Community Solar for Low-Income
Benefits and Barriers

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CCSA members include 40+ community solar providers, business service professionals and customers.
What is community solar?

Community solar refers to local solar facilities shared by individual community members, who receive credits on their electricity bills for their portion of the power produced.
How is a community solar program is born?

Legislatively enabled

- Net metering expansion
- Community Solar Legislation
  - Pilot Program
  - Capped Program
  - Uncapped Program

Voluntary Program

- Voluntary, utility-initiated projects
  - Responding to customer interest
  - Meeting DG goals
Dominion issued a Request for Proposals (RFP) as part of its Community Solar Pilot Program seeking third-party proposals for the solar facilities of 2 MW or less, up to a total of not less than 10 MW. To qualify, proposals should include PPAs that provide Dominion exclusive right to 100% of the net electrical output for a period of 15 years. Proposed facilities must be in service and capable of delivering the full rated output no earlier than July 1, 2017 and no later than 12 months after regulatory approval of the Pilot Program. Eligible facilities must also be located within and connected to Dominion’s T&D network.

Proposals selected from the RFP process will be those that offer the most favorable combination of Price and Non-Price Evaluation metrics. Non-Price Evaluation metrics include, but are not limited to, geographic criteria; economic development benefits; and experience, qualifications and financial strength of the applicant.

Bid forms and confidentiality agreements are due September 21. Full proposals are due October 16.

Rules in place but limited market
Established program
Pilot Program in place
Legislation in place, regulations pending

Where is community solar?
Roles
What does a 3rd party led program look like?

- **Community Solar Developer**
  - Project Development/Maintenance
  - Upfront or Ongoing Participation Payment

- **Community Solar Project**

- **Electric Utility**
  - Electricity
  - Community Solar Bill Credits

- **Community Solar Subscribers**
## Who does what?

<table>
<thead>
<tr>
<th>Third Party</th>
<th>Utility</th>
<th>Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Siting/Permitting/Finance</td>
<td>Developer Coordination</td>
<td>Self-educate</td>
</tr>
<tr>
<td>Interconnection Application/Upgrades</td>
<td>Customer Bill Crediting</td>
<td>Carefully Weigh Options</td>
</tr>
<tr>
<td>Technology/EPC Selection</td>
<td>Interconnection Processing</td>
<td>Select Developer and Sign Contract</td>
</tr>
<tr>
<td>Customer Acquisition/Marketing</td>
<td>Ongoing customer engagement</td>
<td>Pay Participation Fee</td>
</tr>
<tr>
<td>Customer Contracts/Payments</td>
<td></td>
<td>Monitor System Performance/Credits</td>
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<tr>
<td>Tax/Legal Compliance</td>
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<tr>
<td>Ongoing Customer Engagement</td>
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<td>Utility Coordination/System Monitoring</td>
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<td>O&amp;M</td>
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What does a utility-led program look like?

- **Community Solar Project**
- **Electric Utility**
- **Community Solar Subscribers**

**Electricity**

**Upfront Investment and Ongoing Maintenance**

**Community Solar Bill Credits**

**Upfront or Ongoing Participation Payment**
# Who does what?

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<tr>
<td>Issue RFP/Select Project Development Partner</td>
<td>Project Siting/Permitting/Finance</td>
<td>Self-educate</td>
</tr>
<tr>
<td>Sign PPA/Purchase Agreement</td>
<td>Interconnection Application/Upgrades</td>
<td>Carefully Weigh Options</td>
</tr>
<tr>
<td>Design Program (fees, credits, rules, etc.)</td>
<td>Technology/EPC Selection</td>
<td>Sign Contract</td>
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<tr>
<td>Determine Program/Project Size</td>
<td>O&amp;M</td>
<td>Pay Participation Fee</td>
</tr>
<tr>
<td>Seek/obtain regulatory approval</td>
<td>Tax equity (co-op, munis)</td>
<td>Monitor System Performance/Credits</td>
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<td>Customer Contracts</td>
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<tr>
<td>Billing Integration</td>
<td></td>
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<tr>
<td>Develop Website/Ongoing Customer Engagement Tools</td>
<td>May contract out to Third Party</td>
<td></td>
</tr>
<tr>
<td>System Monitoring</td>
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Why do utilities embrace community solar?

• Solar is the fastest growing and most popular energy source on the planet.
  ✓ Sub $1/Watt installed and continuing to decline
• Customers want solar and most don’t have access.
  ✓ Vast and growing majority across country want solar and 85% do not have access
  ✓ Programs that customers want, with little risk, even at scale
• Offers utilities opportunity to keep customers and make money
  ✓ Community solar mitigates against customers moving to rooftop solar + storage solutions.
• Better and more secure relationships with customers
  ✓ Well designed community solar pre-empts political battles around mandates through adversarial legislation, ballot initiatives, etc
• Distribution system assets with opportunities for strategic siting
  ✓ From mitigating line losses, to reducing the need for T&D upgrades, to greater control in grid planning and opportunity for grid services, community solar offers myriad grid benefits
• Distributed solar with economies of scale
  ✓ Community solar offers the distribution benefits of rooftop/onsite, with much of the cost-savings of utility-scale systems.
• New channels for RPS compliance
  ✓ Offers utilities additional tools to reach RPS compliance, and customers a direct hand in meeting goals
• Window to new product opportunities for customers
  ✓ Community solar can be bundled with additional products, offering a sales channel to realizing many new customer desires
Program Considerations
What are some of the barriers to low- to moderate-income (LMI) participation?

- Financing (lack of access to capital, lower credit scores, less tax appetite)
- Inappropriate (or no) marketing to LMI sector
- Less time to research options
- Move more often
- Distorted price signals
Why we should focus on LMI

• LMI residents stand the most to gain from participation
  – Spend a disproportionate share of income on energy costs (~10x greater)

• Fossil fuel generation is more likely to be sited in low-income areas
What is the Value Proposition?

- Bill credit that provides *meaningful and immediate* savings

- On-bill financing should be offered for low-income customers, to reduce barriers to participation
Who should be eligible?

Area Median Income (AMI) (ex. HUD LMI definition of 80% AMI)

– AMI is used across many federal programs, especially HUD, to determine low-income and affordable housing eligibility.

– AMI is more sensitive to the variation of income levels from county to county, as opposed to Federal Poverty Level (FPL) which is set uniformly to national averages.
What mechanisms can further support LMI participation?

• Backstops or loan loss reserves to help attract low-cost financing and tax equity investment to low-income projects
• Pass-through offtakers for low-income customers
• Revised underwriting criteria (utility bill repayment)
Why is consumer protection important?

LMI customer segment is much more frequently the target of scams and fraudulent business practices.

Customer information should include:

- Minimum savings targets based on reasonable assumptions
- Individual contract summary pages or standard disclosure forms
- Materials in other languages
Program Examples

Image: NRG, Spencer St. community solar farm. Spencer, MA.
New York

NYSERDA Low-income plan

- NYSERDA offers subscriptions at no cost to LMI participants
- Issue RFP for projects that commit a % of their capacity to LMI subscriptions
- NYSERDA manages customer enrollment and allocates subscriptions
- Aims to include 10,000 participants
Colorado

• Colorado Community Solar Statute C.R.S.§ 40-2-127(5)(e) ‘utility may give preference to community solar gardens that have low-income subscribers’

• Low-income Community Solar Demonstration Project subscribed community solar through the state's’ weatherization program

• IOU 5% PUC Rule Requirement Aggregation (4 MW) – Approx. 1,300 customers

• 100% LI Community Solar Garden RFP (4 MW Annually) – Approx. 3,900 customers
Massachusetts

- Massachusetts SB 1979 ‘promotes energy justice and equitable access to the benefits of solar energy, including support of community-shared solar projects

- SREC II and new SMART Program
  - Credit adders for low-income participants
Illinois

Future Energy Jobs Act of 2016:

• Incentives for on-site DG PV benefiting low-income households.

• 100% low-income subscriber owned community solar, located in EJ communities

• Non-profits and public facilities located in EJ communities

• Pilot community solar program
What else is out there?

• Low-Income Solar Policy Guide
  – http://www.lowincomesolar.org/


What else is out there?

• NYSERDA's Low-Income Forum on Energy (LIFE)
  • December 19th, on "Best Practices for Low- to Moderate-Income Community Solar," led by NREL. https://www.nyserda.ny.gov/All-Programs/Programs/Low-Income-Forum-on-Energy/LIFE-Webinar-Series

• Illinois Solar for All Working Group White Paper
Thanks!

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