011.xls

[27] EIA Form-826 data for 2014; business customers calculated based on an average of all non-residential customers; last accessed July 14, 2016, available at: https://www.eia.gov/electricity/data/eia826/xls/f8262014.xls

[28] See Florida PSC Docket 150248-EG; last accessed July 14, 2016, available at: http://www.psc.state.fl.us/ClerkOffice/DocketFiling?docket=150248

annual subscription fee, which reflects the projected annualized revenue requirement of the program; and (2) a monthly bill credit participants receive for their share of the energy produced by the solar PV facility. Each subscription is sized at ~750 kWh per year and Gulf Power expects to sell ~2,880 subscriptions for the first 1 MW solar PV project that they are planning to construct. Customers are able to sign up for more than one subscription, but per-customer subscriptions will be capped such that total subscriptions will not exceed 100 percent of the customer's average kWh consumption for the previous 12-month period. Customers that do not commit to at least a 5-year term pay $99 per year to participate, and are automatically re-enrolled for the following year unless they provide a 30-day notice to Gulf Power to cancel their subscription. Customers that agree to participate in the program for at least five years pay $89 per year.

All enrolled customers receive a monthly bill credit that corresponds to the amount of their subscription. Monthly bill credits will be determined each calendar year and will be based upon a solar-weighted average annual avoided energy credit. The credit rate is set using the projected hourly output of the program's solar facilities, Gulf Power's projected hourly avoided energy costs, and the number of subscriptions needed to fully subscribe the program. At the time the program was filed for approval, Gulf Power estimated the credit would amount to approximately $2.00-2.50 per month per subscription in the first year ($24-30/year or approximately 3.2 – 4.0 cents/kWh assuming 750 kWh of energy per share). Gulf Power's bill credit calculation only captures avoided costs associated with the wholesale value of energy. It does not include any credit for the avoided cost of capacity or other benefits that may exist. By contrast, other community solar programs, such as the Consumers Energy example outlined above, do include capacity value within the overall avoided cost calculation used to determine bill credit rates.

Gulf Power will own and operate the solar asset(s) used to supply the program, and the first facility is a 1 MW project to be built on existing property owned by Gulf Power near Milton, FL. Additional solar facilities may be constructed if the first facility is fully subscribed.

Gulf Power's program is designed such that all costs are borne solely by program participants. Gulf Power states in their application that the bill credits are not intended, or expected, to fully offset the annual subscription fees paid by participating customers. Prior to their enrollment, participants will be informed by Gulf Power that they will be paying a premium for the foreseeable future to participate. The projected annual revenue requirements used to set the annual subscription fees include all costs associated with engineering, procurement, construction, operation, and maintenance of the solar facilities, as well as program and marketing costs. In setting the annual subscription fees, Gulf Power notes that they plan to levelize the projected annual revenue requirements over a 35-year expected asset life assuming a zero net salvage value at the end of that period. The RECs associated with the program will be retired by Gulf Power on behalf of participants.

To determine interest, Gulf Power retained a market research firm to conduct nine customer focus groups and telephone surveys on solar in general and community solar programs more specifically. As reported by Gulf Power, the results indicated that a majority of residential and small business customers are supportive of solar initiatives and that at least some are willing to pay a premium for solar. According to Gulf Power's research, the average annual premium customers surveyed were willing to pay was $346 for residential customers and $414 for business customers.[29] Of customers expressing interest in community solar, Gulf Power's research indicated that 2% of residential customers and 1% of small business customers would "definitely" be willing to pay more for solar. Consistent with the expected 35-year asset life, the Staff of the Florida PSC recommended and the Florida PSC approved a 2.9% annual depreciation rate for solar PV projects constructed as part of this program. The initial 1 MW project is not expected to be complete until late 2016 or early 2017, and therefore subscriptions have not started yet.

Since the initial solar project that will be built to supply the program is still under construction and participation has not yet begun, it is too early to draw any conclusions about the effectiveness of this program design in Gulf Power's service territory.

IV. Community Solar Review Undertaken by EMI

In preparation for filing this report, EMI conducted research and analysis on community solar developments across the country. EMI's team, composed of representatives from regulatory and resource planning, among others, together with subject matter experts from Entergy Services, Inc., reviewed a variety of publications and regulatory filings related to community solar programs to better understand the range of program design structures deployed to-date. Documents reviewed by EMI's team include analysis from SEPA, GTM, SEIA, Rocky Mountain Institute ("RMI"), the U.S. Department of Energy ("DOE"), the National Renewable Energy Laboratory ("NREL"), ScottMadden, and IHS Energy. EMI's team also reviewed specific community solar programs offered or proposed by several utilities. EMI used information from reviewing these documents to develop the recommendations provided in Section V of this report.

EMI also sought the direct assistance of a party that could provide subject-matter expertise and advisory support in determining the feasibility of a potential community solar program for Mississippi. EMI is working with Clean Energy Collective ("CEC"), a leading developer of community solar solutions in the U.S. CEC helped develop the community solar

[29] *Petition for Approval of Gulf Power's Community Solar Pilot Program*, November 19, 2015, filed in Florida PSC Docket No. 150249-EG, p. 10; last accessed July 14, 2016, available at: http://www.psc.state.fl.us/library/filings/15/07372-15/07372-15.pdf

model in 2009-2010 and also established the earliest community-owned solar array in the country in 2010 near El Jebel, Colorado. Since that time, CEC has built or has under development more than 100 community solar projects with 27 utility partners across 12 states, serving thousands of customers, and representing more than 160 MW of community solar capacity. EMI has worked with CEC to further develop and refine the recommendations provided below.

V. EMI's Recommendations Regarding Community Solar Program Design–

As a result of EMI's research and input provided by CEC, EMI recommends the following program design parameters for a community solar program that could be developed and offered to EMI customers:

1. **Program Structure**: an on-going (or "pay-as-you-go") program would likely appeal to more of EMI's customers than a program that would require a large upfront payment from participants. According to SEPA, "73% [of active community solar programs] have an upfront payment customer offer, 17% have an ongoing payment, and 10% allow customer choice among the two options."[30] However, an upfront payment structure could require significant upfront investment from a participant. In the Consumers Energy program described in Section III.B.1., a residential customer that chooses the upfront payment option for a 5 kW subscription level would owe the utility $12,890 upon the later of enrollment or commercial operation of the associated solar project. Requiring such a significant upfront investment likely would preclude many EMI customers from participating in a community solar garden program. By contrast, a pay-as-you-go model should be more inclusive, would allow low-income and less affluent customers to more easily participate, and ultimately should provide for more interest by EMI's customers in a community solar project. On-going fees also can be structured in a way that does not penalize customers who move in and/or out of EMI's service area and who can no longer participate in the program.

2. **Method of Compensation for Program Participants**: a monetary bill credit approach (rather than volumetric energy credit) should be used for a community solar program in Mississippi to credit participants for the value of energy associated with their subscription. A monetary bill credit approach would also be consistent with the Commission's Net Metering Order, which provides a bill credit for exported energy based upon a set value for the "Total Benefits of Distributed Generation." In addition, monetary bill credits would mitigate the cost-shifting concerns acknowledged in the Commission's net metering order while ensuring that non-participants do not bear

[30] SEPA, *Community Solar: Program Design Models*, November 2015, p. 11; these percentages are based on number of programs and are not weighted by MW or other factors.

increased costs as a result of a community solar program. Bill credits also would be simpler to describe to interested participants and also less complicated for billing purposes.

3. **Sign-up Fee**: no sign-up fee should be required for subscribers, although a commitment to participate in the program for a set period of time (*e.g.*, at least 12 months) should be required to mitigate customer service cost. As noted in section III.A, sign-up fees are often used to provide some assurance for the utility sponsoring a program in case participants attempt to drop out before the end of the minimum term. However, EMI is suggesting a pay-as-you-go model and believes that sign-up fees can serve as a deterrent for enrollment, and therefore EMI recommends against charging such a fee.

4. **Renewable Energy Credit ("REC") Treatment**: to ensure that the program is able to be marketed publicly as a way for customers to obtain solar (i.e., renewable) energy in compliance with U.S. Federal Trade Commission ("FTC") regulations, EMI should retire RECs on behalf of participating customers (rather than transferring RECs to participants or selling RECs via a broker or exchange).[31] The recommended approach would allow EMI to retain greater flexibility to ensure customers understand that the community solar program is a "renewable" option, and also is consistent with one of the lessons learned from Consumers Energy's program.

5. **Customer Eligibility**: all customer classes should be eligible to participate in a community solar program.[32] In addition, all participating customers must be in good standing from a billing and collections perspective prior to enrolling in the program and also while being a participant. EMI prefers to be as inclusive as possible in structuring the program design such that most customers should be eligible to participate. EMI discusses low-income participation separately below.

6. **Production Guarantee**: each participating customer should be able to subscribe to the output associated with a specified amount of capacity, and will receive a monthly bill credit in proportion to the customer's share of the actual energy generated by the specified amount of capacity (as a percentage of the overall output of the solar facility). This approach, rather than one in which customers subscribe to a pre-determined amount of energy (kWh blocks) assumed to be generated by the community solar facility, ensures

[31] Section 5 of the FTC Act, 15 U.S.C. 45 and U.S. Code of Federal Regulations: Title 16, Chapter I, Subchapter B, Section 260.15

[32] Certain rate schedules and riders may be excluded from participating in a community solar program (e.g., lighting).

participating customers receive a proportional credit for the actual energy produced by the solar project each month consistent with the effects of varying weather patterns and maintenance. In addition, this approach provides enrolled customers with an understanding of the variability of solar production, and an experience that is more consistent with that of a customer with installed, onsite solar generation (*i.e.*, a net metering customer). This approach also should prevent non-participants from paying higher costs as a result of a community solar program.

7. **Participation Limits**: each customer's participation should be limited in accordance with the following requirements, in order to ensure adequate opportunity for interested customers to participate:
    a. A participating customer's subscription cannot be sized above 100% of the customer's average annual energy usage based on the most recent 12 months of usage. The 100% threshold is a common limit for community solar programs, and some utilities even restrict participation below 100% of usage to expand availability.
    b. Participating customers must subscribe to output of at least 2 kW from an associated solar project. This threshold will reduce the administrative burden of managing a large volume of small subscriptions, although it could be waived, if appropriate, for qualifying low income customers.
    c. A single customer cannot subscribe to more than a set percentage (*e.g.*, 10%) of the available capacity from an associated solar project. In addition, a set percentage of available capacity (*e.g.*, 50%) should be preserved for residential customers. It may be appropriate to also further limit the size of customer subscriptions in order to expand access. Applying these types of thresholds and limits will allow more customers to participate in the program.
    d. A portion of the program should also be dedicated to low income customers, as explained further below.

8. **Program Length**: the length of the program should be defined in advance in order to allow customers to fully understand upfront the value proposition of their participation. EMI has observed that many community solar programs are 20 years in length, although other timeframes could be considered.

9. **Low Income Participation**: EMI wants to ensure that low income customers have ample opportunity to participate in a program, consistent with the Commission's policy directives. In order to educate and inform this segment of EMI's customers on a community solar offering, EMI can use its existing relationships and communication channels with community-based organizations in the area, much like it does with its Energy Efficiency Quick Start Programs, as well as other methods of communication directed specifically to low-income customers. A significant proportion of the program (at least 10-15%) should be specifically reserved for low income customers, and outreach

efforts related to the program should target this group of customers. In addition, EMI recommends that low income-qualified customers should receive an additional benefit from participating in the program: namely a higher bill credit rate applied to the monthly share of energy output from their subscription. This added benefit would be similar to the additional credit provided to net metered low income customers in the Order.

10. **Minimum Participation Period**: EMI recommends that any customer signing up for a community solar program be required to stay enrolled in the program for at least 12 months to help mitigate sign-up and customer service costs. Although the program design recommended above does not call for a sign-up fee or upfront payment, a minimum participation period of 12 months serves to reduce administrative complexity and cost, as well as minimize the potential for individuals to game the system by jumping into and out of the program to take advantage of the seasonal variation in solar output. Having a 12-month minimum period also reduces turnover and administrative costs related to subscribing new customers for the program when participants cancel their subscription. Exceptions to this requirement (without penalty) could be provided for enrolled customers that move to a location outside of EMI's service territory less than 12 months after starting their subscription, and therefore must close their EMI account. Any other enrolled customers that want to terminate participation less than 12 months after enrolling should face a monetary consequence, such as continued requirement to pay the monthly enrollment fee.

11. **Subscription Portability and Transferability**: subscriptions should be portable and connected to an enrolled customer's EMI account. In other words, customers should be able to continue their subscription in the event that they move within EMI's service territory. As noted by SEPA: "allowing for portability provides value to the customer," and they recommend all community solar programs allow this option.[33] By contrast, if an enrolled customer moves to a location outside of EMI's service territory, the customer will leave the program and should be allowed to do so without penalty (even if they are enrolled for less than the 12 months minimum participation period). If a customer leaves EMI's service area, it wouldn't be possible for EMI's community solar facility to continue to provide value to that customer. However, EMI does not recommend that enrolled customers be provided the ability to transfer their subscription to another EMI customer. Transfer provisions in other community solar program are typically associated with programs involving upfront payments. Under that type of model, customers pay for subscription in advance in order to receive the bill credits (or other benefits) throughout the program, and a transfer option would allow a subscriber to designate future program

[33] SEPA, *Community Solar: Program Design Models*, November 2015, p. 14

benefits to another party, should they choose to do so. Since EMI has recommended an on-going payment approach, the ability to transfer subscriptions does not seem applicable or necessary.

12. **Unsubscribed Energy**: in the event that the program is not fully subscribed for a particular billing cycle, the unsubscribed energy will be used to serve load to offset energy from other EMI generating sources or market purchases.

13. **Minimum Bill**: consistent with the Commission's Order, participating customers should not be able to reduce their bill below the "minimum bill" threshold applied to net metering customers (fixed charges plus applicable riders). If, as a result of an approved community solar program, any on-bill credits associated with participation in the community solar program are unable to be fully applied in a given billing cycle, the unused credit would carry over to the next billing cycle in a manner described by EMI's Net Energy Metering Rider Schedule NEM-1 ("Schedule NEM-1").

14. **Methodology to Calculate Customer On-going Payments & Bill Credits**: many different approaches and methodologies have been used to set the customer payment and bill credit rates for community solar programs. Given EMI's review of the various options that might be used for a pay-as-you-go approach, the Company recommends the following.
    a. The bill credit rate ($/kWh unit) should be determined for the first year, and could be based upon an avoided cost calculation or an alternate approach such as how excess energy credit rates are determined in the Commission's net metering Order. If approved by the Commission, a higher bill credit rate could be similarly established for qualifying low income customers.
    b. EMI should use the expected output for the community solar program subscriptions, the low income program cap, and the pre-set bill credit rates to calculate the total expected bill credit payments due to participants.
    c. In order to provide a value proposition to program participants, the customer subscription rate should be set (in $/kW-month terms tied to the participant's desired capacity) such that the total revenue EMI would receive from subscribers provides a modest amount of bill savings (*e.g.*, perhaps 5% on an annual basis) for customers that do not qualify as low income. The participants that do qualify for the low income subscriptions would make on-going payments at the same rate as other customers. However, their benefit in the form of overall savings associated with program participation would be higher because their bill credits would be higher.
    d. EMI should determine whether and how the customer payments and bill credit rates should change from one program year to the next. It would provide more

certainty for participants to fully understand their commitments in the program prior to or at the time they enroll. To provide this type of certainty, EMI would need to set a fixed schedule for customer payment rates, and any associated increases in those rates, at the start of the program. By contrast, bill credit rates may not need to be fixed in advance for the entire program length. Many utilities have designed programs allowing the bill credit rate to fluctuate over time according to underlying factors like the value of avoided energy and capacity. In this scenario, the program provides a set methodology to calculate a bill credit rate, often on an annual basis and using a formula tied, for example, to the utility's avoided costs.

e. Regardless of how bill credit rates are set, the utility and potential participants should consider that solar technology does experience degradation over time. As a result, the energy output associated with each participant's subscription should be expected to modestly decrease over time. The community solar program should be structured in such a way as to preserve the value proposition to enrolled customers such that they would continue to receive modest savings on an annual basis over the entire program.

15. **Mitigating Impacts to Non-participants**: EMI is fully aware there is a net cost associated with a methodology for setting bill credits and customer payment rates in which participants receive more benefit than they pay into the program over the program's life. Under an ideal community solar program design, the sum of (1) the annual net cost from customer payments and bill credits, (2) the revenue requirements associated with the solar project investment, O&M, and other costs (net of any normalized tax benefits), (3) the various avoided energy, capacity, and environmental costs associated with solar project output and capacity, and (4) the revenue requirements associated with the upfront and operating costs to administer the community solar program would collectively provide a net benefit to all of EMI's customers on a net present value basis. If achieved, this ideal economic picture would help mitigate cross-subsidization from non-participants and avoid higher costs being paid by non-participants, as from an overall perspective all customers would see a net benefit for the solar project and community solar program investment. If necessary, a utility could develop a community solar program that is sized smaller than the new solar project associated with it in order to ensure that the overall investment provides a net benefit to all customers.

16. **Associated Solar Project**: For all of the reasons explained herein, EMI believes that the scale of EMI's three existing 500 kW solar pilot projects does not make them a preferred option for a community solar program. However, it should be noted that those pilot projects had a specific purpose, namely to learn more about solar and to test different

sites and configurations (fixed tilt versus single-axis tracking). In order to link a new community solar program to actual investment and to capture larger economies of scale, EMI recommends consideration of a larger solar project on Company-owned property. To achieve economies of scale for customers, EMI recommends that a new solar project at least 5 to 10 MW in capacity be constructed to support the program. If appropriate in order to test the concept, a community solar program could be initially associated with only a portion of a larger solar project, and expanded in the future based upon customer interest.

17. **Role of EMI Program Development**: EMI expects that it would be responsible for the development, construction, financing, and ownership of the associated community solar project. EMI would also be responsible for developing and administering the community solar program. As with any utility function that EMI provides, EMI management would evaluate whether or not community solar program administration could be performed more cost-effectively by a third party than by internal staffing. As noted above, EMI has retained CEC to assist with this filing and is considering utilizing their services to ultimately administer and/or support a community solar program.

VI. Conclusion

EMI believes that community solar could be a practical option for its customers. However, the myriad of program design features requires feedback from the Commission. EMI intends to discuss the report and its recommendations with the Mississippi Public Utilities Staff and the Commission staff. With Commission input, EMI plans to develop a community solar program that could be offered to its customers as an alternative for customers who cannot or choose not to install rooftop solar on their property.