

**BEFORE THE  
COUNCIL OF THE CITY OF NEW ORLEANS**

**IN RE: RESOLUTION REGARDING  
PROPOSED RULEMAKING TO  
ESTABLISH INTEGRATED RESOURCE  
PLANNING COMPONENTS AND  
REPORTING REQUIREMENTS FOR  
ENTERGY NEW ORLEANS, INC.**

**DOCKET NO. UD-08-02**

**AUGUST 8, 2016**

**MOTION BY BUILDING SCIENCE INNOVATORS, TO THE NEW ORLEANS CITY COUNCIL TO REQUIRE  
ENTERGY NEW ORLEANS (ENO) TO COOPERATE WITH A SOLAR ENERGY GENERATOR OF A SIZE  
BETWEEN 1 AND 2 MW SITED WITHIN THE DISTRIBUTION SYSTEM OF ENO AND ORGANIZED AS A  
COMMUNITY SOLAR FARM SO THAT ITS CLIENTS WILL BE COMPENSATED VIA THE CUSTOMER  
LOWERED ELECTRICITY PRICE (CLEP) TARIFF IN AN AUTOMATED FASHION WITH APPROPRIATE,  
MONTHLY, UTILITY-BILL CREDITS WITHIN THE 2015 ENO INTEGRATED RESOURCE PLAN<sup>12</sup>**

ON MOTION of Building Science Innovators, LLC (BSI), appearing herein through undersigned principal, and upon representing the following:

A *community solar* farm or garden is a solar power installation that accepts capital from and provides output credit and tax benefits to individual and other investors. The current plan may have a private group of investors, non-profit organization or municipal entity initially finance the construction during construction. Thereafter, utility customers will buy or rent a part of the solar farm and for that consideration, receive a monthly credit on utility bills proportional to their share and consistent with each month's solar farm's CLEP income.

This motion is also indispensable to meet the specifications for the DOE SunShot Community Solar Challenge in order to compete for prizes and have a chance to be provided financial and technical support as described in DE-FOA-0001614. (See Appendix A.)

*“Through the challenge, teams will create local community solar assets for scalable business practices, while building local capacity around the legal, technical, financial, and administrative aspects of community solar programs and projects. Teams will complete key milestones towards*

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<sup>1</sup> To make optimal sense in reading the following, presume that the following was written by ENO and therefore, the following is, in effect, a submission by ENO to the New Orleans City Council as a request to allow ENO to fully cooperate with a CLEP-financed, privately funded, Community Solar Pilot. Because ENO is not originating this pilot request, BSI wrote this description as a motion to request the regulator to require ENO to revise the following and create a pilot program with the following as a starting point. The reader of this document is presumed to understand the ideas, keywords and assertions within the other two, BSI, CLEP, pilot offerings submitted at the time as the submission of this motion.

<sup>2</sup> BSI originally conceived of creating this motion so that at least one solar farm in the 1 to 2 MW size range will be authorized so that this asset will be available to provide an economically synergistic situation for the participants of the CLEP Battery pilot. Three issues have come up in the writing of this proposal that have been left purposely vague: Should the motion allow only one or an unlimited number of solar farms? Should the size of a community solar farm be restricted to 1 – 2 MW, or be set to the wider range recommended by DOE, namely 25 kW to 2 MW? Should the original ownership/leadership financial group who creates the solar farm be restricted to “privately-funded”, “non-profit-organized”, or “municipally-organized” or should “utility-funded” solar farms be eventually allowed after the first one is running? BSI requests input.

*completing their community solar programs and projects, including project finance, customer acquisition, subscriber management, PV system engineering, installation, interconnection, and operations & maintenance of community solar projects.”*

As just described, DOE and a panel of independent judges will award up to \$1.5 million in final prizes (at \$50,000 or \$20,000 allocations) to teams based on several categories. Being awarded any of these prizes will not only provide funds, but will give New Orleans the national publicity for being a national leader in community solar. To this end, as can be seen in Appendix C, following the RFI request to submit suggestions, BSI submitted recommendations to DOE for improving this competition on Aug 2<sup>nd</sup>, 2016.

A Preliminary analyses based on similar utility-scale solar farms indicates that:

- a) A CSF should require between 7 to 9 acres per MW.
- b) A CSF should cost approximately \$1.40/W.
- c) A CSF economics predicts the potential for customers to receive a credit on their bills at more than a twice the \$/kWh than the cost to build the solar farm.
- d) A CSF potential return-on-investment should attract many investors.
- e) The potential return-on-investment should provide sufficient income that the program can be designed to subsidize participation and ownership for up to 40% of the array size.

To achieve this solar community project,

- i) A business group is forming with the goal to assemble the capital and complete a business plan. However, that work is stymied until the Council makes a strong move to encourage this effort.
- j) ENO will not be asked to make a capital investment in this project, but to cooperate with the pilot so that remuneration to solar farm owners will be credited to their utility bills. ENO will begin offering the CLEP tariff for use by a community solar project on a pilot-basis on or after January 1, 2017.

In order to implement the CLEP tariff, the solar farm must have a utility-approved means to measure and report energy consumption every five minutes. In the case of a solar farm, only one meter is needed for the entire array and ENO will specify the appropriate equipment and communications protocols in order to have the appropriate control of the smart inverter at that site. These are engineering questions clearly within the scope of ENO’s employees as evidenced by their recent construction of a 1.4 MW solar farm in New Orleans East during the first half of 2016.

At this point, the careful reader of the other CLEP-financed pilots will notice that CLEP was designed primarily for use at a customer’s site of **consumption**, not for a customer’s site of **production**. Therefore, a first priority of this document is to explain how CLEP can finance the economic activity of a purely supply-connection to the grid.<sup>3</sup>

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<sup>3</sup> The answer to the question was already presented within the “Worked Examples” section within Appendix A within the PURE CLEP PILOT submission. In EXAMPLE 3B, a pure 5 kW solar array was studied to ascertain such a system’s CLEP-financed, cash flow. The original motivation for that example was BSI’s interest in comparing the economics of investing in batteries vs. investing in on-site (i.e., rooftop) solar from the point of view of a resident with adequate capital; however, the example provided an unexpected result: the income stream of this PV array was almost the same using NEM or CLEP. On later reflection, BSI realized that the analysis of that solar array’s finances did not depend in any way upon the proximity

**For Solar PV without batteries, CLEP pays 0 to 5% better than Net-Energy-Metering (NEM). (See Appendix D.)**

**Compare a solar array's finances under two assumptions:**

- i. normal competitor within MISO which is paid at MISO wholesale prices, and**
- ii. financed by CLEP.**

If a solar farm is financed as a normal competitor within MISO, it should be expected to receive the same remuneration per kWh as ENO has been recently paying for energy, i.e., wholesale prices; this would be the same value calculated for the sum of CLEP5 payments in the previous paragraphs—namely about \$85 to \$90/y for 5 kW installed or roughly \$17/kW-y.

However, when CLEPm is added to this, the income increases to over \$900/y for 5 kW or roughly \$180/kW-y, more than a 10-fold increase.

This may sound like a lot of money, but as was just explained, CLEP for a solar farm is right in line with NEM; and depending on the choices of p and q, CLEP pays 5%, more than NEM in some nominal sense.

**Preliminary analyses indicate that, if built like a utility-scale solar farm,**

- a) A CSF should not need more than 7 to 9 acres per MW and perhaps half of this is feasible.**
- b) A CSF should not cost more than \$1.40/W.**
- c) The economics of a CSF predict allowing customers to get a credit on their bills at more than a twice the \$/kWh than the cost to build the solar farm.**
- d) The economics of a CSFs should attract many investors.**
- e) This should provide enough "excess" income that investors can afford to subsidize participation and ownership for up to 40% of the array size.**

- I. NREL data <http://www.renewableenergyworld.com/articles/2013/08/calculating-solar-energy-land-use-footprint.html>
- II. Derick Botha, Game Changer Solar, specifications assertion, end of June, 2016.
- III. Because solar installed at \$3/W outputs electricity at \$0.10/kWh for 20 years and the Solar Farm can be built for \$1.40/W, the expected cost of electricity generation should be around \$0.0467; this is less than half of the expected income from kWh sales because CLEP pays in parity or 5% better than NEM = Retail Rates roughly = \$0.10/kWh.
- IV. Investors should be attracted to investments that start with a 2-to-1 ratio of investment to return-on-investment.
- V. However, to get this rate, the Council must approve this Community Solar Pilot submission, which achieves the important policy of enabling low to moderate income residents get access to solar at discount prices.

**f) The CSF should almost qualify for a competition announced by President Obama as part of DOE's SunShot Initiative to facilitate ownership of a solar-powered future by moderate and low income residents. See Appendix A.**

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between the PV system and the residence. Consequently, that analysis became the prototype for how to use CLEP to finance a solar farm. That analysis is repeated in Appendix D.

**g) The last requirement of this competition to be eligible for up to a \$1.5 million prize from DOE is: the community solar project needs a non-profit or public entity that takes a partial or primary leadership role. See Appendix A.**

**h) BSI submitted its recommendations on how to improve the program design for the community solar competition to DOE on Aug 2nd. See Appendix C.**

**i) A business group is forming with the goal to assemble the capital and create a business plan. However, that work cannot come to fruition until the Council makes a strong move to encourage this effort.**

Principals in Wisznia Architecture+Development (W|A+D), including Marcel Wisznia and Dan Weiner, have been discussing a business plan to create a community solar farm with the goal of doing well by doing good. This proposal will go out to their colleagues and other companies that build or own buildings in the Central Business District or the Vieux Carre' where constructing adequate solar system size is seriously challenged by the physical building, transmission limitations and Entergy restrictions on the flow direction of electricity and localized NEM. W|A+D wants to be able to offer to its building's occupants the economic, environmental and social opportunity to share in the expansion of global solar power generation. W|A+D and BSI have identified potential partners with similar goals.

**j) ENO will not be asked to make a capital investment in this project, but only cooperate with the pilot in that remuneration to solar farm owners will be credited on utility bills.**

ENO will be asked to cooperate with the rolling out of community solar by being frugal but fair in so that only real costs are borne by the investor group that is forming to create this opportunity for all New Orleans residents.

WHEREFORE, BSI moves:

**THE NEW ORLEANS CITY COUNCIL TO REQUIRE ENTERGY NEW ORLEANS (ENO) TO COOPERATE WITH A SOLAR ENERGY GENERATOR OF A SIZE BETWEEN 1 AND 2 MW SITED WITHIN THE DISTRIBUTION SYSTEM OF ENO AND ORGANIZED AS A COMMUNITY SOLAR FARM SO THAT ITS CLIENTS WILL BE COMPENSATED VIA THE CLEP TARIFF IN AN AUTOMATED FASHION WITH APPROPRIATE, MONTHLY, UTILITY-BILL CREDITS.**

RESPECTFULLY SUBMITTED,

Myron B. Katz, PhD  
302 Walnut Street  
New Orleans, Louisiana 70118  
504-343-1243  
360-868-1243  
On Behalf of the Building Science Innovators, LLC

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing has been served upon "The Official Service List" via electronic mail and/or U.S. Mail, postage properly affixed, this 8th day of August, 2016.

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Myron B. Katz

## DOE's SunShot Initiative's Community Solar Challenge

### Community Solar Challenge

**DATE:** 7/19/2016

**SUBJECT:** Request for Information (RFI) DE-FOA-0001614

**DESCRIPTION:** Community solar business models represent a significant opportunity to expand access to solar electricity for more than [49% of Americans](#)<sup>4</sup> that do not have a “solar ready” roof, may have difficulty accessing financing, or that cannot afford the installation of a standalone photovoltaic (PV) system. The [U.S. Department of Energy's SunShot Initiative](#) is exploring best strategies to reduce market barriers and soft costs to community solar solutions that include shared solar and local community solar assets such as those serving the municipal, non-profit and low and moderate-income sectors.

The SunShot Initiative (SunShot) is considering a prize challenge wherein dozens of local teams would participate to bring community solar programs to their communities. The goals of the challenge are to enable the expansion of the solar market to a diverse array of new consumers, including low and moderate-income customers. Competing teams may be eligible for cash prizes and technical assistance from the Department of Energy (DOE) and a myriad of experts nationwide. As a result of the challenge, local teams in every state will have built knowledge, expertise, and experience around innovative community solar approaches.

The purpose of this RFI is to solicit feedback and comments on the structure, prizes, timelines, and the evaluation process of a community solar challenge. Comments will be accepted from the public, and more specifically from all interested potential contestants of such a competition.

**BACKGROUND:** Community solar is an innovative approach to bringing solar to communities across the nation. It connects community stakeholders while increasing the deployment of renewable energy. Community solar is a broad term that includes several types of business models that support solar deployment at lower costs and in innovative ways, including group purchasing, crowd financing, donation-based models, community investment, and shared solar.

Shared solar models allocate the electricity of a jointly owned or leased system to offset and reduce individual consumers' electricity bills, allowing multiple energy consumers to share the benefits, of a single solar array.<sup>1</sup> Shared solar alone has the potential to double the residential solar market by enabling solar access to the 49% of American families and businesses that do not have a “solar ready” roof.

Community solar also has the potential to bring solar to underserved communities, including low and moderate-income families, due to lower barriers to entry and lower overall costs from economies of scale.

On July 7, 2015, the White House announced the [National Community Solar Partnership](#) to expand solar access to all Americans, with specific emphasis on serving the low and moderate income (LMI) communities. Led by [DOE's SunShot](#), this Partnership includes the [U.S. Housing and Urban Development \(HUD\)](#), the [U.S. Environmental Protection Agency \(EPA\)](#), the [U.S. Department of Agriculture \(USDA\)](#), and key players in the community solar space, including solar companies, non-profit organizations, state and community leaders, and financial institutions.

The Partnership members collaborate on several topics:

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<sup>4</sup> “Shared Solar: Current Landscape, Market Potential, and the Impact of Federal Securities Regulation” National Renewable Energy Laboratory, U.S. Department of Energy. Available here: <http://www.nrel.gov/docs/fy15osti/63892.pdf>

- Greater utilization of existing federal and state resources;
- Sharing of best practices at the state level;
- Development of new financing arrangements and business models;
- New approaches to customer acquisition and community building;
- Novel models for multifamily deployment considerations.

More details about the Partnership’s activities and its members can be found online [here](#).

In addition to the ongoing activities of the [National Community Solar Partnership](#), SunShot is exploring a challenge to inspire dozens of communities around the nation to explore, implement, and grow community solar programs and projects. SunShot has developed a preliminary set of parameters for a community solar challenge, and seeks feedback on the best way to provide resources to variety of stakeholders to help spur innovative community solar business models to be tested and expanded in communities across America.

The following subsections describe a draft set of requirements for a community solar challenge. All interested parties are encouraged to review these subsections and answer some or all questions shown in a section labeled **“REQUEST FOR INFORMATION CATEGORIES AND QUESTIONS”** of this RFI.

## **SOLAR IN YOUR COMMUNITY CHALLENGE DESCRIPTION**

### **A. Challenge Goals**

This \$5 million challenge competition’s goal is to demonstrate a large number of community solar installations in a wide diversity of jurisdictions across the U.S., while expanding access to solar electricity. Through the challenge, teams will create local community solar assets for scalable business practices, while building local capacity around the legal, technical, financial, and administrative aspects of community solar programs and projects. Teams will complete key milestones towards completing their community solar programs and projects, including project finance, customer acquisition, subscriber management, PV system engineering, installation, interconnection, and operations & maintenance of community solar projects.

Toward the end of the competition, the teams are challenged to aggregate resources and build sustainable sources of financing to enable *the first GW of community solar before 2020*. With new community solar programs and projects deployed in some places for the first time ever, the path to accelerate the expansion of solar markets across the nation will be easier and faster.

### **B. Eligible Community Solar Systems**

In this competition, any of the following community solar PV programs and projects will be eligible to compete:

- Shared solar projects that aggregate to more than 25 kW and are no larger than 2,000 kW (nameplate peak DC) in size with at least 2 subscribers with different electric utility accounts, that
  - include 40% low income subscribers, or
  - include a community-serving institution (e.g. community center, municipal asset, courthouse, church, etc.) as an anchor tenant.
- Community investment, crowd funding, and donation-based models of PV projects that aggregate to 25 kW - 2,000 kW (nameplate peak DC) in size that benefit non-profit community-serving institutions (e.g. homeless shelter, church, school, hospital, community center, low income housing facility). These projects may include solarize campaigns that target non-profit buildings and institutions.
- A program that enables the creation of one of the above-listed projects. For example, such a program can be run by a municipal utility, an electric cooperative, a state or local government, etc.

Sunshot may also allow other innovative approaches that bring solar electricity (or electricity credits) and bill savings to low and moderate income consumers or communities, or to those with below average credit scores.

There are no restrictions on mounting method, deployment location, or ownership model, provided that solar systems are co-located in the same service area of the customers' utility company. The following types of community solar are not eligible to compete:

- Group purchasing of residential rooftop PV systems, also known as [solarize campaigns](#).
- [Green power](#) purchasing plans for consumers to opt into rate plans wherein the electricity is bundled with renewable energy certificates, or green attributes.

The use of brownfields, rooftops, or already disturbed lands is strongly encouraged for siting of the PV systems, as are other innovative practices for minimizing the environmental footprint of these projects, e.g. co-locating with native vegetation, apiaries, etc. Creative partnerships are also encouraged in order to maximize the reach, benefit and impact of these projects.

### **C. Eligible Contestants & Desired Participants**

The competition is open to teams led by the following types of entities:

- public/government entities (e.g. city, county, tribe, school district, etc.), non-profit organizations (including academic institutions),
- community groups or citizen associations that do not have formal 501(c)(3) status,
- individuals, or
- for-profit organizations that serve low-income individuals (e.g. low-income housing owners that are eligible for HUD assistance).

Teams may include entities that do not fit in the above categories, e.g. private, for-profit companies that do not serve low-income communities, but these companies cannot lead the teams. Examples of entities that are encouraged to join teams include, but are not limited to, financial institutions, trade associations, solar developers, solar installers, electric utilities, corporate sponsors, corporate anchor tenants, etc.

There may be only one team in the Challenge per authority having jurisdiction.

### **Competition & Prizes**

For the challenge, teams will form, at the local level, to develop community solar programs and projects in their communities, towns/cities, tribes, and/or counties. During a 12-month period, each team will compete against the clock to develop and complete community solar programs and projects.

#### *Step 1 – Applications and initial prizes*

Teams will submit a 3-minute video and a 3-page application to DOE describing their plan, team members, and explaining the impact their program or project will have on their community and on advancing the solar market. Teams will also explain how their approach is new or innovative.

DOE will first evaluate the team and the proposed project for eligibility. If the team and proposed project are eligible, DOE will then evaluate the applications based on the plan's impact on the community and the solar market; and on the program or project's innovation. DOE may choose the top 50 teams for up-front cash prizes and a \$10,000 voucher to use for general and one-on-one technical assistance. Up-front cash prizes are as follows:

- \$20,000 for teams pursuing under 150kW in projects/program reach, or
- \$50,000 for teams pursuing at least 150kW in projects/program reach, and
- \$10,000 bonus for teams pursuing 3 or more projects in the same jurisdiction that aggregate to over 200kW



All teams may receive technical assistance from DOE and its partners. DOE anticipates having experts in finance, law, accounting, solar energy technology, policy and regulations, engineering, software, and other specialties for these teams to access. All competing teams will be given access to webinars put on by these experts and a resource library.

In addition, DOE may select an additional 50 teams, based on the initial applications, to receive a \$10,000 voucher to use for one-on-one tailored technical assistance from the myriad of technical assistance providers.

### *Step 2 – Teams pursue their community solar programs and projects*

Teams will pursue the development of their community solar projects, with help from DOE, technical assistance providers, and each other. Milestones that teams will pursue may include securing project finance; securing sites; signing up customers; and completing PV system engineering, installation, and interconnection.

The top 50 teams that were deemed eligible for cash prizes will receive these funds at three times over the 12-month period:

- 40% of the funds during month 1,
- 40% of the funds as matching funds once program/project financing is secured, either through cash, crowdfunding, lending, donations, or contractual mechanisms (i.e. Power Purchase Agreement (PPA) or lease) and
- 20% of the funds when the program is operational. Or if pursuing projects, when the project sites have been secured. (I.e. The team has a legally binding agreement that allows the construction of the solar project on a particular site; and the team has an agreement with a solar installer to do the installation at a specific site).

These teams will submit supporting documentation as they hit the milestones for at least 60% of the projects in the team's portfolio, and funds will be disbursed within the quarter.

### *Step 3 – Final prizes*

At the end of month 12, teams will submit a final 3-minute video to DOE to summarize the successes they have had and the impact that they have made. Teams will be encouraged to explain how the lessons they have learned will be institutionalized in their communities for future solar projects.

DOE and a panel of independent judges will then award up to \$1.5 million in final prizes (at \$50,000 or \$20,000 allocations) to teams based on several categories, such as:

- Best model for replicability
- Biggest lasting impact
- Most customer value
- Most innovative project/program
- Most innovative siting
- Most innovative financing
- Most innovative business model
- Best community engagement approach
- Best tribal project/program
- Best municipal project/program
- Best woman-led project/program
- Best 100% low income customer project
- Most people reached
- Most kW installed
- Most projects completed
- Most impactful partnerships (with finance, utilities, community orgs, etc.)

#### **D. Technical Assistance Providers and Marketplace**

DOE may also solicit technical assistance (TA) providers from around the country to join the challenge to support the teams. Experts in solar finance, law, accounting, technology, policy and regulations, engineering, software, project development, community engagement, and other relevant specialties are encouraged to apply to DOE as official TA providers.

TA providers will be asked to provide generalized information that will be made publicly available, but that targets participating teams through mechanisms such as webinars, standard documents, toolkits, or other useful resources. TA providers will also submit proposals describing the type, cost and availability (number of teams they can support) of one-on-one tailored assistance for the 100 teams that have received \$10,000 in TA vouchers.

DOE may set up a marketplace for TA providers to offer assistance and at what cost. Teams will decide which services they need and use their \$10,000 vouchers. The challenge administrator will reimburse TA providers for vouchers collected. Therefore, TA providers are not guaranteed funds, but will compete with the other TA providers to provide service and receive vouchers from interested teams. In addition, DOE will reserve funds to secure selected TA services from providers to provide general assistance and information for all teams and the public based on proposals received and interest from the teams.

Interested TA providers will submit a three-page application to DOE, at any time throughout the challenge. The application must include a description of their expertise and experience, the specific assistance they will provide – both for a general audience and for a one-on-one TA intervention—and the pro-bono work they are willing to provide to the competitors as part of the challenge.

#### **E. Optional Phase: Getting to Scale (Growth Round)**

SunShot is seeking feedback on an optional phase of the challenge that would emphasize scaling up. The goal would be to achieve the first 1 GW of community solar before 2020. This phase seeks to overcome market barriers including lack of finance and lack of standards across states and projects.

In the getting to scale growth round, participating teams would be created at the state-wide, regional, or national level, and partner with financial institutions to establish and manage community solar investment funds to deploy a pipeline of community solar projects in several jurisdictions.

Over a 12-month period, these teams will compete to develop the largest pipeline of projects with a minimum aggregate capacity of 10 MW (nameplate peak DC) to be completed in 2-3 years, and to establish the largest pool of committed capital in these newly established community solar investment funds.

The team with the largest pipeline of projects and the largest community solar investment fund will win the first place \$1.5 million cash grand prize. The second place grand prize is \$1 million in cash. The remaining top 5 groups are eligible to receive each \$100,000 in cash prizes. DOE anticipates making grand prize awards in two installments with 70% of the total granted at the end of the competition, based on actual performance.

Groups are encouraged to streamline business models, financial requirements, and legal structures for innovative and lasting community solar growth. Projects may include 100% low-income community solar projects, solar for community-oriented organizations, and shared solar on brownfield sites.

To earn the total cash prize, groups are required to meet the following requirements of project pipeline size and community solar investment fund during the competition's 6-month period:

- Grand champion prizes (up to 2 winners): Minimum 10 MW pipeline of community solar projects to be completed within two years and minimum \$30 million community solar investment fund
- For champion prizes (up to 5 winners): Minimum 1 MW pipeline of community solar projects to be completed within two years and minimum \$3 million community solar investment fund.

## F. Estimated Timeline

The proposed timeline for the phase 1 demonstration round with anticipated activities and deadlines is estimated as follows:

Teams submit applications	Aug 2016 - Oct 2016
Technical assistance providers submit applications.	Aug 2016 –Oct 2016. Then, on rolling basis until Dec 2017.
First installation of cash prizes and TA vouchers awarded	Dec 2016
Teams complete programs and projects, TA provided	Jan 2017- Dec 2017
Competition ends, teams submit final videos	Dec 2017
\$1.5 million in final prizes awarded	Feb 2018

### Optional Phase: Getting to Scale

Optional Phase begins State-wide, regional, or national groups form and submit application for Growth Round prizes.	Sept 2017
Growth round teams submit final progress report, DOE evaluates and verifies progress and selects winning teams. Competition ends.	Sept 2018

## G. Evaluation Criteria & Scoring

Teams' Step 1 submissions will be evaluated according to the following evaluation guidelines:

- **Videos and Applications:**
  - **Criteria #1 (30%):** Impact (size and diversity of portfolio of projects/program; impact it will have on the customer, community and the solar market)
  - **Criteria #2 (30%):** Innovation (how is this new, and how can it be scaled?)
  - **Criteria #3 (20%):** Team, Resources, and Partnerships
  - **Criteria #4 (20%):** Plan, Feasibility
- **Progress Reports:**
  - Teams submit evidence that they have hit the financing and soft costs milestones in order to receive the remainder of their up-front cash prizes. These documents can be submitted as soon as the team achieves the milestone for 60% of the projects in the portfolio.

For Optional Phase (Growth Round) submissions are evaluated according to the following evaluation criteria:

- **Applications:**
  - **Criteria #1 (20%):** Total aggregate capacity, in MWs of a pipeline of community solar projects to be completed before 2020.
  - **Criteria #2 (60%):** Total pleaded/committed capital in an established Community Solar Investment Fund
  - **Criteria #3 (20%):** Geographic diversity of community solar projects
- **12-month Progress:**

- **Criteria #1 (40%):** The % of aggregate capacity, in MWs, of PV projects that secured locations and/or subscribers relative to total size of project pipeline of community solar projects to be completed before 2020.
- **Criteria#2 (60%):** The confirmed total committed capital in an established Community Solar Investment Fund.

**PURPOSE:** The purpose of this RFI is to solicit feedback from all interested parties in industry, academia, research laboratories, local governments, non-profit organizations, community-based organizations, government agencies, and other stakeholders. DOE seeks input on issues related to the structure, incentives, timelines and the evaluation process of a community solar competition from the public, in general, and more specifically from all interested potential contestants of a community solar competition as described below. EERE is specifically interested in information on practical, community-driven, financially enduring, and self-sustaining strategies that can make solar more accessible using innovative models such as community and shared solar to expand access and reduce costs of going solar to all Americans. This is solely a request for information and not a Funding Opportunity Announcement (FOA). EERE is not accepting applications.

**DISCLAIMER AND IMPORTANT NOTES:** This RFI is not a Funding Opportunity Announcement (FOA); therefore, EERE is not accepting applications at this time. EERE may issue a FOA in the future based on or related to the content and responses to this RFI; however, EERE may also elect not to issue a FOA. There is no guarantee that a FOA will be issued as a result of this RFI. Responding to this RFI does not provide any advantage or disadvantage to potential applicants if EERE chooses to issue a FOA regarding the subject matter. Final details, including the anticipated award size, quantity, and timing of EERE funded awards, will be subject to Congressional appropriations and direction.

Any information obtained as a result of this RFI is intended to be used by the Government on a non-attribution basis for planning and strategy development; this RFI does not constitute a formal solicitation for proposals or abstracts. Your response to this notice will be treated as information only. EERE will review and consider all responses in its formulation of program strategies for the identified materials of interest that are the subject of this request. EERE will not provide reimbursement for costs incurred in responding to this RFI. Respondents are advised that EERE is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI. Responses to this RFI do not bind EERE to any further actions related to this topic.

**PROPRIETARY INFORMATION:** Because information received in response to this RFI may be used to structure future programs and FOAs and/or otherwise be made available to the public, **respondents are strongly advised to NOT include any information in their responses that might be considered business sensitive, proprietary, or otherwise confidential.** If, however, a respondent chooses to submit business sensitive, proprietary, or otherwise confidential information, it must be clearly and conspicuously marked as such in the response.

Responses containing confidential, proprietary, or privileged information must be conspicuously marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Federal Government is not liable for the disclosure or use of unmarked information, and may use or disclose such information for any purpose.

If your response contains confidential, proprietary, or privileged information, you must include a cover sheet marked as follows identifying the specific pages containing confidential, proprietary, or privileged information:

**Notice of Restriction on Disclosure and Use of Data:**

Pages [list applicable pages] of this response may contain confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for the

purposes described in this RFI DE-FOA-0001614. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source.

In addition, (1) the header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: "Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure" and (2) every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

**EVALUATION AND ADMINISTRATION BY FEDERAL AND NON-FEDERAL PERSONNEL:** Federal employees are subject to the non-disclosure requirements of a criminal statute, the Trade Secrets Act, 18 USC 1905. The Government may seek the advice of qualified non-Federal personnel. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The respondents, by submitting their response, consent to EERE providing their response to non-Federal parties. Non-Federal parties given access to responses must be subject to an appropriate obligation of confidentiality prior to being given the access. Submissions may be reviewed by support contractors and private consultants.

### **REQUEST FOR INFORMATION CATEGORIES AND QUESTIONS**

SunShot seeks input on the following questions. Please respond to as many or as few questions as you would like.

#### **CATEGEORY A: Overall**

1. Please provide comments, strengths and weaknesses of the community solar challenge concept as described above. Please comment on the effectiveness of cash, technical assistance, and other resources that DOE could provide.
2. What should we name the challenge?
  - a. The Community Solar Challenge
  - b. Solarize America
  - c. Solar for all America
  - d. SunShot Prize: Race to Community Solar
  - e. Other ideas?
3. How can DOE maximize the benefits of using a prize competition process to achieve the goals of growing community solar installations by increasing capacity while expanding access to solar electricity? Explain within the context of your organization. Would your organization participate in this challenge? Why or why not?
4. What strengths and weaknesses do you see with the optional growth round phase? What are the benefits and challenges, and to whom?
5. What resources would be most valuable for you or your organization (or stakeholders) to compete, such as one-on-one technical assistance from experts or standard documents? Please provide detailed descriptions of the most important types of assistance of which your organization would take advantage.

#### **CATEGEORY B: Eligible Solar Systems, Participants & TA Providers**

6. What benefits, limitations, or unanticipated barriers may be created by limiting eligible projects to those including 40% low-income subscribers, or community-serving institutions, or solar project sizes aggregating to 25kW and being no larger than 2,000 kW? What advantages or disadvantages do you see for focusing on locally formed teams led by public or non-profit organizations and individuals? What benefits, limitations, or unanticipated barriers may be created by these parameters for community solar programs?

7. How can DOE find, reach and encourage organizations with no or little experience with community solar to form teams and compete? What about financial institutions? Utilities?
8. How can DOE find reach and encourage technical assistance providers (consultants, experts, lawyers, etc.) to support participating contestants and their team members?

### **CATEGEORY C: Competition Design**

9. How should the challenge be designed to incentivize the following?
  - a. innovation
  - b. promoting low income solar access
  - c. creative partnerships, including with utilities, foundations, and for profit companies
  - d. community engagement
  - e. project siting on brownfields, rooftops, and low-value sites
  - f. energy efficiency measures
  - g. getting community solar to scale
  - h. the institutionalization of best practices into the policies and procedures of local institutions, e.g. banks, local governments, utilities

### **CATEGEORY D: Evaluation Criteria & Scoring**

10. What feedback do you have on the scoring criteria and the program/project milestones? What additional metrics or evaluation criteria should be included?
11. How can DOE measure the additionality of the programs/projects (i.e. new community solar projects instead of counting projects that were already in the pipeline)?

### **CATEGEORY E: Participation Process & Timeline**

12. How challenging or realistic is the proposed timeline? What are the advantages of disadvantages of the proposed 12-month competition for developing and completing community solar programs/projects? How to lower the barrier for participation and simplify the process of managing submissions and progress reports?

What other feedback would you like to share?

## **Request for Information Response Guidelines**

Responses to this RFI must be submitted electronically to [communitysolarRFI@ee.doe.gov](mailto:communitysolarRFI@ee.doe.gov) no later than 11:59pm (ET) on Tuesday August 2, 2016. Responses must be provided as attachments to an email. It is recommended that attachments with file sizes exceeding 25MB be compressed (i.e., zipped) to ensure message delivery. Responses should be provided as a Microsoft Word (.docx) attachment to the email, and no more than 5 pages in length, 12-point font, 1 inch margins. Only electronic responses will be accepted.

Please identify your answers by responding to a specific question or topic if applicable. Respondents may answer as many or as few questions as they wish.

EERE will not respond to individual submissions or publish publicly a compendium of responses. A response to this RFI will not be viewed as a binding commitment to develop or pursue the project or ideas discussed.

Respondents are requested to provide the following information at the start of their response to this RFI:

- Company/institution name;
- Contact name
- Contact's address, phone number, and e-mail address.

”

**Appendix B: Letter from DOE SunShot Initiative to its Community Solar Partnership friends soliciting help to design the Community Solar Competition.**

July 25, 2016

Dear National Community Solar Partnership friends,

DOE's SunShot Initiative is developing a new Community Solar Challenge that plans to award teams in dozens of communities over \$100,000, in cash prizes and technical assistance, to bring innovative community solar programs and projects to their communities. The goal of the challenge is to enable the expansion of the solar market to a diverse array of new customers, including low- and moderate-income households, and nonprofit organizations. As part of the challenge, we have also developed an important role for technical assistance providers to help the teams succeed in their projects.

We have released a [Request for Information \(RFI\)](#) that lays out our initial thinking around rules, prizes, and timelines. Please take 10 minutes this week to read the RFI (attached) and send in your feedback. Tell us what you think of the structure, prizes, timelines and evaluation; what you like; and what you don't like.

**It's vital for the future of this program that we hear from you now.**

Please:

1. Submit feedback to [communitysolarRFI@ee.doe.gov](mailto:communitysolarRFI@ee.doe.gov) by August 2, 2016.
2. Circulate this RFI to your networks through your email lists and newsletters

Thank you in advance for your help, and I look forward to hearing from you!!

Odette & the SunShot team

Odette Mucha

SunShot Initiative

US Department of Energy

[202-586-8762](tel:202-586-8762)

**Mucha, Odette**<Odette.Mucha@ee.doe.gov >



**Building Science Innovators, LLC Response to  
REQUEST FOR INFORMATION CATEGORIES AND QUESTIONS for  
DOE's SunShot Initiative's Community Solar Competition**

**" Building Science Innovators, LLC Response to**

Norman Witriol, President or Myron Katz, Director of Research

302 Walnut St; New Orleans, LA 70118

(318)237-0959 or (504)343-1243

Norman.Witriol@gmail.com or Myron.Katz@EnergyRater.com

**REQUEST FOR INFORMATION CATEGORIES AND QUESTIONS**

**CATEGORY A: Overall**

2 Name: a. The Community Solar Challenge

3. Our organization is planning on participating in this challenge. We believe that it represents an excellent opportunity to publicize the concepts we have derived.

**CATEGEORY C: Competition Design**

9. How should the challenge be designed to incentivize the following?

- a. innovation
- b. promoting low income solar access
- c. creative partnerships, including with utilities, foundations, and for profit companies
- d. community engagement
- e. project siting on brownfields, rooftops, and low-value sites
- f. energy efficiency measures
- g. getting community solar to scale
- h. the institutionalization of best practices into the policies and procedures of local institutions, e.g. banks, local governments, utilities

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**Building Science Innovators, LLC Response**

This community solar competition proposal incentivizes the amount of energy produced and factors concerning its production. However, it does not stress factors that we believe should be considered in the applicant's proposed solar energy projects, specifically factors concerning the utility (economic value) of this produced energy. Two items which can produce significant cash flows and thus should be incentivized are: 1) the time-varying costs of energy within the wholesale marketplace, and 2) the value derived from reducing the utility's obligations to meet high peak demand. The ancillary services marketplace should also be incentivized as they can be highly lucrative to the project's owners. Since energy storage and the methodology of its use are required to exploit these items, we

believe they should be included in your considerations of the applicant's proposed solar energy projects.

**Building Science Innovators, LLC therefore proposes the following criteria be incentivized in the evaluation of the applicant's proposals:**

1. Time shifting – solar energy produced in the 10AM to 2PM time frame – but the peak power is needed at 2PM – 7PM. This time shifting will result in lowering the cost of primary peak energy production needed to be produced or purchased by the utility.
2. Time shifting - to better average the energy transmitted by the grid with the goal of reducing peak power transmission thereby reducing the need for installing higher capacity power lines and/or adding peaking generating equipment
3. Inclusion of ancillary services such as:
  - a) spinning reserve (i.e., voltage support)
  - b) frequency regulation
  - c) reactive power
  - d) low voltage ride through (similar to uninterruptible power supply (UPS) or capacitor bank) to supply make-up power (for example a power reduction due to a passing cloud)
4. Innovative tariff financing that can support increased solar farm development by paying more than virtual net metering
5. Resilience to customers from the use of energy storage devices to enable survival in disasters like hurricanes
6. Inclusion of energy storage systems that enable the buildings to not require 24/7 reliability from the grid; thereby profoundly lowering utility costs.

Appendix D.

**5 kW Solar PV without batteries: CLEP pays 0 to 5% better than NEM.**

This really means that the value of the PV system is considered using the CLEP tariff but without regard to the consumption needs of the home. To fully appreciate what a pure energy-producing device means with a CLEP tariff, consider that the energy producer has two features: It makes electricity which has value exactly equal to its wholesale price, but in addition, because the electricity is being produced within the distribution system of the utility, the power produced ALSO decreases demand of the utility. That means CLEP<sub>m</sub> is the same, but CLEP<sub>5</sub> for a pure producer is merely the wholesale price of electricity. That is, for a pure energy producer,

$$\text{CLEP}_5 = p * n * w.$$

**For a pure energy generator sited within the distribution system of the utility,  
CLEP<sub>m</sub> is still  $q * \$57.6 * d$  , but CLEP<sub>5</sub> is redefined to  $= p * n * w$ .**

Because the final result of this calculation will compare NEM to CLEP, we'll make the simplifying assumption **p = q = 1 at the outset** and the effect of assigning value to p less than 1 will be revisited at the end of this example.

To make a meaningful example, assume that the home has a 5 KW PV system. [Assuming the array has a fixed latitude tilt with no tracking and sited in New Orleans, the relevant DOE site states that the array should generate 5 kWh per day during the year on average for each kW installed.] It should then be expected to generate around 30 kWh/day during the cooling season, peak demand days. Without batteries, the energy produced by the PV system cannot be expected to reliably reduce peak demand by the full 5 kW by concentrating all energy produced to that job; but it will probably do about 60% of that during summer months. In that case,

$\text{CLEP}_m = p * \$50 * 3 = \$150$ . This works out to be about \$750 annually because there should only be about 5 months a year with peak demand.

To calculate CLEP<sub>5</sub> consider that there will be average generation near 6 kWh/day during the cooling season and 4.33 kWh/day during the rest of the year. This cannot be reliably placed onto the grid at optimal times to maximize payback at the wholesale rate which should average around 6 ¢/kWh on weekdays and around 4¢ on weekends during the cooling season and a penny lower respectively during the rest of the year

$$\text{CLEP}_5 = p * n * w = .95 * 6 * .06 = \$ .36 \text{ daily (20 days a month)} \Rightarrow \$7.20/\text{m}$$

$$\text{CLEP}_5 = p * n * w = .95 * 6 * .04 = \$ .24 \text{ daily (10 days a month)} \Rightarrow \$2.40/\text{m}$$

$$\text{CLEP}_5 \text{ for each month in the 5 month, cooling season: generates } \$9.60 / \text{month} \Rightarrow \$48.$$

During other months

$$\text{CLEP}_5 = p * n * w = .95 * 4.33 * .05 = \$ .2165 \text{ daily (20 days a month)} \Rightarrow \$4.33/\text{m}$$

$$\text{CLEP}_5 = p * n * w = .95 * 4.33 * .03 = \$ .1299 \text{ daily (10 days a month)} \Rightarrow \$1.30/\text{m}$$

$$\text{CLEP}_5 \text{ for each month in the 7 month, non-cooling season: generates } \$5.63 / \text{month} \Rightarrow \$39.41.$$

The total CLEP5 payment for a pure supply system is \$87.41, but since the wholesale prices used for energy were approximate, this number is equivalent to \$85. Thus, the total CLEP payment of CLEP5 and CLEPm for the year is  $\$85 + \$750 = \$835$ .

However, if the new CLEPm coefficient were used, i.e., \$57.60, the \$750/y income increases by a factor of 1.15 to \$862.50. Recalculating with this addend: CLEP income becomes  $\$862.50 + \$85 = \$947.50$ .

Compare that to net-energy-metering: The home's solar plant should be expected to produce on average: 25 kWh /day @ \$0.10 /kWh retail, the value is  $365 * \$2.50 = \$912.50$ . Thus CLEP pays back just below Net Energy Metering with the \$50 coefficient and just above net-metering with the \$57.6 coefficient. Another way to look to compare CLEP to NEM is consider the ratio of their magnitudes. With the \$50 CLEPm coefficient, CLEP pays around 8% lower than NEM. With the \$57.6 CLEPm coefficient, CLEP pays around 4% better than NEM.

At this point, the value of p which was temporarily set 1 will be revisited. If p is set to 95% as is the default and recommended value, CLEP is now negligibly different from NEM.