Utility Community Solar: Program Development & Implementation

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U.S. Department of Energy

March 12, 2014

About the SunShot Solar Outreach Partnership

The SunShot Solar Outreach Partnership (SolarOPs) is a U.S. Department of Energy (DOE) program designed to increase the use and integration of solar energy in communities across the US.

Complimentary Services

Technical Resources

Regional Workshops

One to One Assistance

Strategy Session

Complimentary Services

Technical Resources

Helping Policymakers Understand Best Practices:

- Case Studies
- Fact Sheets
- How-to Guides
- Toolkits

www.solaroutreach.org

One to One Assistance

Regional Workshops

Strategy Session

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Email solar-usa@iclei.org to request a 20 minute consultation

Complimentary Services

Quickly get up to speed on key solar policy issues:

- Solar 101
- Planning for Solar
- Implementing an Ordinance
- Streamlining Solar Permits
- Growing your Market

Regional Workshops

Strategy Session

Email solar-usa@iclei.org to request a 20 minute consultation

Complimentary Services

Technical Resources

Regional Workshops

Develop an implementation strategy for smart solar policy

Strategy Session

Email solar-usa@iclei.org to request a 20 minute consultation

Complimentary Services

Technical Resources

Regional Workshops

One to One Assistance

Receive customized technical support on implementation of smart solar policy

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Email solar-usa@iclei.org to request a 20 minute consultation

Links to SolarOPs, ICLEIUSA, and SEPA

SunShot Solar Outreach Partnership

www.solaroutreach.org
Follow @SolarOutreach

ICLEI – Local Government For Sustainability USA

www.icleiusa.org
Follow @ICLEI_USA

Solar Electric Power Association

www.solarelectricpower.org
Follow @UtilitySolar

Open/Close GoToWebinar interface

Speakers

- Chad Tudenggongbu, ICLEI –Local Governments For Sustainability
- Becky Campbell, Solar Electric Power Association
- Scott Lynch, Delaware Municipal Electric Corporation

About SEPA

SEPA is an educational non-profit (501 c3)

- Celebrating 20 years of service to utilities and solar
- Membership based - 1,000+ members
- Providing unbiased information focused on supporting utilities and their needs as they relate to solar adoption
- Providing exclusive member programming, research, education, collaboration and consulting services

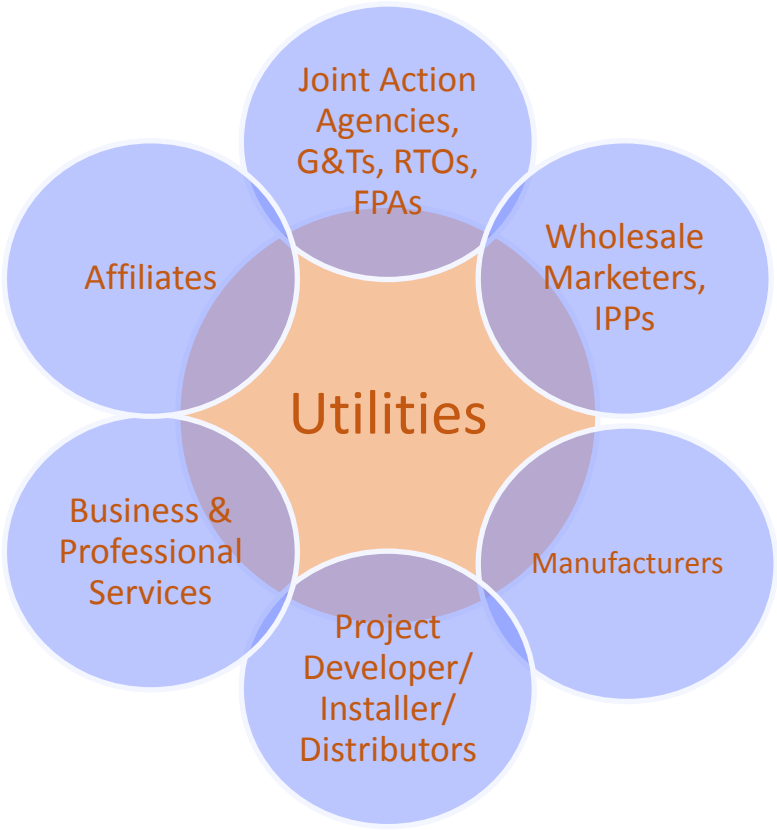
Membership

420+ Utility

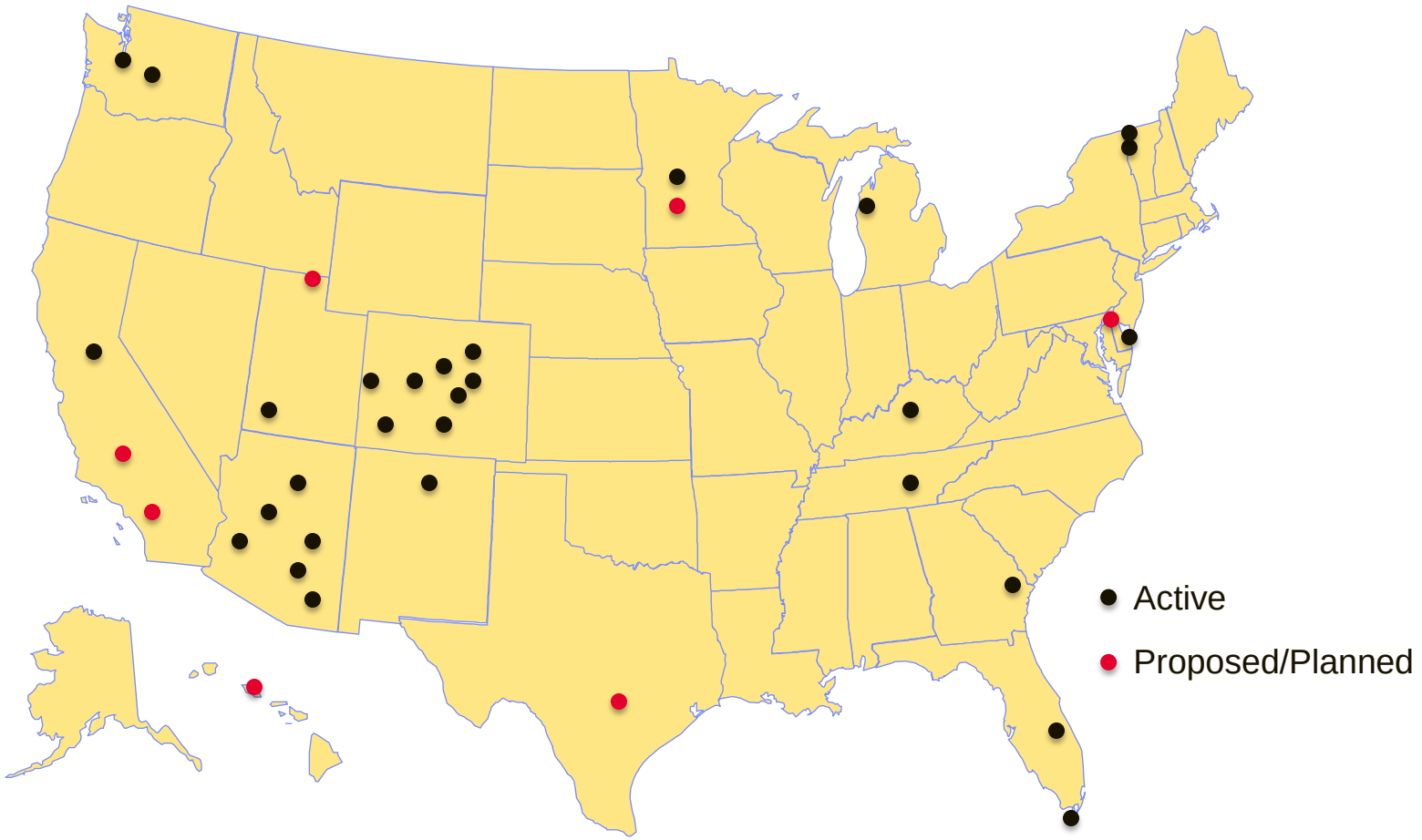
500+ solar industry & stakeholder

52% of electricity customers

+90% of installed solar capacity

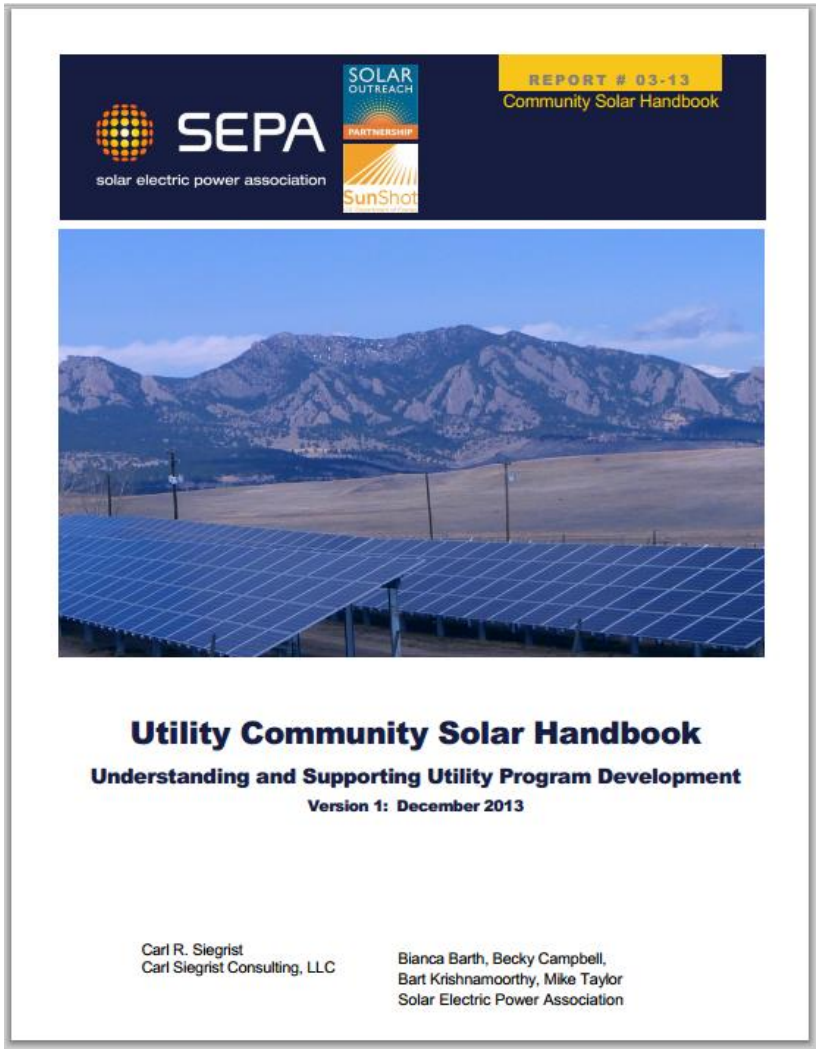


Utility Programs



Utility Community Solar Handbook

- Business Drivers
- Market Research
- Stakeholder Engagement
- Program Design
- Supply/Procurement
- Marketing Strategy
- Program Evaluation/Analysis



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Full report accessible at www.solaroutreach.org/resources

Elevator Pitch

1. Increase customer access to and participation in solar
2. Support the local PV industry
3. Proactive customer engagement with the utility
4. More cost effective than smaller, distributed projects
5. Meet regulatory requirements at lower cost
6. Increase customer equity from solar projects

Paradox Community Solar Array in Naturita, Colorado (Courtesy of Clean Energy Collective)

Stakeholder Involvement

Internal

- Management
- Legal
- Customer Service
- Marketing
- Billing/IT
- Metering
- Distribution Engineering
- Rate Development
- Regulatory
- Power Procurement

External

- Trade associations
- Consumer advocacy groups
- Business groups
- Solar industry
- Elected officials
- Regulatory
- Customers

Product Offer

What is being sold?

kW

Upfront Payment

kWh

New Electricity Rate

Price Setting

What should participants be charged?

Administration + Marketing + Supply + Operation + Maintenance + Integration

= Total Cost ($) over 20 years

$$\frac{\text{Total Cost}}{\text{\# kW}} = \$ / \text{kW} \qquad \frac{\text{Total Cost}}{\text{20 Years kWh}} = ¢ / \text{kWh}$$

Final price could include additional incentives, similar to rooftop program.

Unisource Energy Services (IOU)

- Offer: Purchase 150 kWh blocks for $3 per month ($0.02/kWh > retail rates), exempt from Renewable Energy Standard Tariff and the Purchased Power and Fuel Adjustment Clause surcharges
- Supply: 1,700 kW PV located in U territory
- Term: 20-years

(Photo: Unisource Energy Services)

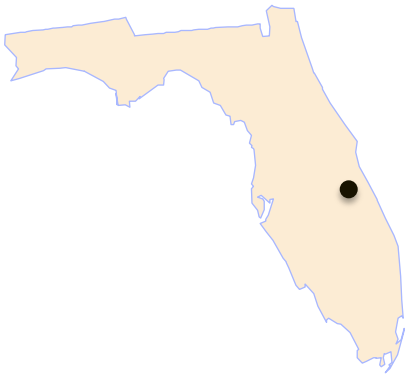
Holy Cross Energy (Co-op)

- Offer: $725 for 1 panel (230-watt), ratepayer receives $0.11/ kWh bill credit or 37% more than standard credited rates
- Supply: 1,227 kW capacity, PPA with Clean Energy Collective
- Term: 20-years

(Photo: Clean Energy Collective)

Orlando Utilities Commission (Muni)

- Offer: Subscribe to kW blocks for a fixed rate of $0.13 per kWh
- Supply: 400 kW system size, PPA
- Term: 2 years minimum, 25 years maximum
- Performance risk: 1 kW block produces monthly average of 112 kWh



(Photo: OUC)

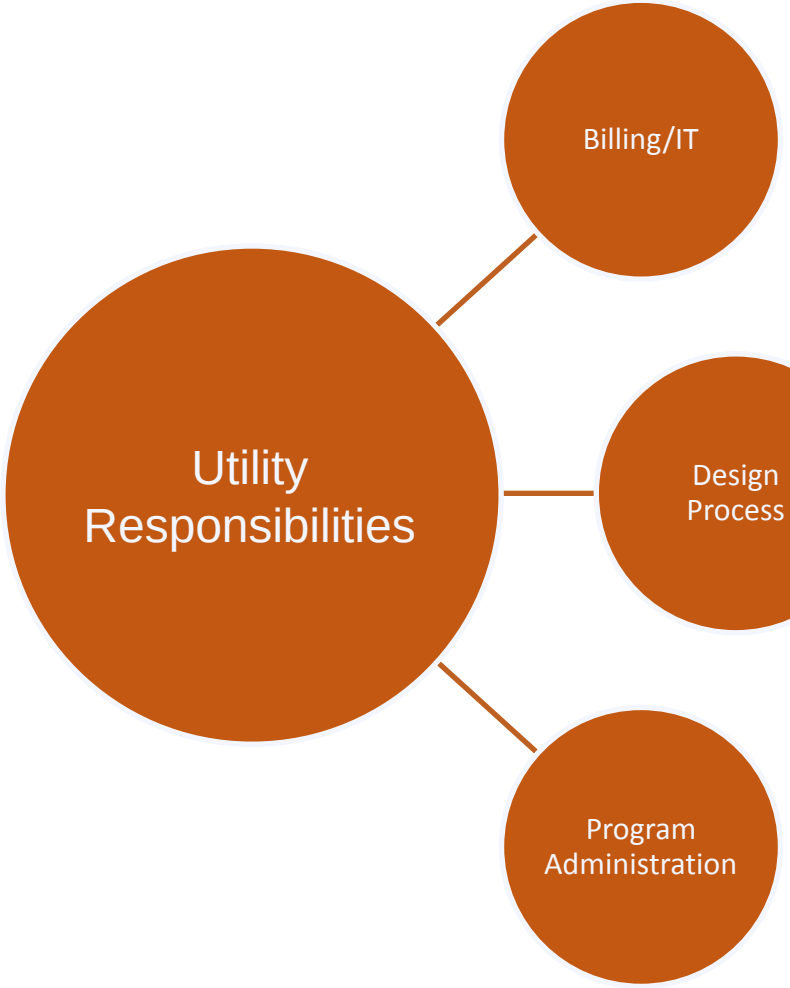
Value Proposition

Compare any community solar program offer to other customer options:

- Installed costs: $ / kW costs should be competitive today ***and*** in the near future
- Rates: ¢ / kWh rate should be competitive with retail rates or third-party provider PPAs now ***or*** in the near future

Participation rates will be commensurate with customer value.

Major Staffing Needs



- Integrate the program into existing systems
- Minimize manual billing

- Cross-organizational effort

- Managed by utility or third-party
- Plan for recordkeeping

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Summary

- Community solar design is a complex process
- The timeline for program development/implementation can take upwards of a year
- SolarOPs may be able to offer technical assistance funding for program development
- Check out www.solaroutreach.org/ta for more information

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Delaware Municipal Community Solar

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Overview

- Delaware Municipal Electric Corporation (DEMEC) is a joint action agency whose members are all of the nine municipal distribution utilities in the State of Delaware.
- Eight of the members receive 100% of their electric requirements from DEMEC through Full Requirements contracts. City of Dover receives partial requirements service.
- DEMEC's power supply value comes from a portfolio of existing self-supply generation assets, staggered short, medium, and long term power contracts, and spot purchases that provides low-cost wholesale power supply to its members.

Full-Requirements Members	
Clayton	Milford
Newark	New Castle
Middletown	Smyrna
Seaford	Lewes

Partial Requirements Member
Dover

City of Newark Overview

- Located in northern Delaware on the I-95 Corridor
- Home of the University of Delaware
- Population
  - ~ 31,000 year round
  - ~20,000 students - nine months of the year
- Dwellings
  - Single Family - 6,342
  - Single Family Rental - 1,173

Newark Community Solar Evolution

- **Second Thoughts – Direct purchasing of PV for one location**
  - August 2012 –The City of Newark contacted DEMEC with renewed interest for a community PV project
  - December 2012 –DEMEC released the City of Newark Community Solar Project Request for Proposal
  - June 2013 –Newark signed a direct purchase contract

Newark Community Solar Evolution

- **Most Recent Thoughts – More Project Value**
  - July 2013 –DEMEC applied through SEPA for US DOE Technical Assistance funds to develop a Community Solar Participation Program
  - August 2013 –DEMEC and Newark awarded US DOE Technical Assistance funds
  - September 2013 –DEMEC and Newark first meetings with SEPA
  - October 2013 –Present - Continual exchange of ideas between DEMEC, Newark, and SEPA to find the best model

What lead to the Third Evolution?

- Initial RFP discussions and products had elements of a desire from Newark for community solar:
  - Locally sited PV
  - More efficiently uses limited community funding resources
  - Support local jobs
  - Revitalize a limited use property
  - Increases potential solar access and education to:
    - Renters
    - Students
    - Customers with limited Solar Resource Access
    - Customers with limited investment funds

Newark Community Solar Financials

- Funding
  - City Council allocated $250,000 for PV
  - Newark Green Energy Fund will allocate annually approximately $100,000 for this project

- Direct Purchase Project Cost $626,000
  - Estimated payoff in less than 4 years
  - City will allocate funds annually for operations and maintenance

Newark Community Solar 2014 Goals

- DEMEC, Newark, and SEPA will choose a form of one of these models for community participation
  - Solar Donation
  - Solar Block Purchase
  - Solar Tariff

- City of Newark Project delivered by the 3rd quarter

- Newark Community Participation Program will be active shortly after the project is delivered

Scott Lynch

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March 12, 2014

What's Next?

Visit Us at:

ICLEIUSA.org,
Solaroutreach.org,
Solarelectricpower.org

Email Questions & Comments to

solar-usa@iclei.org

Sign up for a 20 minute consultation by simply typing "Contact Me" into the chat panel