Community Solar: Sustainable Jersey How-to Guide

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Sustainable Jersey
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Cover images:

TOP: Perth Amboy Community Solar Project. 2021.
Image courtesy of New Jersey Board of Public Utilities.

BOTTOM: NREL. 2018. Solar with pollinator plants. Photo by Dennis Schroeder. 53021.

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ABOUT THE NEW JERSEY BOARD OF PUBLIC UTILITIES (NJBPU)

The NJBPU is a state agency and regulatory authority mandated to ensure safe, adequate and proper utility services at reasonable rates for New Jersey customers. Critical services regulated by the NJBPU include natural gas, electricity, water, wastewater, telecommunications and cable television. The Board has general oversight and responsibility for monitoring utility services, responding to consumer complaints, and investigating utility accidents.

ABOUT THE NEW JERSEY CLEAN ENERGY PROGRAM (NJCEP)

NJCEP, established on January 22, 2003, in accordance with the Electric Discount and Energy Competition Act (EDECA), provides financial and other incentives to the State's residential customers, businesses and schools that install high-efficiency or renewable energy technologies, thereby reducing energy usage, lowering customers' energy bills and reducing environmental impacts. The program is authorized and overseen by the New Jersey Board of Public Utilities (NJBPU).

ABOUT SUSTAINABLE JERSEY

Sustainable Jersey is a certification program for municipalities in New Jersey. Launched in 2009, Sustainable Jersey is a nonprofit, nonpartisan organization that supports community efforts to reduce waste, cut greenhouse gas emissions, and improve environmental equity. It provides tools, training and financial incentives to support and reward communities as they pursue sustainability programs. Sustainable Jersey is one hundred percent voluntary and each town can choose whether it wants to get certified and the actions it wants to do in order to achieve enough points to get certified.

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Executive Summary

Community solar provides a path for those who cannot install solar panels on their own building or residence—due to shading, orientation, cost, or other issues—to realize the cost savings and reduced carbon footprint of solar power. In addition, community solar projects can offer numerous benefits to municipalities, such as workforce development programs or positive development of difficult sites like landfills.

This guidebook is designed to assist municipal leaders in supporting community solar projects. Background information and resources are provided to illuminate the different roles municipalities can take in promoting community solar projects, including a step-by-step framework to help municipalities encourage projects most beneficial to the local community.

In particular, the guidebook discusses key considerations in developing a community solar project such as:

- Maximizing the benefit of the community solar project to the municipality and residents, particularly low- and moderate-income residents.
- Choosing municipal project roles.
- Selecting a site or sites in the community for projects.
- Navigating project development considerations such as creating a project team, financing model, and subscriber product offering for the project.
- Using a competitive process to select a developer or partner for the project.
- Applying for New Jersey's Clean Energy Program Community Solar Energy Pilot Program.

This guidebook also includes **case studies** from several municipalities selected from Pilot Year 1 of New Jersey's Clean Energy Program Community Solar Energy Pilot Program. These case studies show how community solar can benefit diverse municipalities, from large cities like Newark to smaller towns like Manchester.

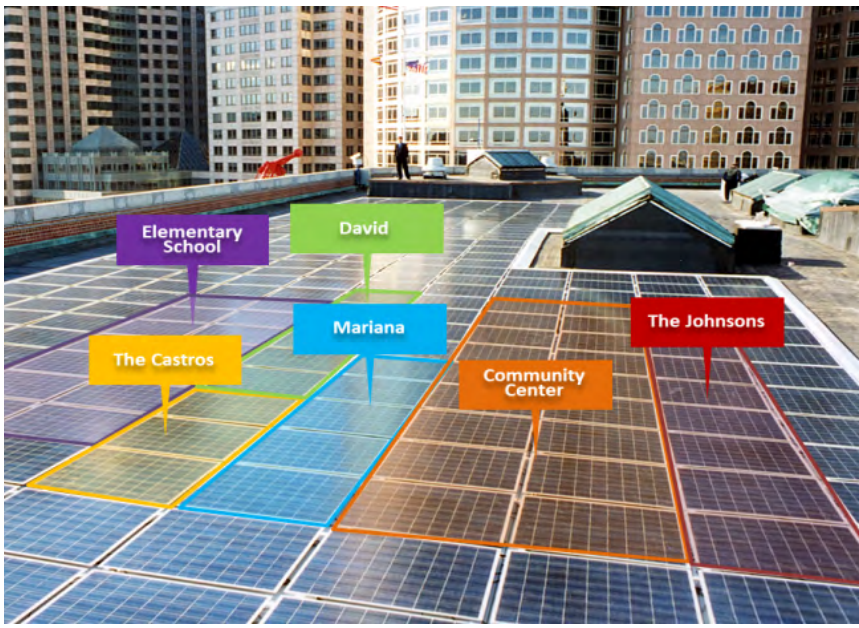
Community Solar Overview

Perth Amboy Community Solar Project. 2020.
Image courtesy of Solar Landscape.

What is Community Solar?

In traditional solar projects, property owners install solar panels on their property and receive credit on their utility bill for the electricity generated by the solar panels; this process is known as "net metering". In a community solar project, any utility customer can sign up as a participant to a solar installation sited elsewhere (on a landfill, municipal building, church, recreation center, commercial building, warehouse, etc.) and receive credit on their utility bill for the electricity created by the solar panels. Several customers can sign up for, or 'subscribe,' to the same solar installation for a percentage of the electricity produced by the community solar project.

The goal of NJCEP's Community Solar Energy Pilot Program is to create a community solar program that can bring the benefits of solar to all income sectors of New Jersey. Each facet of the program has been structured to incentivize inclusion of low- and moderate-income (LMI) residents. As a result, community solar is an opportunity to increase the amount of renewable energy being generated in New Jersey's communities and widen the range of residents able to participate in the clean energy transition. Access to community solar means that LMI residents see a cost reduction on their electricity expenses, thus reducing their overall energy burden (the percentage of household income that is used to pay energy bills). Other benefits include opportunities for workforce training as well as local job creation.



Cook County, IL. Community Solar Subscriptions.
www.cookcountyil.gov/communitysolar/CaseStudies

Does the municipality have to install solar panels on municipal property to support community solar?

No, the municipality can support community solar projects located anywhere in their electric utility service area. The municipality can take on a supportive role in an existing project or work with site owners or developers to create a new project. See Municipal Roles in Community Solar Projects section for further detail.

Benefits of Community Solar

Community solar is a path for electric utility customers who cannot install solar panels on their own property to realize cost savings and reduce their carbon footprint.

For residents, businesses, or other organizations that cannot put solar on their own roof for any reason—whether they are renters, have too many shade trees, cannot afford the cost, or other constraints—subscription to a community solar installation located off-site on a commercial rooftop, landfill, or parking lot canopy, for example, can allow them to participate in both the environmental and cost-saving benefits of solar energy. Community solar benefits the whole community in numerous ways by:

- Expanding access to solar in the community, including for low- and moderate-income residents
- Reducing energy costs for residents, businesses, and/or for government operations
- Increasing municipal income by leasing available rooftop, parking lot, or landfill space for solar installations
- Producing clean energy locally
- Creating local jobs and/or providing local workforce development
- Creating positive development on difficult sites, such as brownfields and landfills
- Enhancing community pride

Municipal support of community solar projects goes a long way towards making these projects successful. This guidebook details the different roles that municipalities can take in community solar projects and a step-by-step framework to help municipalities select proposed projects most beneficial to the local community.

Community Solar from the Customer's Point of View

Any metered customer in an electric utility service territory, including homeowners, renters, businesses, municipalities, institutions, non-profits, schools, and other entities can participate in community solar. Community solar projects can be structured so that participants are either subscribers or owners.

Subscription Model of Community Solar

In the subscription model, the customer signs a subscription agreement and receives credit on the utility bill for a portion of the electricity generated by the solar system. Subscribers to the community solar project will continue to receive a bill from the utility for their energy use, which will include the bill credit (i.e., the discount) associated with the subscription. A subscription will not necessarily cover the customer's full electricity usage. A separate bill will be sent to the subscriber for the cost of the subscription. A customer's bill savings are equal to the bill credit, minus the cost of the subscription.

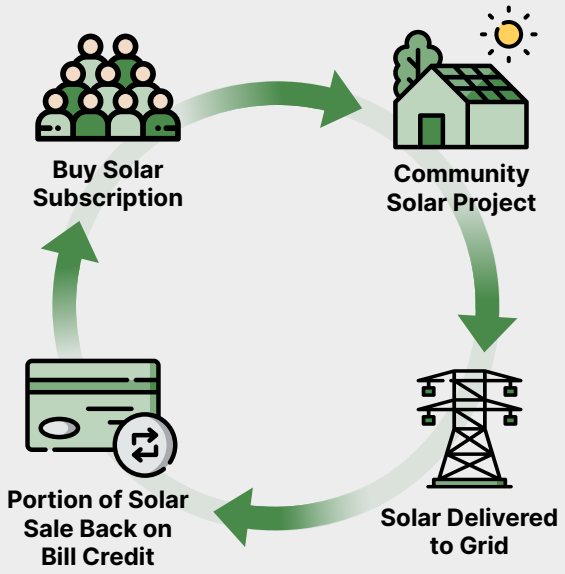
Subscription agreement terms may address the length of the subscription agreement, any guaranteed annual savings, missed payment penalties, and whether subscribers may retain a subscription if they move, for example, as long as their new address is in the same utility service area. Some projects may reserve a percentage of subscriptions for specific categories of subscribers, such as low- and moderate-income (LMI) residents or tenants of an affordable housing project.

Bill Credits in Community Solar

In community solar projects, solar panels are installed in a large array that serves multiple customers. This allows community solar to provide the benefits of solar to more customers and increases the number of sites that can be developed into successful solar projects, such as roof area on large buildings used for storage or other low energy applications.

Each subscriber receives a credit on their electric bill similar to 'net metering' available to customers that install solar panels on their roof. The community solar bill credit is calculated based on the subscriber's rate class. Credit for electricity production from the community solar panels can be 'banked' during high production months and the credit applied to later billing cycles on a customer's utility bill.

The bill credit does not represent 100% of the cost of electricity, meaning that community solar subscribers will continue to pay a portion of their electric bills that exceeds the amount of electricity produced by the solar subscription.



Financial Model of Community Solar

Information in model by NJCEP.

Separately, a community solar subscriber will receive a bill for their community solar subscription. Subscribers should check their contracts to make sure that the cost of the subscription is lower than the bill credit, thereby providing bill savings. Appendix E. Calculating the Savings from a Community Solar Subscription has more information about community solar bill credits.

Considerations for Master Meter and Affordable Housing Providers

In cases of master-metered buildings, the account holder of the master meter can subscribe to a community solar project and pass the benefits on to tenants. Affordable housing providers may qualify as an LMI subscriber for a community solar project, provided the benefits of the project are passed along to their residents/tenants. A directory of affordable housing providers is available from the NJ Department of Community Affairs.

Ownership Model of Community Solar

A community solar project may be structured so that instead of subscribing to the project for a fixed term, participants become owners of a portion of the generation capacity. Individuals, businesses, or other organizations may purchase a share of the solar project or a local nonprofit may own and administer a project on behalf of members. The participant contract will determine ownership terms, including apportioning of any incentives given to the project as well as any tax liabilities.

Supporting LMI Projects with Anchor Subscribers

Anchor subscribers are large energy users that support a community solar project by subscribing to a significant percentage (up to 40%) of the solar generation of the project. Anchor subscriptions usually have a longer contract term than other subscribers, often for the life of the project. The creditworthiness and longer contract term of the anchor subscriber provides financial stability to the project by reducing the subscriber turnover risk to the developer. A 2018 NREL study, **Modeling the Cost of LMI Community Solar Participation**, determined that projects without anchor subscribers had panel lease prices that were 55% higher than those with anchor subscribers.

Entities with more than one meter can have separate anchor subscriptions associated with each meter. Each meter will be associated with a unique subscription agreement and each meter can subscribe for up to 40% of the total project generation.

The anchor subscriber contract can be structured to absorb unsubscribed portions of the LMI reserved capacity until LMI subscribers are acquired. For example, an anchor subscriber may subscribe to percentage of the project for the life of the project but may subscribe for a higher percentage at the beginning of the project. In such arrangements, the contract may define the floor of participation as well as the ceiling.

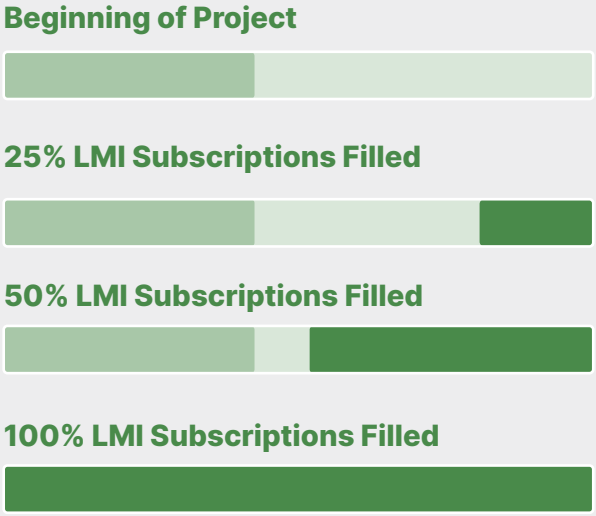
While the 'floor' of the subscription can be as low as 15% or less, the ceiling for the percent of the project subscribed by the anchor subscriber (non-LMI) can be no more than 40%. In the example in Box 2, the anchor subscription provides an early subscriber base for the project at 40% but falls over time to 0%, ending as LMI subscriptions fill out the project.

Some anchor subscribers, like affordable housing providers, can be counted as LMI subscribers. Municipalities can be anchor subscribers or can be project ambassadors and help bring local large energy users into projects as anchor subscribers.

Box 2. Anchor Subscriber Model

Structuring the anchor subscriber contract to provide income base until LMI subscription target is met

In example LMI subscription, target = 100%



Municipal Roles in Community Solar

Ribbon Cutting for Delanco Landfill Community Solar Project. 2021. Photo by Paul Seibert.
Image courtesy of Soltage.

Pictured from left to right:
Ed Cohen, Sustainable South Jersey
Kate Fitzpatrick, Delanco Township Committee
Jesse Grossman, CEO, Soltage
Troy Singleton, New Jersey State Senator
Joseph Fiordaliso, President, New Jersey Board of Public Utilities
Mark Miller, Operations Manager, Huen Electric
Herb Conaway, Assemblyman, NJ General Assembly
Jane Cohen, Executive Director, Governor's Office of Climate Action and the Green Economy

Selecting a Project for Municipal Support

While municipal support is not required for community solar projects to be approved, it is valuable to a solar developer. In addition to getting assistance from the municipality, projects that applied in Program Year 1 were scored higher in the NJCEP application process if they included letters from the municipality or other demonstrations of municipal support. A similar preference was identified in the Program Year 2 evaluation criteria (see Appendix A).

The municipality can condition its support of a community solar project on whether the project meets criteria determined by the community. Community criteria may include:

- **Benefit to the community**

  Are there opportunities for local workforce development, positive development of difficult sites like brownfields or landfills, or other ways that the community solar project will benefit the community?

- **Capacity dedicated to participation by low- and moderate-income (LMI) residents**

  Will a percentage of the project subscriptions be reserved for LMI residents? Is there a mechanism for funding incentives for LMI residents?

- **Protections for consumers**

  What is the proposed course of action if panels produce less than expected, the project ends early, or another unplanned event occurs? Can consumers end their subscription without significant cancellation fees in the event they move or wish to end their subscription?

- **Revenue generation**

  If the municipality is leasing its property to site the community solar project (use of municipal landfill, rooftop, parking lot), what revenue will the site leasing generate?

- **Responsibilities of the municipality**

  What work will be carried out by municipal staff?

- **Municipal costs**

  If the municipality provides incentives, such as reduced permitting fees, what will be the impact on the municipality?

- **Municipal benefits**

  Will the municipality join the community solar project as an anchor subscriber? What will be the estimated cost savings on the municipality's electric bills?

Once a municipality has decided on the preferred criteria for the project, the next step is often for the municipality to solicit proposals from solar developers.

Typical Municipal Roles in Community Solar Projects

There are several roles municipalities can take on in community solar projects; each role represents varying degrees of municipal involvement in the projects. Municipalities can create early financial stability for a project by becoming an anchor subscriber or help reduce subscriber acquisition costs by educating the community and serving as an outreach ambassador with local stakeholders. Municipal roles in community solar projects are described in more detail below.

Project Supporter

Municipalities may be contacted by project developers asking for municipal support for a community solar project. Projects with demonstrated municipal support (e.g. letter of support, municipal resolution, etc.) scored higher in the Program Year 1 project evaluation process. Municipal support is also expected to be considered in the Program Year 2 project evaluation. The municipality can work with the developer to determine whether to support the project, whether the municipality wishes to condition its support on specific design elements of the community solar project (e.g., LMI inclusion, community benefits, etc.), and whether the municipality wishes to serve additional roles for the project as listed in Box 3 below.

Outreach Partner

In the role of outreach partner, the municipality can use municipal resources (mailing list, website, etc.) to educate the community about community solar in general and to provide subscription details of municipally supported projects. Municipal outreach can help reduce the developer's customer acquisition costs, thus reducing the overall cost of the project.

Project Ambassador

As a trusted messenger, the municipality is an important ally to any community solar project. By acting as an ambassador for the project, municipal leaders can help recruit project partners, which may provide additional support for LMI inclusion in the project. Municipalities can help to recruit anchor subscribers, affordable housing property owners, and sponsors, such as non-profit and faith-based organizations that may underwrite some or all of the subscription fees for LMI residents.

Municipal Roles in Community Solar

Project Supporter

- Municipality works with developer to ensure that project is consistent with municipal goals and supportive of community interests
- Municipality provides letter of support for the project as part of the BPU application

Outreach Partner

- Municipality uses municipal resources (mailing list, website, etc.) to educate the community about community solar

Project Ambassador

- Municipality acts as ambassador for project, facilitating connections between developers, site owners, anchor subscribers, affordable housing property owners

Zoning

- Municipality reduces zoning barriers for large scale solar installations by:
  - Describing requirements for large scale ground mount solar
  - Describing requirements for commercial rooftop solar

Permitting

- Municipality helps developers understand local permitting requirements
- Municipality adopts permitting fee structure to incentivize community solar

Multi-Municipality Project Coordinator

- Municipality partners with neighboring municipalities to:
  - Reduce resource commitment needed by each municipality
  - Encourage advantageous pricing/ terms for subscribers as larger projects are more attractive to developers

Anchor Subscriber

- Municipality serves as substantial subscriber, up to 40% total site generation
- Municipality receives billing credit on municipal electric bill

Site Host

- Municipality hosts community solar project on municipal property
- Municipality generates revenue from the site lease for the solar installation

Developer/ Project Owner

- Municipality takes on higher level of involvement/difficulty
- Municipality directly arranges construction and other contracts (developer)
- Municipality legally and financially controls the project (project owner)

Zoning and Permitting

Municipal permitting requirements and zoning ordinances are important components in supporting community solar. Municipal zoning ordinances may need to be updated to specifically allow for large scale solar projects, including ground mount arrays and commercial rooftop installations. Additionally, the municipality may ease project development time and costs by designating the site of a community solar project as a redevelopment zone.

Municipalities can streamline permitting for community solar projects by offering a permitting consultation and by providing developers with a permitting checklist. Municipalities can further support community solar by offering expedited permitting and inspection processes or adopting reduced permitting fees for community solar.

Anchor Subscriber

Municipalities can support a community solar project by serving as an anchor subscriber. Municipalities with more than one meter can be anchor subscribers for more than one community solar project as long as each subscription is attached to a separate electrical meter, such as electrical meters for town hall, police station, public works, etc. Community solar anchor subscribers receive a bill credit on their electric utility bills for each meter.

NOTE: Municipal anchor subscriptions are subject to the normal procurement process; consult the municipality's procurement officer to determine the process required for the project under consideration.

Developer and Project Owner

Some municipalities may wish to take on the role of the developer or project owner. It is important to understand the difference between the developer and the project owner.

- The **developer** is responsible for procuring the contracts for the construction of the community solar installation.
- The **project owner** is the entity that legally and financially controls the community solar project. The project owner retains full ownership of the renewable energy certificates (RECs) generated by the project unless otherwise determined by the contract. Also, the project owner controls how subscriptions are structured and allocated.

Taking on either of these roles adds significantly to the difficulty of the project and may not be feasible or advisable for most municipalities. Both options will create additional administrative workload. Despite these difficulties, municipalities may wish to undertake one or both of these roles because:

- proposals received from RFP process did not meet municipal requirements, such as inclusion of local workforce development; and/or
- profits stay with municipality where they can either be retained by municipal government as operating budget or reinvested into the project in the form of increased incentives for LMI residents.

NREL. 2010. Solar Installation. Photo by Dennis Schroeder. 18482.

Site Host

If the municipality has land or buildings that are good sites for solar, these sites can generate revenue for the municipality. Municipalities can become site hosts in several ways, most often by leasing municipally-owned sites (rooftop, parking canopy, landfill, etc.) to the developer or by entering a power purchase agreement (PPA) with the developer for a solar installation on the site. In the PPA, the developer owns the solar installation, and the municipality purchases the electricity produced by the solar panels at a reduced rate.

Municipalities may choose to forgo site-leasing payments or bill credits for site hosting in return for beneficial terms for LMI subscribers, such as reduced subscription pricing or elimination of sign-up fees.

One of the benefits of community solar is the possibility of positive development on difficult sites like brownfields and landfills. For municipalities that need to cap a landfill, it may be possible to build the cost of the site capping into the community solar project proposal. The case studies include examples of projects sited on municipal landfills in Linden and Manchester.

Resources for site hosting, including sample lease agreements developed specifically for use in solar site leasing are provided in Appendix C. Procurement Guide; resources for brownfield development are provided in Appendix D. Resource Guide.

Multi-Municipality Project Coordinator

The benefits of community solar can be maximized by partnering with multiple municipalities. Municipalities in the same utility service area can create joint projects and share responsibilities and resources. A project with more community resources may attract more advantageous offers from developers, resulting in better pricing for participants, and reduced administrative overhead.

An example of such a partnership could include Municipality A being a site host and Municipality B acting as an anchor subscriber or outreach partner for Municipality A's site, with residents from both communities benefiting from the collaborative project. An example of community solar benefiting more than one town is a North Bergen project that also benefits Secaucus residents. See the case studies section for further details.

Bringing the Benefits of Solar to All Residents

Municipalities have an important role to play in making sure community solar projects include LMI residents. Taking an active role in supporting these projects not only makes the community more attractive to developers, but also enables the municipality to set project parameters so that there are clear project benefits to LMI residents.

The NJCEP Community Solar Energy Pilot Program incentivizes inclusion of LMI residents by setting aside a minimum of 40% of total program capacity for projects serving low- and moderate-income residents. Additionally, in Pilot Year 1 and 2, NJCEP offered additional points in the application scoring process to projects with at least 51% of the generation capacity reserved for LMI subscribers. Projects with municipal support also scored higher in the NJCEP application process.

Municipalities can condition municipal support for community solar projects based on project elements advantageous for LMI residents, such as subscription terms that:

- Reserve a percentage of the total site generation for LMI subscribers. LMI subscribers may take longer to recruit for community solar subscriptions. Reserving a defined percentage of subscriptions for LMI residents helps ensure that subscriptions are available for LMI residents as the LMI targeted outreach takes effect.
- Offer enhanced subscription pricing for LMI residents. The project can offer LMI subscriptions at a discounted price; this discount may be negotiated as part of the contract with the developer or underwritten by the municipality or another sponsor.
- Provide supportive LMI contract terms. LMI subscribers may feel more comfortable subscribing if contract lengths are shorter. Inclusion of a penalty-free contract release for unplanned events, such as an unexpected relocation, will also make LMI residents feel more at ease subscribing. LMI subscriptions should have payments set at the same price throughout the contract, with no payment escalator.

NREL. 2012. Solar Installation.
Photo by Dennis Schroeder. 21512.

Local Workforce Development

Another way to benefit LMI communities with community solar is including local workforce development and local workforce recruitment as part of a project. In order to facilitate the training program, a municipality may offer outreach support, a temporary site for training, or other resources to make the addition of a workforce development component to the project more feasible. Developers and other project partners may consider forming partnerships with existing programs to offer job training locally.

Structuring Projects for Low- and Moderate-Income Residents

Community solar offers a unique opportunity to bring the benefits of solar to low- and moderate-income residents. Strategies such as these can help encourage LMI participation in community solar projects. The case studies include examples of subscription and project structures for LMI projects from Pilot Year 1.

Subscription Structure

- **Reserved capacity for LMI subscribers** establishes a percentage of the total project generation that will only be available to LMI subscribers. The Pilot Program defines an LMI project as one that reserves at least 51% of the project's capacity for LMI subscribers.
- **Enhanced subscription terms** for for LMI residents may involve providing discounted fees for LMI subscribers and/or underwriting the fees for LMI participants partially or in full by non-profit entities, donors, the municipality, or via an incentive program.
- **Supportive LMI contract terms** for LMI subscribers include shorter contracts or other flexible terms.
- **Flexible anchor subscriber structure** provides flexibility for the anchor to absorb vacancies in the LMI reserved capacity.
- **Affordable housing providers** may participate as subscribers on behalf of their tenants as long as the benefits are passed through to the residents.
- **Sponsorship options** create opportunities for individuals and entities to sponsor or underwrite some or all of the fees for LMI residents.

Project Structure

- **Inclusion of an anchor subscriber** provides an early, constant income base for the developer. (See Anchor Subscriber Section).
- **Supportive permitting** offers waivers or reduced permitting fees for LMI projects.
- **Site host contract terms** may include site host (like the municipality) choosing to forgo lease payments or bill credits for site hosting in return for beneficial terms for LMI project subscribers.
- **Multi-municipality partnerships** may result in beneficial terms for LMI residents. For example, a solar array located in one municipality can offer subscriptions to affordable housing authorities in multiple municipalities.

Developing a Community Solar Project

Three key components to developing a community solar project are **siting the project**, **developing a project team**, and **creating the financial model/product offering** of the project.

NREL. 2016. Parking Canopy Solar Installation. Photo by Dennis Schroeder. 37951.

Siting: How to Determine the Best Place to Locate the Project

The site selected for a community solar project can impact the cost to build the project, and consequently, the offering made to subscribers. While cost and generation abilities of any site depend on site conditions, on average five acres of panels can host photovoltaic panels representing about one megawatt of solar, which would typically serve 100-200 households. The maximum project size for community solar projects in the NJ Community Solar Energy Pilot Program was capped at five megawatts. The Pilot Program had no minimum kW size requirements; however, projects were required to have at least ten subscribers.

Determining the site of a project is sometimes done by the municipality, or a developer may propose sites or suggest the municipality join a project sited in another part of the same utility service territory.

NYC Five Borough Administrative Building www.nycgovparks.org

Box 5. Bonus Scoring in NJCEP Evaluation Process

Siting Bonuses

Projects that include landscaping, land enhancement, pollination support, storm water management, and/or soil conservation will receive bonus points in the NJCEP Year 2 selection process. See Appendix A. Program Year 2 Evaluation Criteria for details on how points are awarded for siting.

Site Selection

Community solar can be located on many types of sites, including private or public land (brownfields, closed landfills), public buildings, commercial rooftops (warehouses, manufacturing facilities), affordable multifamily housing, buildings owned by nonprofit organizations and churches, and other sites. The solar installation must be located in the same electric utility service territory as the subscribers, i.e., if subscribers are PSE&G customers, the community solar project must be in PSE&G territory.

Online Tools to Evaluate Sites for Community Solar Projects

New Jersey Department of Environmental Protection (NJDEP) NJ Community Solar PV Siting Tool:

www.nj.gov/dep/aqes/solar-siting.html

The NJDEP Community Solar PV Siting Tool can show the estimated interconnection capacity of a site. The interactive tool can also show if sites qualify for points based on criteria in the Pilot application, such as brownfield designation.

NJDEP NJ Community Solar PV Siting Tool User Guide:

www.nj.gov/dep/aqes/docs/sstguide.pdf

PVWatts Calculator:

pvwatts.nrel.gov/pvwatts.php

PVWatts Calculator is an interactive tool created by the U.S. Department of Energy. The tool estimates the solar generation capacity based on the location and other characteristics of the site.

Interconnection Capacity Maps

Atlantic City Electric

Jersey Central Power and Light

Orange and Rockland Electric

Public Service Electric and Gas

For additional information about interconnection and contact information for each utility's interconnection department, see: NJCEP Interconnection Page.

Interconnection and Capacity

Each utility must have enough hosting capacity at the site to accept incoming electrical current, and each utility must have infrastructure in place in the area of the solar project to connect the solar system to the grid. Utility infrastructure upgrades to accommodate specific sites are possible but add to the overall development cost of the project.

New Jersey Department of Environmental Protection Site Permitting Process

Before submitting a project for approval, applicants have to complete the NJDEP Permit Readiness Checklist. Project organizers have the option to have the plans reviewed by the NJDEP Office of Permitting and Project Navigation to identify the permits needed and other possible issues. Floating community solar projects (projects sited to float on use bodies of water) must meet with the NJDEP Office of Permitting and Project Navigation before an application is submitted.

NREL. 2018. Floating Solar. Photo by Dennis Schroeder. 53994.

Common Types of Solar Arrays

When selecting a site for a community solar project, an important consideration is the type of solar array that can be installed at the site. Common panel arrays are described below.

Roof Mount Panels are installed on a building's roof. The condition of the roof is important; poor roof conditions may add to the cost of project. The roof should not require replacement within the projected lifetime of the solar installation (~25 years).

Ground Mount Solar Panels are mounted on a framework directly on the ground, including brownfields, closed landfill sites, and other sites that would be difficult to develop. Community solar projects may not be sited on preserved farmland.

Canopy Mount Panels are suspended over parking lots or other uses of the ground space. Canopy mounted panels have the highest cost per kWh, due to engineering and equipment required for the canopy.

Floating Panels are solar arrays floating on a body of water, such as Sayreville's 4.4 MW installation at the water treatment plant.

Box 7. The Role of Redevelopment Zones in Community Solar

Redevelopment Zones in Community Solar

If the site being considered for a community solar project is in a redevelopment zone the project will be able to take advantage of redevelopment zone financing tools and incentives as well as the provisions established for redevelopment zones in New Jersey contract law.

One of the powers of a redevelopment agency as put forth in N.J.S.A. 40A:12A-8 is the ability to lease or convey property or improvements without public bidding. While this may expedite a community solar project, the municipality may still decide to issue a request for proposals (RFP) for solar development of the site to ensure that the most advantageous development offer is selected for the project. Linden, NJ, one of the **case studies** featured in this guidebook, made the choice to issue an RFP for a developer for their project located on a municipal landfill redevelopment site.

If the site under consideration for a community solar project meets the criteria for a redevelopment zone as established under N.J.S.A 40A:12A-5, the municipality may consider designating the area a redevelopment zone.

Developing a Project Team

The Pilot Program application requires that the following project partners be known at the time of the application: Project Owner, Developer, and Property/Site Owner. Additional optional partners may include the subscriber organization, consultants, outreach partners, financing partners, and affordable housing providers. In Pilot Years 1 and 2, municipal applicants were exempt from identifying the developer at the time of application if they intend to select the developer via a public bidding process such as an RFP.

- **Project Owner**: entity that financially and legally controls the project; often serves as the developer, particularly in the early stages of project development.
- **Developer**: oversees construction, acts as liaison to utility.
- **Property/Site Owner**: owner of site where panels will be placed; can be a public entity site such as a municipality or school, a private entity commercial/industrial site, or a nonprofit entity site such as a church, shelter, affordable housing complex. The site owner can be, but does not necessarily need to be, the same as the project owner.
- **Subscriber Organization**: conducts subscriber acquisition and subscriber management. All subscriber organizations are required to register with the BPU.

Box 8. Using a Consultant to Develop a Community Solar Project

Using a Consultant to Develop a Community Solar Project

Hiring a consultant is a decision some municipalities make to facilitate planning for a community solar project, particularly if the municipality is seeking to lead or be actively engaged in the development of the project. Common roles for consultants include completing the NJCEP application paperwork and managing competitive bidding (RFP) to select a developer.

It is not mandatory to work with an energy consultant. However, if the municipality decides to hire an energy consultant, an RFP is highly recommended. If an RFP is issued, notifying energy consultants on the NJ BPU list of energy agents will maximize the number of proposals received. Another option for engaging an energy consultant is to work with a purchasing co-op that has already conducted a competitive bidding process for energy consultation services.

How will the consultant be paid? There are several ways consultant fees can be structured in a community solar project. The municipality can pay an agreed-upon fee directly, include the fee in a larger consulting contract, or compensate the energy consultant when the final contract is signed with a developer. If the energy consultant works "on spec" until the project is approved, the consultant is compensated through the terms of the developer contract. If the project doesn't move forward, the consultant is not paid.

Is a consultant required? No, having a consultant is not a requirement. A municipality is not required to take a major leadership role in the design and implementation of a project, but rather can provide support to a developer's project.

Incentives, Tax Credits, and Funding to Support Community Solar

Federal Programs

Investment Tax Credit (ITC)

The federal investment tax credit (ITC) allows a project owner to deduct a percentage of the cost of a solar project from their federal taxes. More information can be found in the U.S. Department of Energy Solar Technologies Office publication, ***Guide to the Federal Investment Tax Credit for Commercial Solar PV.***

State Programs

Brownfields

For projects that involve brownfields, the New Jersey Economic Development Authority (NJ EDA) has funding to support initial site preparation work through the Brownfields and Contaminated Site Remediation Program. More information can be found in New Jersey Economic Development Authority's report, Brownfields and Contaminated Site Remediation Program available at: **https://www.njeda.com/large_business/brownfields**.

New Jersey's Clean Energy Program's Administratively Determined Incentive (ADI) Program

Community solar projects are eligible for incentives through New Jersey's Clean Energy Program's Administratively Determined Incentive (ADI) Program. In almost all community solar projects, these incentives go to the project owner, unless otherwise agreed upon by contract. Details about the ADI program incentives can be found at **NJCleanEnergy.com/renewable-energy/programs/susi-program/adi-program**.

Soliciting Proposals for Community Solar

Once a municipality has decided what criteria the community desires for the project, the siting option or options being considered, which role or roles the municipality wishes to serve—such as site host, anchor subscriber, development of a project on a landfill site owned by the municipality, or establishing a redevelopment zone in the municipality—the next step is for the municipality to solicit proposals from solar developers.

Municipal leaders should form an advisory committee to draft the solicitation for community solar proposals. This committee may include:

- Business Administrator/Qualified Purchasing Agent/Municipal Attorney
  - provide guidance about procurement requirements
- DPW/Engineering department
  - identify sites for hosting project on municipal property
- Green Team
  - assist outreach efforts
- Affordable Housing Coordinator
  - provide information about the size and type of LMI housing
- Municipal Planner/Planning Board
  - identify zoning barriers to large scale solar installations
  - review and update permitting ordinances

Steps to Selecting a Community Solar Project for Municipal Support

Solicitation to solar developers for community solar proposals. → Pre-proposal meeting with developers to discuss municipal role in projects. → Evaluation of developers' proposals. → Select project(s) for municipal support.

Does the Municipality Need to Issue a Request for Proposals (RFP)?

Not necessarily. In particular, if the municipality is only providing support for a project that is being developed by a third-party, an RFP is likely not needed. If the municipality has a financial stake in the project, such as being a project subscriber, providing a concession, or receiving payment for leasing a site above a purchasing threshold, the municipality is required to go through a competitive selection process (**N.J.A.C. 5:34-1**). Consult the municipal procurement officer to determine the procurement requirements for the project in consideration.

If it is determined that a competitive process is not required, the municipality may still consider issuing an RFP or more informal solicitation to ensure that the project receiving municipal support is the best project available to the municipality. If the municipality elects not to have a formal selection process, it is strongly recommended that the municipality use evaluation resources such as those provided in **Appendix A. Program Year 2 Evaluation Criteria from NJCEP** and **Appendix B. Community Solar Product Offering Questionnaire** to compare the offerings of developers.

In the Pilot Program, for projects in which a municipality, county, or state is the project owner/applicant to NJCEP, the RFP/ RFQ or another bidding process may be completed after the NJCEP approval process.

NOTE: Some forms of municipal support described in the **Municipal Roles in Community Solar Projects** may meet the definition of a concession. Any resource provided by the municipality for which a developer would otherwise have to spend money or other resources can be considered a **concession**. An example would be if the municipality uses municipal resources, like the municipal website, to help sign up subscribers. Please consult with the municipal procurement officer and legal counsel on this matter.

Crafting an RFP for a Community Solar Project

The purpose of an RFP is to ensure that the municipality supports the project(s) that best helps the municipality meet its goals for a community solar project, such as including low- and moderate-income residents or workforce training.

RFPs should include a list of evaluation criteria that addresses both municipal goals for the project and the proposed contract terms for all classes of subscribers (LMI, anchor, etc.). The evaluation criteria included as part of New Jersey's Community Solar Energy Pilot Year 2 Application address many of the criteria municipalities should evaluate as part of an RFP. These resources are available in **Appendix A. Program Year 2 Evaluation Criteria from NJCEP** and **Appendix B. Community Solar Product Offering Questionnaire**.

If the municipal procurement officer determines that the municipality is required to award the contract based on pricing, the municipality should include the non-price criteria of an acceptable community solar project in the bid specifications. See **possible criteria**.

Key Considerations for RFPs for Municipal Community Solar Site Hosts

If the municipality is considering leasing its property to serve as a site host, the RFP will need to contain all the components of a traditional solar site RFP as well as address the criteria established by the municipality for community solar projects. These considerations include:

- Division of maintenance responsibilities between site owner and developer
- Roof integrity and warranties
- Terms of contract including structure of income to municipality
- Permitting and inspection compliance
- Tax implications of contract
- Liabilities
- Insurance requirements of all parties
- Interconnection responsibility
- Team qualifications and experience
- Technical specifications
- Project schedule
- Community benefits

Below are some procurement models for municipalities seeking to be site hosts or anchor subscribers for community solar projects. These models can be combined and modified based on the municipality's preferences and the specific circumstances of the project.

Community Solar Site Hosting Agreement Types

There are many possible site hosting agreements. The two most common agreements are:

- **Site Leasing**
  The municipality enters a lease with a developer for the site (municipal land, municipal rooftop, municipal parking lot canopy, etc.) and receives a direct lease payment for the site, according to the terms of the contract. **Appendix C. Procurement Guide** includes sample lease agreements developed specifically for use in solar site leasing.
- **Subscription Agreement**
  The municipality enters into an agreement with the developer, which allows the developer use of the site, and in return, the municipality receives a credit on their electric bill for the electricity produced by the solar system by means of a community solar subscription.

Note that if there is on-site electricity usage, it may be more advantageous for the municipality to develop the project as a net metered project that serves the electricity needs of the building, rather than a community solar project. If siting a net metered system and a community solar system in the same site, each system would be separately metered and operate independently.

Procurement Models for Municipal Site Hosts and Anchor Subscribers

Role	Financial Model	Project Details
Municipal Site Host	Municipal Site Lease	Municipality issues RFP/competitive bidding to lease site.* Municipality is paid directly by the solar developer. Payment to municipality is not tied to solar generation of site.
Municipal Anchor Subscriber	Municipal Community Solar Subscription Agreement	Municipality issues RFP/competitive bidding for a community solar subscription contract.* The municipality receives community solar bill credits applied to one or more municipal electrical accounts.
Municipal Site Host	Net-Metered Solar and Community Solar Site Lease Projects at the Same Site	If the solar project is planned for a site that uses electricity (has on-site load), the site owner would benefit from installing a traditional net metered solar array large enough to generate the amount of electricity used on-site. If there is space for additional solar panels on the site after the generation needs of the site owner are met, the remaining space can be used for a community solar project. The net-metered system would need to be separately metered and operated from the community solar system.*

** If the municipal procurement officer determines that the municipality is required to award the contract based on pricing, the municipality should include the non-price criteria of an acceptable community solar project in the bid specifications. See **possible criteria**.*

Conclusion

Community solar is a valuable tool bringing the benefits of solar to all New Jersey residents. Community solar projects create an economic pathway for adding solar to more rooftops, landfills, and other sites than was previously possible.

Projects that receive municipal support can be structured to align with municipal priorities, especially project elements that benefit LMI residents. While the municipality may receive calls from developers looking for a letter of support or other assistance for a proposed community solar project, municipalities are encouraged to use this guide to determine criteria by which the municipality can evaluate prospective community solar projects and consider potential roles for a municipality beyond providing its support.

Engaging in the process of soliciting proposals for community solar projects can help ensure that the municipality receives proposals for projects that offer the best terms available for both the municipality and its residents.

Perth Amboy Community Solar Project. 2020.
Image courtesy of Solar Landscape.

Steps to Creating a Municipally Supported Community Solar Project

Getting Proposals from Solar Developers		
Develop municipal stakeholder team/ Define community goals	▸ Decision makers/municipal leadership ▸ DPW/Engineering department: to develop list of potential suitable sites NJ Community Solar PV Siting Tool (see siting section). ▸ Green Team: develop list of possible outreach efforts ▸ Affordable Housing Coordinator: provide information about the size and type of LMI housing ▸ Municipal Planner/Planning Board: to evaluate zoning and permitting ordinances to incentivize community solar	pp. 8, 21
Evaluate multi-municipality project	Are there neighboring municipalities with assets that would combine with your municipal assets to make a stronger project?	p. 12
Hire consultant	▸ Having a consultant is not required ▸ Competitive bidding for consultant recommended but not required	p. 19
Identify municipal roles	▸ Compile list of incentives municipality is willing to offer towards project, such as underwriting LMI subscriptions ▸ Consider roles municipality would be willing to take on in project, such as anchor subscriber and/or site host	pp. 9-12
Solicitation for project developer	▸ Issue RFP if required or desired by municipality ▸ Issue less formal solicitation for project proposals in cases where RFP not required or desired	pp. 21-24
Selecting a Developer and Putting Together an Application to the NJCEP Community Solar Program*		
Project selection	Municipal team evaluates proposals and selects project(s) worthy of municipal support	p. 8
NJDEP permit readiness	Optional review by NJDEP Office of Permitting and Project Navigation to identify permits needed. Review mandatory for floating projects.	pp. 17
Application	Developer and municipality develop and submit application to NJCEP	p. 27
Pass resolution	Municipality passes resolution of support (this step is not mandatory and can be earlier in the process)	
NJCEP Approves Project		
Execute contracts	▸ Execution of lease/PPA agreement for site host ▸ Execution of subscriber agreement for municipal anchor subscriber ▸ Execution of contract for municipal roles per NJ Public Contract Law	

**Note: In the Pilot Program, if the municipality, county, or state is the project owner/applicant to NJCEP, the RFP/ RFQ or another bidding process to select the project developer may be completed after the NJCEP approval process. Please consult the Application Form for more information.*

Applying for Community Solar Energy Pilot Year 2

Information is presented on New Jersey's Clean Energy Program Community Solar Energy Pilot Program Year 2 for reference. The application for Pilot Year 2 (which closed in February 2021) can be found **here**.

Project Specifications:

- Maximum size of individual community solar project: 5MW, no minimum size
- Minimum 10 subscribers (possible exemption for multifamily buildings with a community solar project located on the property)
- Maximum 250 subscribers per 1MW capacity
- All rate classes are eligible to participate in a community solar project
- Account-holders of a master meter are allowed to subscribe to community solar on behalf of their tenants (specific rules apply)
- Anchor subscriptions cannot exceed 40% of the project's annual net energy production
- Subscriptions cannot exceed 100% of the subscriber's 12-month historic annual usage
- Subscriptions are portable and transferable
- Approved project is expected to begin construction within six months of approval by Board, and be operational within 12 months
- Existing solar projects cannot apply to re-qualify as a community solar project
- A low- and moderate-income project is defined as a project in which a minimum 51% of project capacity is subscribed by LMI customers

Community Solar Pilot Application Scoring and Preferred Conditions

In order to be considered for the pilot in Year 2 of the program, an application must score at least 50 points. On the last page of the pilot program application, there is an application scoring matrix. The most beneficial attribute a project can have is to be an LMI project, meaning at least 51% of the project capacity is subscribed to by LMI subscribers. Affordable housing providers may qualify as LMI subscribers.

Other preferred conditions include: brownfield/historical fill siting; guaranteed savings of 10% or more to subscribers; flexible subscriber contract terms; partnership with a municipality, local community organization, or affordable housing provider; creation of local jobs or job training opportunities; community co-benefits (e.g., paired with storage, micro grid project, energy audit, energy efficiency measures); location of site in proximity to subscribers. The scoring rubric for the NJCEP Community Solar Energy Pilot Program Year 2 application is provided in **Appendix A. Program Year 2 Evaluation Criteria from NJCEP.**

FAQs

Does the municipality have to install solar panels on municipal property to have a municipally-supported community solar project?

No, the municipality can support community solar projects located anywhere in their electrical distribution territory (electrical utility service area). The municipality can take on a supportive role in an existing project or work with site owners or developers to create a new project. A list of current community solar projects can be found in the 12/20/2019 BPU Board Order.

A solar developer contacted the municipality and is requesting municipal support for a community solar project they are putting together, what is the best course of action?

Municipal support is valuable to a solar developer. In addition to getting assistance from the municipality, the project is also scored higher in the NJCEP application process. To make sure the municipality is supporting the best project available, it is recommended that the municipality follow the process laid out in the Selecting a Project for Municipal Support section.

Can a municipality have more than one municipally-supported community solar project?

Yes, a municipality may support more than one project. If the municipal support includes an anchor subscription by the municipality, each municipal anchor subscription will need to be associated with a different municipal electrical meter.

What percentage of savings on subscriber electric bills should a municipality expect to see in a community solar proposal?

Bill savings are likely to be between 10-20%. Projects may be structured to give low- and moderate- income residents a higher bill savings rate than other classes of subscribers. Unless guaranteed by contract, the bill savings can be calculated by subtracting the cost of the community solar subscription from the total estimated bill credits.

How does community solar compare to R-GEA?

Community solar and Renewable Government Energy Aggregation (R-GEA) are both important mechanisms for increasing renewable content in the electrical supply of consumers. Some differences and similarities are outlined below:

- Community solar projects make subscriptions available for a portion of municipal residents while R-GEA serves all residents who don't opt-out.
- Community solar directly leads to the creation of new solar arrays in the municipality's electrical service area while R-GEA currently relies on Renewable Energy Credits (RECs) of existing renewable energy projects, which may be located in other states.
- Community solar secures long-term, renewable energy content for subscribers; R-GEA contracts are short term and are impacted by price changes in the energy market.
- Community solar is often developed by a private entity, with or without municipal support and participation; R-GEA is necessarily implemented via a municipal or county RFP.
- Having a community solar project does not mean that a municipality cannot do an R-GEA, and vice versa. Customers participating in an R-GEA can also subscribe to a community solar project, and a municipality with a community solar project can participate in an R-GEA program.

For more information about R-GEA see the **Renewable Government Energy Aggregation: Sustainable Jersey How-To Guide (2019)** and the **Sustainable Jersey R-GEA action**.

How does net metering in traditional solar compare to community solar bill credits?

Community solar bill credits and net metering, while both advantageous, are not identical. In net metering, each kWh generated by the solar array is deducted from the number of kWhs billed to the customer at a 1:1 ratio.

The community solar bill credit provides a partial credit per kWh, as it excludes certain non-bypassable charges, including monthly fixed customer charges, such as the societal benefit charge. For customers with time of use (TOU) rates (mostly non-residential accounts) the community solar credit cannot be applied to demand charges. The community solar bill credit does not represent 100% of the cost of electricity, meaning that community solar subscribers will continue to pay a portion of their electric bills.

Community solar subscribers will receive two bills for their electricity use: an electric utility bill and a separate bill for the community solar subscription. Subscribers should check their contracts to make sure that the cost of the subscription is lower than the bill credit, thereby providing bill savings. See **Appendix E. Calculating the Savings in a Community Solar Project**.

Can municipalities participate in the NJCEP Community Solar Program?

Municipal utilities may develop their own community solar projects; they are not eligible to participate in the NJCEP Community Solar Energy Pilot Program. Municipal utilities also do not need BPU approval to start their own Community Solar Program.

How will the Clean Energy Act Solar Transition impact community solar subscribers?

New Jersey is beginning a transition process in the solar market that will change incentives available for solar projects. In the case of community solar, these renewable energy credits (called Transition RECs, or TRECs) are most often allotted to the project owner or developer. Subscribers and other project partners will likely not be involved in the process of navigating the transition market.

For details about TREC incentives available: bpu.state.nj.us/bpu/pdf/boardorders/2020/20200309/3-9-20-8H.pdf

Does municipal support mean that a community solar project is automatically able to proceed?

No, all community solar projects must receive conditional approval from the New Jersey Board of Public Utilities in order to proceed. Municipal support for proposed projects was considered in the evaluation of Pilot Year 1 and 2 projects, among other criteria.

Is it possible for the monthly subscription fee to be included in the utility bill along with the bill credit?

NJCEP is considering this prospect, but currently, including the subscription fee on the utility bill, also referred to as consolidated billing, is not provided for in the NJCEP Community Solar Energy Pilot Program rules.

Can a Government Energy Aggregation (GEA) opt-out model be applied to community solar to allow groups of residents to be subscribed to a project unless they opt-out?

Maybe. The current community solar rules do not allow for an "opt-out" method of subscriber enrollment, and require that subscribers provide their affirmative consent to be signed up for community solar. However, the BPU has proposed a rule amendment which would allow "opt-out" subscriber enrollment under limited circumstances; this rule proposal is under consideration, and may be effective for Year 2 projects if approved by the BPU. The status of this proposed rule can be found at NJCleanEnergy.com/renewable-energy/programs/community-solar.

Visit New Jersey's Clean Energy Program Community Solar FAQ at: https://njcleanenergy.com/renewable-energy/programs/community-solar/FAQs

Case Studies

These case studies reflect projects as planned at the time of the Community Solar Energy Pilot Year 1 approvals in December 2019.

Final project structure may vary from these case studies.

NREL. 2010. Workers Installing Rooftop Solar. Photo by Dennis Schroeder. 18482.

Atlantic County Utility Authority (ACUA)/ Pleasantville

2 MW LMI project sited on the Atlantic County Utilities Authority landfill in Egg Harbor Township

- **Project Procurement**

  ACUA issued an RFP for a Power Purchase Agreement to solar developers; the RFP was issued after project was selected by NJ BPU

  ACUA selected the most beneficial offer from among several bids

- **Municipal Roles in Community Solar Project**

  Ambassador to project partners: Councilperson's office introduced the project to affordable housing managers

- **Benefit to Municipality/ACUA from Community Solar Project**

  Discounted energy costs for LMI residents

  Positive development of difficult to use land: solar panels on landfill space

East Orange

0.5054 MW LMI project sited on a parking deck, Brick Church Redevelopment Project

- **Municipal Roles in Community Solar Project**

  Ambassador to project partners: municipal government is aiding in outreach to affordable housing authorities

  Outreach partner: town will promote project to eligible residents via website, etc. reducing customer acquisition costs of developer

- **Benefit to Municipality/Community from Community Solar Project**

  Discounted energy costs for LMI residents (10-15% discount)

Linden

5 MW LMI project sited on the Linden Municipal Landfill

- **Project Procurement**

  The township issued an RFP for solar developers to lease site prior to project application being submitted to BPU

  Municipal leaders selected the option that best met the needs of the community from among several bids

- **Municipal Roles in Community Solar Project**

  Site host: project will be site on municipally owned landfill

  Ambassador to project partners: Mayor's office introduced developer to affordable housing managers

- **Benefit to Municipality/Community from Community Solar Project**

  Discounted energy costs for LMI residents (10% discount)

  Positive development of difficult to use land: solar panels on landfill space

  Income for municipality from lease of municipal land

Manchester

4.62 MW LMI project located on Manchester Township Landfill

- **Municipal Roles in Community Solar Project**

  Site host: project will be sited on municipally owned landfill, designated as an area in need of redevelopment

  Outreach partner: town will promote project to eligible residents via website, etc. reducing customer acquisition costs of developer

- **Benefit to Municipality/Community from Community Solar Project**

  Discounted energy costs for municipality: LMI residents (10% discount)

  Capping of municipal landfill is being funded and managed by the developer as part of the project

  Positive development of difficult to use land: solar panels on landfill space

  Income to municipality: lease of site to developer

Secaucus (two projects)

1.34 MW LMI project sited on a rooftop in Secaucus

- **Benefit to Municipality/Community from Community Solar Project**

  Discounted energy costs for LMI residents (15% discount)

  Discounted energy costs for other subscribers (10% discount)

2.22 MW LMI project sited on a rooftop in North Bergen, supported by Secaucus

- **Municipal Roles in Community Solar Project**

  Ambassador to project partners: Mayor's office introduced developer to affordable housing managers

- **Benefit to Municipality/Community from Community Solar Project**

  Discounted energy costs for seniors/LMI residents (15% discount)

Perth Amboy

2.68 MW LMI project sited on a rooftop in Perth Amboy
4.33 MW LMI project sited on a rooftop in Perth Amboy

- **Benefit to Municipality/Community from Community Solar Project**

  Discounted energy costs for LMI residents (10-15% discount)

  Workforce training program in collaboration with local non-profits; training program graduates have been employed on project construction

Perth Amboy Community Solar Project. 2020.
Image courtesy of New Jersey's Clean Energy Program.

Appendix A. Program Year 2 Evaluation Criteria, NJCEP Community Solar Energy Pilot

The rubric below was developed by New Jersey's Clean Energy Program for use in evaluating community solar proposals for the pilot phase of New Jersey's Clean Energy Program Community Solar Energy Program Pilot Year 2. Projects must score a minimum of 50 points total in order to be considered for participation in the Community Solar Energy Pilot Program. Rubric subject to change, see New Jersey's Clean Energy Program for most up to date application which includes rubric.

Evaluation Criteria	Max. Points
Low- and Moderate-Income and Environmental Justice Inclusion ***Higher preference:*** LMI project	**25**
Siting ***Higher preference:*** landfills, brownfields, areas of historic fill, rooftops, parking lots, parking decks, canopies over impervious surfaces (e.g. walkway), former sand and gravel pits, floating solar on water bodies at sand and gravel pits that have little to no established floral and faunal resources (*) ***Medium preference:*** floating solar on water bodies such as water treatment plants and sand and gravel pits, that have little to no established floral and faunal resources (*) ***No Points:*** preserved lands, wetlands, forested areas, farmland ***Bonus points*** for site enhancements, e.g. landscaping, land enhancement, pollination support (3 bonus points max) ***Bonus points*** if project is located in a redevelopment area or an economic opportunity zone (2 bonus points max) ***No Points:*** preserved lands, wetlands, forested areas, farmland **Note: Applicants with a floating solar project must meet with DEP prior to submitting an Application, and take special notice of DEP's siting guidelines*	**25 plus bonus points**

Community and Environmental Justice Engagement ***Higher preference:*** formal agreement, ongoing collaboration or effective partnership with municipality and/or local community organizations and/or affordable housing provider ***Medium preference:*** consultation with municipality and/or local community organization(s) and/or affordable housing provider ***No Points:*** no collaboration or collaboration has not been proven	**15**
Product Offering ***Higher preference:*** guaranteed savings >20%, flexible terms* ***Medium preference:*** guaranteed savings >10% ***Low preference:*** guaranteed savings >5% ***No Points:*** no guaranteed savings, no flexible terms* *Flexible terms may include: no cancellation fee, short-term contract	**15**
Other Benefits ***Higher preference:*** Provides jobs and/or job training and/or demonstrates co-benefits (e.g. paired with storage, EV charging station, energy audits, energy efficiency)	**10**
Geographic Limit within EDC Service Territory ***Higher preference:*** municipality/adjacent municipality ***Medium preference:*** county/adjacent county No Points: any geographic location within the EDC service territory	**5**
Project Maturity ***Higher preference:*** project has received all non-ministerial permits; project has completed an interconnection study	**5**

Appendix B. Community Solar Product Offering Questionnaire

This worksheet was adapted from the Community Solar Subscriptions and Subscribers and product offering worksheet included in the application for New Jersey's Clean Energy Program Community Solar Energy Program Pilot Year 2.

Project Attributes

1. What is the estimated or anticipated number of subscribers?

2. What is the estimated or anticipated breakdown of subscribersby category: residential, commercial, industrial, other?

3. Is the proposed community solar an LMI project? What percentage of the capacity will be reserved for LMI residents or affordable housing providers?

4. Does the project have a clear plan for effective and respectful customer engagement process? Does the project serve LMI communities or include partnerships with organizations that have experience serving LMI communities?

5. Does the proposal allocate at least 51% of project capacity to residential customers?

6. Does the proposed community solar project include plan to have an affordable housing provider qualify as an LMI subscriber? If "Yes," estimated or anticipated percentage of the project capacity for the affordable housing provider's subscription? If "Yes," what specific, substantial, identifiable, and quantifiable long-term benefits from the community solar subscription are being passed through to their residents/tenants?

7. Does the proposal include use of an anchor subscriber? What is the estimated or anticipated percentage or range of the project capacity for the anchor subscriber?

8. Is there any expectation that the account holder of a master meter will subscribe to the community solar project on behalf of its tenants? If "Yes," what benefits from the community solar subscription are being passed through to the tenants?

9. Are there geographic restrictions for distance between project site and subscribers?

Product Offering Options by Subscriber Type

This set of questions ***should be filled out for each category of subscriber*** included in the proposal, such as residential subscriber, master-meter subscriber, anchor subscriber, LMI subscriber.

1. **Subscription type:** Is the subscription based on: kilowatt hours per year? percentage of community solar facility's nameplate capacity? percentage of subscriber's historical usage? percentage of subscriber's actual usage?
2. **Subscription price:** Is the subscription a fixed price per month or is the price variable? What is the basis for price variation?
3. **Fee escalator:** Does the subscription price have an escalator? at which intervals? of what percent?
4. **Contract term:** What is the length of contract? Is there a month-to-month contract option?
5. **Fees:** Is there a sign-up fee? early termination/cancellation fee? other fee(s)? at what frequency?
6. **Guaranteed savings:** Does the subscription guarantee or offer fixed savings or specific, quantifiable economic benefits to the subscriber? If "Yes," are the savings guaranteed? fixed as a percentage of monthly utility bill? fixed guaranteed savings as compared to average historic bill? fixed as percentage of bill credits?
7. **Special conditions:** Are there any other special conditions or considerations?

Appendix C. Procurement Guide

Even in cases where competitive bidding is not required by law, the municipality may decide it is best served by issuing a request for proposals (RFP) or a more informal call for proposals. See the **Soliciting Proposals for Community Solar** section for more information.

The municipality is required to go through a competitive bidding process via a Request for Proposals if the value of the municipal support meets the definition of a concession, or if the municipality has a financial stake in the project that is above the established bid threshold. Projects that involve leasing municipal rooftops or land must be competitively bid under the rules set forth in the New Jersey Municipal Land Use Law N.J.S.A. 40:55D.

Soliciting and Evaluating Proposals from Solar Developers

New Jersey Division of Community Affairs. Public Contract Law N.J.A.C 5:34-1 www.nj.gov/dca/divisions/dlgs/resources/rules_docs/5_34/njac_5341.pdf

Solar Energy Industry Association. 2016. *Residential Consumer Guide to Community Solar.* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/SEIA_Residential_Consumer_Guide_to_Community_Solar_2016.pdf

The Solar Foundation. 2012. *Steps to a Successful Solar Request for Proposal (RFP).* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/Solar_Foundation_Steps_to_a_Successful_Solar_Request_for_Proposal_2012.pdf

U.S. Department of Energy. NREL. *Community Solar Database.* https://data.nrel.gov/submissions/95
Lists all community solar projects by state including developer names.

Site Leasing/Power Purchase Agreements

Clean Energy Resource Teams. Great Plains Institute. 2015. Lease templates.

- Rooftop Lease: **Download model rooftop lease agreement**
- Land Lease: **Download model land lease agreement**

Practical Law Real Estate. 2015. *Rooftop Landlords: Look Before You Lease.* https://content.next.westlaw.com/Document/Iffb88146ddf311e498db8b09b4f043e0/View/FullText.html?contextData=(sc.Default)&transitionType=Default

Solar Energy Industry Association. 2016. *Guide to Land Leases for Solar.* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/SEIA_2016_Guide_to_Land_Leases_for_Solar.pdf

U.S. Department of Energy. NREL. 2009. *Power Purchase Agreement Checklist for State and Local Governments.* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/NREL_PPA_Guide_2009.pdf

Appendix D. Resource Guide

Sustainable Jersey Resources

Sustainable Jersey Actions

Brownfields Reuse Planning Action

Resources to aid brownfield redevelopment including information about funding and incentives available for this purpose.

Community-Led Solar Initiatives Action

Make Your Town Solar Friendly Action

Municipally Supported Community Solar

Sustainable Jersey Webinars

Community Solar in New Jersey (2018)
Click here for webinar recording; click here for webinar slides

Community Solar by Municipalities (2019)
Click here for webinar recording; click here for webinar slides

Navigating the Community Solar Application (2019)
Click here for webinar recording; click here for webinar slides

Planning Solar to Serve the Whole Community (2019)
Click here for webinar recording; click here for webinar slides

Case Studies from New Jersey's Community Solar Energy Pilot Year 1 (2020)
Click here for webinar recording; click here for webinar slides

Too Good to be True? Reducing Energy Costs with Community Solar (2020)
Click here for webinar recording; click here for webinar slides

General Resources for Community Solar

Illinois Solar Energy Association. 2017. *Community Solar Project Proposal Development.* www.illinoissolar.org/Community-Solar-Project-Proposal-Development-Presentation

New Jersey's Clean Energy Program. 2019. *Community Solar Energy Pilot Program Rules.* N.J.A.C. 14:8-9 https://njcleanenergy.com/files/file/R_2019%20d_021%20(51%20N_J_R_%20232(a)).pdf

New Jersey's Clean Energy Program. *Community Solar FAQ.* https://njcleanenergy.com/renewable-energy/programs/community-solar/FAQs

U.S. Department of Energy. NREL. 2010. *Guide to Community Solar, Utility, Private, and Non-Profit Project Development.* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/NREL_2010_Guide_to_Community_Solar.pdf

Brownfield and Landfill Sites

New Jersey Economic Development Authority. *Brownfields and Contaminated Site Remediation Program.* www.njeda.com/large_business/brownfields

U.S. Environmental Protection Agency. 2016. *Community Solar: An Opportunity to Enhance Sustainable Development on Landfills and Other Contaminated Sites.* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/EPA_Community_Solar_2016.pdf

U.S. Environmental Protection Agency. *Siting Renewable Energy on Potentially Contaminated Lands, Landfills, and Mine Sites.* USEPA RE-Powering America's Land Website www.epa.gov/re-powering

This site has resources and tools, including re-powering mapper tool and solar decision tree tool, aimed at aiding site owners and developers in evaluating sites for renewable energy projects.

Community Solar Outreach

Sustainable Princeton. Community Solar Factsheet. https://www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Municipally_Supported_Community_Solar/Sustainable_Princeton_Community_Solar_Fact_Sheet.pdf

Sustainable Princeton. Community Solar Subscriber Tip Sheet. https://www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Municipally_Supported_Community_Solar/Sustainable_Princeton_Community_Solar_Subscriber_Tip_Sheet.pdf

Siting Community Solar Projects

New Jersey Department of Environmental Protection (NJDEP). *NJ Community Solar PV Siting Tool.* www.nj.gov/dep/aqes/solar-siting.html

The NJDEP Siting Tool shows if sites may qualify for extra points during the application, available capacity for the site, estimated site size, etc.

NJDEP. *NJ Community Solar PV Siting Tool Guidebook.* www.nj.gov/dep/aqes/docs/sstguide.pdf

U. S. Department of Energy. NREL. *PVWatts Calculator* (online tool for calculating generation capacity). https://pvwatts.nrel.gov/pvwatts.php

Solar Workforce Development

Solar Training Network. www.americansolarworkforce.org

The Solar Foundation. 2018. *Strategies for Workforce Development: A Toolkit for the Solar Industry.* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/TSF_2018_Strategies-for-Solar-Workforce-Development-TOOLKIT.pdf

The Solar Foundation. *Workforce Development Resource Page.* www.thesolarfoundation.org/workforce-development/solar-training-network/

Low- and Moderate-Income Projects

New Jersey Department of Community Affairs. *Directory of Affordable Housing Providers.* www.state.nj.us/dca/divisions/codes/publications/developments.html

U.S. Department of Energy. NREL. 2018. *Design and Implementation of Community Solar Programs for Low- and Moderate-Income Customers.* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/NREL_2018_Design_and_Implementation_of_CS_for_LMI_Customers.pdf

U.S. Department of Energy. NREL. 2018. *Modeling the Cost of LMI Community Solar Participation: Preliminary Results.* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/2018_NREL_Modeling-the-Cost-of-LMI-Community-Solar-Participation.pdf

U.S. Department of Energy. NREL. 2019. *Up to the Challenge: Communities Deploy Solar in Underserved Markets.* www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/NREL_Up_to_the_Challenge_Communities_Deploy_Solar_in_Underserved_Markets_2019.pdf

Appendix E. Calculating Savings from a Community Solar Subscription

Customers that subscribe to a community solar project will receive two bills for their electric utility use: a community solar subscription bill and a bill from the electric utility company. The cost for the community solar subscription depends on the subscription contract offered for each community solar project. The electric utility bill will show a community solar bill credit for the energy produced by solar panels for which the customer has subscribed.

To calculate the amount of savings, the customer needs to compare the cost of these two bills.

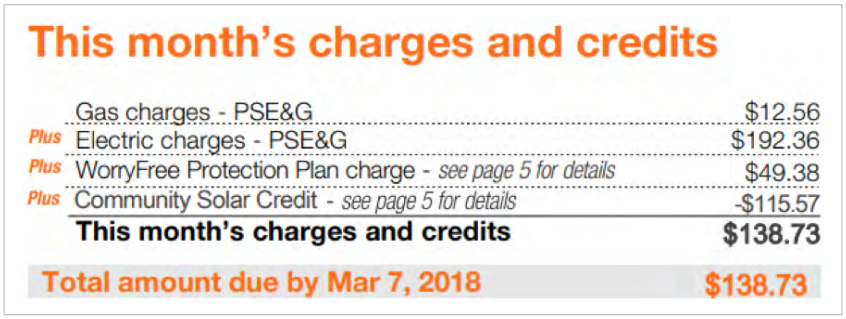
Community solar bill credit (included in electric utility bill)
- Community solar subscription bill (billed separately)

= Total savings for billing period

Community Solar Bill Credit, Included in Electric Utility Bill

Subscribers to community solar projects receive a credit directly on their electric utility bill for the electricity generated by the solar panels associated with their community solar subscription.

The electric utility bill will show the cost of the electricity used by the customer and the credit from the community solar subscription. The example below is excerpted from a sample PSE&G residential bill showing the billing credit.



This month's charges and credits

	Gas charges - PSE&G	$12.56
Plus	Electric charges - PSE&G	$192.36
Plus	WorryFree Protection Plan charge - *see page 5 for details*	$49.38
Plus	Community Solar Credit - *see page 5 for details*	-$115.57
	This month's charges and credits	**$138.73**
	Total amount due by Mar 7, 2018	**$138.73**

The value of the community solar bill credit is based on the retail rate of each customer that has subscribed to a community solar project. Each kilowatt hour of electricity generated by the solar panels is credited to the customer's utility bill based on the value of the credit set for each utility and rate class. This means that the utility credits the customer for the energy produced by the solar panels associated with their community solar subscription at a set rate per kWh. This rate includes both supply and delivery charges but does not include demand charges or non-bypassable charges, as described below.

Community Solar Subscription Bill

Community solar participants receive a separate bill for their community solar subscription fee. The cost for the community solar subscription depends on the subscription contract offered for each community solar project. The subscription contract will include details on the percent savings the customer can expect from their participation in the community solar project.

When the customer is signing up for a subscription, the size of the subscription will be determined by reviewing the customer's past electric utility bills to calculate the 12-month average usage per billing period. The subscription can vary in size but will not be larger than the 12-month average usage. For example, if over a 12-month period a customer uses an average 100kWh/billing period, their community solar subscription would be set at a maximum of 100kWh of solar generation or less.

The percentage of the total electric utility bill offset by the bill credit will depend on the size of a participant's community solar subscription. The closer the community solar subscription is to the participant's actual electricity usage, the larger the portion of the electric utility bill covered by the community solar bill credit will be. As noted above, community solar billing credits cannot be applied to non-bypassable charges on the customer's electric utility bill.

The subscription contract will include details on the percent savings the customer can expect from their participation in the community solar project. The subscription contract may or may not offer a guaranteed percentage of savings. Participants should review the subscriber contract carefully to see if a percentage of savings is guaranteed and how the savings are calculated.

Calculating the Savings

To calculate the total electric utility bill savings received for participating in a community solar project, the subscriber needs to subtract their community solar subscription fee (billed separately from the electric utility bill) from the community solar credits received on their electric utility bill.

If the customer's total electric utility bill averages $200/billing period for a 12-month period, to have a ten percent savings, their total savings per billing period must be at least $20. To show a 10 percent savings, the community solar bill credits (line item on the electric utility bill) minus the subscription fee (billed separately) must average at least $20.

*NOTE: Some fees on electric utility bills are considered 'non-bypassable charges' (**N.J.A.C. 14:8-9**) and community solar billing credits cannot be applied to those fees. Each utility has provided community solar bill credit details for each rate class (e.g. residential, commercial) and sample bills at* NJCleanEnergy.com/renewable-energy/programs/community-solar/bill-credits.

Glossary

Affordable Housing Authority
A government agency that administers programs of the U.S. Department of Housing and Urban Development, which promotes strong communities and quality affordable housing for all.

Avoided Cost Rate
The lowest cost an investor-owned utility is allowed by law to pay for solar generation. This price is the cost the utility avoided spending because the electricity was generated by the solar owner. In net metering, there is an annual "True Up" statement where solar generation that exceeds the usage of meter associated with the solar array is credited to the site owner at the avoided cost rate. The avoided cost rate is lower than the retail rate used to credit generation, not in excess of usage.

Brownfield
A site that has been contaminated by previous commercial or industrial use.

Capacity
Ability of the grid infrastructure to safely and reliably accommodate an influx of electricity from distributed energy projects like solar. The term capacity is also used to refer to the total size of a project or program (e.g. the Community Solar Pilot Year 1 total capacity was 75 MW).

Capacity Map
A map that shows the amount of grid interconnection capacity available for locations. In the context of New Jersey's Community Solar Energy Program, capacity maps were developed by the EDCs and can be found here: Atlantic City Electric, Jersey Central Power and Light, Public Service Electric and Gas, Orange and Rockland Electric.

Concession
An agreement allowing a company, such as a solar developer, to provide a service requiring the approval or endorsement of the municipality, or to act on behalf of the municipality. Concessions may or may not involve payment or exchange, or provision of services by or to the municipality. (N.J.A.C. 5:34-9.4)

Consolidated Billing
In the context of community solar, consolidated billing allows both the community solar billing credit and the subscription fee to be billed on the electrical utility bill. Consolidated billing is under consideration by BPU but is not currently provided for community solar projects in New Jersey.

Electric Distribution Companies (EDCs)
Companies that manage the transmission and distribution of electricity, also known as electric utilities. In New Jersey, EDCs include rural electric cooperatives, municipal electric companies, and investor-owned utilities (IOU). See list of IOUs below.

EDC Service Territory

The geographical area in which an electric distribution company (EDC) has exclusive rights to distribute electricity. Electricity consumers in that territory may only purchase electricity transported through that EDC's infrastructure network.

Fee Escalator

A contract term that allows the base price of the subscription to increase over the course of the contract.

Interconnection and Capacity

Interconnection is the physical point of exchange of electricity between the electric distribution company and customer. A given interconnection point has a certain capacity, tied to the amount of electricity that can pass through it in a given time frame.

Investor-Owned Utility (IOU)

Investor-owned electric utilities in New Jersey are regulated by the Board of Public Utilities. The IOUs in New Jersey are: Atlantic City Electric, Jersey Central Power and Light, Public Service Electric and Gas, and Orange and Rockland Electric.

Low- and Moderate-Income (LMI)

As defined by the Community Solar Energy Pilot Program, a low-income household has an adjusted gross income at or below 200% of the Federal Poverty Level. A moderate-income household has a total gross annual household income over 200% of the Federal Poverty Level, but no more than 80% of median income, as determined by the U.S. HUD annual income limits.

Master Meter

A single meter that measures the electric, water, or natural gas usage of multiple housing units, such as in multifamily housing facilities.

Net Metering

A program that allows participants to sell excess electricity generated by their own solar system to the utility. In New Jersey, participants receive the advantageous net-metered rate, usually very close or equal to what a resident pays for a kWh, on their utility bill for each kWh of electricity their system produces over the course of a year. At the end of an annualized period, the customer-generator will receive credit on their utility bill at the less advantageous avoided cost rate of electricity for any excess generation that remains.

Power Purchase Agreement (PPA)

A financial agreement in which a developer arranges for the design, permitting, financing, and installation of a solar energy system on a customer's property at little to no cost. The developer sells the power generated to the host customer at a low fixed rate and retains any tax credits and other incentives generated from the system (Illinois SEA, 2017).

Request for Proposal (RFP)

A solicitation for proposals for a product or service. RFPs include detailed specifications of the desired product or service and proposals are selected on price and the fulfillment of other criteria listed in the specifications.

Solar Engineering, Procurement, Consulting Company (Solar EPC)

A company that provides all services necessary to create a solar installation: engineering (design); procurement (purchase/manufacture of parts); and construction (installation).