Navigating the Community Solar Application

Sustainable Jersey Webinar
May 15, 2019
Featured Webinar Speaker

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  Program Administrator
  New Jersey Board of Public Utilities
What is Sustainable Jersey?

• Certification program for municipalities and schools
  
  o **Tools, resources, and guidance** to help municipalities and schools become more sustainable
  
  o **Grants and funding** for municipalities and schools
  
  o **Regional Hubs**
Program Participants

Municipal Program
450 (80%) participating
  • 203 Municipalities Certified

Schools Program
330 Districts (~50%)
863 Schools
  • 242 Schools Certified
## Municipal Program Energy Actions

<table>
<thead>
<tr>
<th>Municipal Operations</th>
<th>Community Energy Use</th>
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<tbody>
<tr>
<td><strong>Climate Planning and Energy Efficiency</strong></td>
<td><strong>Renewable Energy</strong></td>
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<tr>
<td>• Municipal Carbon Footprint</td>
<td>• On-Site Solar Energy</td>
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<td>• Energy Tracking and Management</td>
<td>• On-Site Geothermal</td>
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<td>• Energy Efficiency for Municipal Facilities</td>
<td>• On-Site Wind Energy</td>
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<tr>
<td><strong>Municipal Operations</strong></td>
<td>• Purchase Renewable Energy</td>
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<tr>
<td><strong>Community Energy Use</strong></td>
<td><strong>Alternative Fuel Vehicles</strong></td>
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<tr>
<td>• Community Carbon Footprint</td>
<td>• Fleet Inventory</td>
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<tr>
<td>• Climate Action Plan</td>
<td>• Purchase Alternative Fuel Vehicles (AFV)</td>
</tr>
<tr>
<td>• Residential Energy Efficiency Outreach</td>
<td>• Make Your Town EV Friendly</td>
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<tr>
<td>• Commercial Energy Efficiency Outreach</td>
<td>• Public EV Chargers</td>
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<tr>
<td><strong>Community-Led Solar Initiatives</strong></td>
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</table>
Gold Star Standard in Energy

- Municipal Operations
  - Municipal buildings
  - Fleet management
  - Operations (landscaping, energy/water conservation, etc.)
  - Route optimization
  - Green building training

- Community Wide
  - Make Your Town EV Friendly
  - Public Electric Vehicle Chargers
  - Make Your Town Solar Friendly
  - Community Led Solar Initiatives
  - Residential Energy Efficiency
  - Commercial Energy Efficiency

![Sustainable Jersey Certification logo](image)
Community Shared Solar

Images: www.nrel.gov/docs/fy11osti/49930.pdf
www.energy.gov/eere/solar/community-and-shared-solar
Community Benefits of Community Solar

- Expand access to solar in the community
- Energy savings for municipal operations
- Energy savings for residents
- Local generation of clean energy
- Local job creation
  - local workforce development
- Community pride

Community Shared Solar

- Potential Municipal Roles
  - Educating (potential) subscribers
  - Municipality as anchor subscriber
  - Municipality as site host (lease payment for rooftop or parking lot)

- Who can subscribe?
  Any metered customer in an electric service territory
  - Renters
  - Businesses
  - Municipalities
  - Homeowners
  - Institutions
  - Non profits
  - Schools
  - ...
Municipal Roles

• Zoning
  – large scale ground mount solar
  – large scale rooftop solar
  – reduce zoning barriers

• Permitting
  – help developers understand local permitting requirements
  – permitting fee structure to incentivize community solar

betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/On_Site_Solar_Decision_Guide.pdf
Siting Community Solar

• Size of community solar project
  – 1 MW is about 5 acres
  – 2 MW can serve 200-400 households

• Location of community solar project
  – Private land
  – Public land
  – Public buildings
  – Commercial rooftops
    o Warehouses
    o Manufacturing facility
    o Large commercial complex
  – Affordable Multifamily Housing
Solar Siting Analysis Tools

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

New Jersey Community Solar PV Siting Tool

NJDEP Solar Siting Analysis
Sustainable Jersey Supporters & Sponsors

Program Underwriters

Grants Programs

Corporate Sponsors

Platinum

Silver

Bronze
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Agenda

1. Overview of the NJ Community Solar Energy Pilot Program
2. Pilot Program Application Process
3. Helpful Resources
Community Solar

The Johnsons

Maria

Elementary School
Participating in Community Solar

- Buy Solar Subscription
- Community Solar Project
- Solar Delivered to Grid
Participating in Community Solar
Participating in Community Solar

[Diagram showing the process of community solar, including steps such as buying solar subscription, community solar project, and solar delivered to grid.]
Community Solar Subscribers

• A larger, remotely located solar array or facility that is virtually divided among multiple participants ("subscribers") by means of a credit on their utility bill.

• Participation can be in the form of:
  
  ▪ **Ownership**: buying a share or portion of the community solar project or panels

  ▪ **Subscription**: buying a portion or share of the electric output produced by the community solar project
Program Goals

• Enable access to solar energy for electric utility customers who have previously been unable to go solar.

• Enable low- and moderate-income households and environmental justice communities to access clean energy and save on their electricity bills.

• Pursue local clean energy development that is tied to the communities without materially compromising the preservation of open space or protected lands in New Jersey.
Participation Potential Benefits

- Participate in locally-generated solar energy.
- Support local jobs and community development.
- Potential savings on your electric bill (depending on contract).
Participating in Community Solar
Participating in Community Solar

- Subscriber
- Organization
- Project Owner
- Site Owner
- Developer
- Financiers & Investors
- EPC
- Solar Delivered to Grid
- Buy Solar Subscription
- Community Solar Project
# Pilot Program Characteristics

## Structure
- 3-year Pilot Program
- Projects selected via an application and competitive scoring
- Application Period: April 9, 2019 – September 9, 2019

## Size
- Individual community solar project maximum size: 5MW
- Annual capacity limit: 75MW for PY1, at least 75MW PY2&3
- Min. 10 subscribers, max. 250 subscribers per 1MW capacity

## Siting
- Projects may have subscribers anywhere in the EDC service territory
- Prohibition of community solar on preserved farmland
- Preference for projects on brownfields, landfills, areas of historic fill, etc.

## Credit Value
- Bill credit set at retail rate, minus non-bypassable charges
- Bill credits can be carried over from month-to-month for one year

## Low & Moderate Income (LMI) Access
- At least 40% of program capacity reserved for LMI projects
- LMI project: at least 51% project capacity subscribed by LMI participants
- Option for further 10% reserved for LI projects
Application Form

- Application Form for Program Year 1 released on March 29, 2019
  - Application Period Opens: April 9, 2019 at 9:00 A.M.
  - Application Period Closes: September 9, 2019 at 5:00 P.M.


• Section A: Application Form Requirements, Instructions, Terms and Conditions
  ➢ Minimum Qualification Requirements
  ➢ Instructions for Completing the Application Form
  ➢ Terms and Conditions: Evaluation of Applications, Milestones and Follow-Up, and other Special Considerations
Section B: Community Solar Project Description
- Contact Information
- Proposed Community Solar Facility Characteristics
- Proposed Community Solar Facility Siting Information
- Subscriptions and Subscribers
- Community Engagement
- Proposed Project Cost
- Other Benefits
- Special Authorizations and Exemptions
Application Form Sections C and D

• Section C: Certifications

• Section D: Appendix
  ➢ Product Offering Questionnaire
  ➢ Required Attachments Checklist
  ➢ Evaluation Criteria
<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Max. Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low- and Moderate-Income and Environmental Justice Inclusion</td>
<td>30</td>
</tr>
<tr>
<td>Higher preference: LMI project</td>
<td></td>
</tr>
<tr>
<td><strong>Siting</strong></td>
<td>20</td>
</tr>
<tr>
<td>Higher preference: landfills, brownfields, areas of historic fill, rooftops, parking lots, parking decks</td>
<td></td>
</tr>
<tr>
<td>Medium preference: canopies over impervious surfaces (e.g. walkway), areas designated in need of redevelopment</td>
<td>Max. possible bonus points: 5</td>
</tr>
<tr>
<td>No Points: preserved lands, wetlands, forested areas, farmland</td>
<td></td>
</tr>
<tr>
<td>Bonus points for: landscaping, land enhancement, pollination support, stormwater management, soil conservation</td>
<td></td>
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<tr>
<td><strong>Product Offering</strong></td>
<td>15</td>
</tr>
<tr>
<td>Higher preference: guaranteed savings &gt;10%, flexible terms*</td>
<td></td>
</tr>
<tr>
<td>Medium preference: guaranteed savings &gt;5%</td>
<td></td>
</tr>
<tr>
<td>No Points: no guaranteed savings, no flexible terms*</td>
<td></td>
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<tr>
<td>*Flexible terms may include: no cancellation fee, short-term contract</td>
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<tr>
<td><strong>Community and Environmental Justice Engagement</strong></td>
<td>10</td>
</tr>
<tr>
<td>Higher preference: partnership with municipality, partnership with local community organization(s), partnership with affordable housing provider</td>
<td></td>
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<tr>
<td>Medium preference: letter of support from municipality, project owner is a government and/or public and/or quasi-public entity, project owner is an affordable housing developer</td>
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<tr>
<td><strong>Subscribers</strong></td>
<td>10</td>
</tr>
<tr>
<td>Higher preference: more than 51% project capacity is allocated to residential subscribers</td>
<td></td>
</tr>
<tr>
<td><strong>Other Benefits</strong></td>
<td>10</td>
</tr>
<tr>
<td>Higher preference: Provides local jobs/job training, demonstrates co-benefits (e.g. paired with storage, micro-grid project, energy audit, EE measures)</td>
<td></td>
</tr>
<tr>
<td><strong>Geographic Limit within EDC service territory</strong></td>
<td>5</td>
</tr>
<tr>
<td>Higher preference: municipality/adjacent municipality</td>
<td></td>
</tr>
<tr>
<td>Medium preference: county/adjacent county</td>
<td></td>
</tr>
<tr>
<td>No Points: any geographic location within the EDC service territory.</td>
<td></td>
</tr>
</tbody>
</table>

Minimum number of points: 30
Solar 101: How to Estimate the Amount of Solar, Space & Cost for a Community Solar Project

Who is Your Customer?

- Estimate Load for a Subscriber or Building
- Calculate Solar System Size
- Calculate Cost
- Estimate Payback and Savings
For residential loads the electric bill and natural gas heating bills are the best source for usage and costs.

Or you can use Energy Calculators:
www.pseg.com/home/save/manage_costs/tips_tools.jsp

Home Energy Calculator:
http://c03.apogee.net/clients/?utilityid=pseg

Fill in question on Home type/age, insulation, windows, HVAC, HWH, Refrig/Freezer, TV, Kitchen ...

For a Deeper Analysis:
https://scout.energy.gov/baseline-energy-calculator.html
## Solar Panels Factoids & Rules of Thumb

- **Average sizes**
  - 17.5 or 21 sq. ft. per panel

- **Panel Efficiencies**
  - 250 to 350 watts per panel
  - 17 watts per sq. ft.

- **System Capacity Factor**
  - 1,200 kWh per KW per year

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[https://pvwatts.nrel.gov/pvwatts.php](https://pvwatts.nrel.gov/pvwatts.php)
1 MW GM solar: 4 to 5 acres

Approximately 50 to 30% usable space
NJ CEP Website and FAQs

http://njcleanenergy.com/renewable-energy/programs/community-solar

Community Solar

The Community Solar Energy Pilot Program enables utility customers to participate in a solar energy project that is remotely located on their property and is currently under development. The application can be found below:

Community Solar Energy Pilot Program Application Form

Frequently Asked Questions regarding community solar are now available.

Please visit the Community Solar Stakeholder page for information on upcoming meetings or to subscribe to the listserv to receive communication on this topic.

Procedural History

On April 11, 2019 a request for comments regarding the potential use of consolidated billing and Government Energy Aggregation for community solar was released. A Stakeholder Meeting is scheduled for April 23, 2019; further information on the meeting and the process for submitting comments can be found here.
ACE Hosting Capacity

http://pepco.maps.arcgis.com/apps/webappviewer/index.html?id=75725977c664459f84ef31e305490fd4
NJDEP PV Solar Siting Tool 2019

https://www.state.nj.us/dep/agis/solar-siting.html#cstool
NJDEP GIS Links

- NJDEP Bureau of Energy & Sustainability PV Siting Tool: https://www.state.nj.us/dep/aqes/solar-siting.html#cstool

- NJDEP Bureau of Energy & Sustainability GIS Webpage: https://www.state.nj.us/dep/aqes/gis.html

- NJDEP Bureau of Energy & Sustainability GIS Data Downloads: https://www.state.nj.us/dep/aqes/gisdownloads.html

- NJDEP Open Data: https://gisdatanjdep.opendata.arcgis.com
FOR MORE INFORMATION

Visit: NJCleanEnergy.com
http://njcleanenergy.com/renewable-energy/programs/community-solar

Contact: communitysolar@njcleanenergy.com

Stay Informed: Sign up for community solar updates by emailing webmaster@njcleanenergy.com

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Upcoming Events

**Countdown to Certification Webinar**
May 29, 2019
1:00 pm to 2:00 pm

**Going for Energy Gold Workshop**
May 31, 2019
9:30 am to 12:00 pm
The College of New Jersey, Education Building Room 212
2000 Pennington Road, Ewing, NJ 08628

**2019 New Jersey Sustainability Summit**
June 14, 2019
8:30 am to 4:30 pm
Bell Works
101 Crawfords Corner Road, Holmdel, NJ 07733

@SJ_Program  |  #DecadeofImpact