



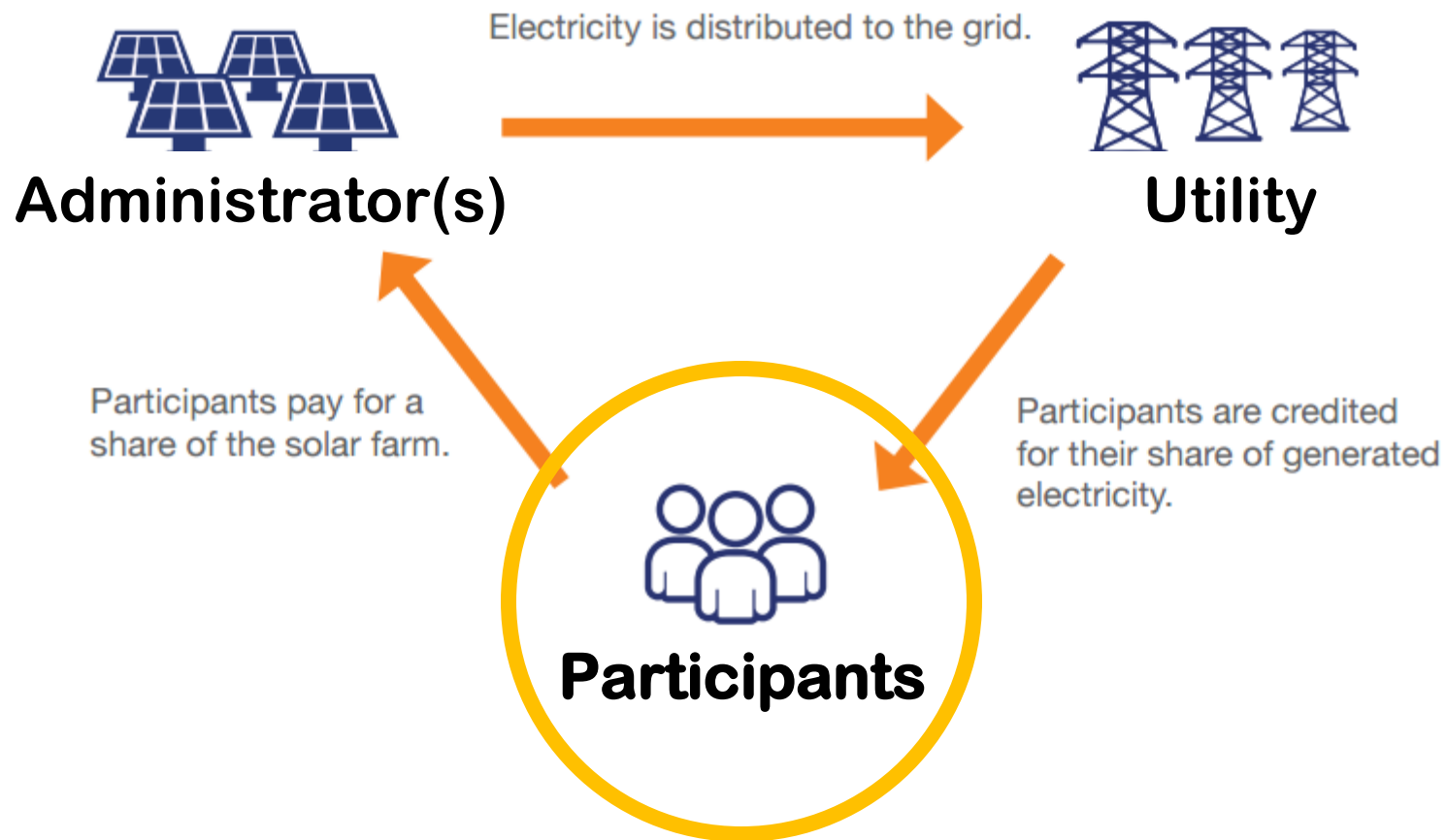
NARUC

Summer Committee Meetings

Committee On Consumer Affairs

NARUC's 2016 Summer Meeting

Community Solar Customer Preferences



1

SEPA and Shelton Group conducted national surveys to get the data

2,001

Residential utility customers to take the survey resulting in a 95% \pm 2.2% CI

252

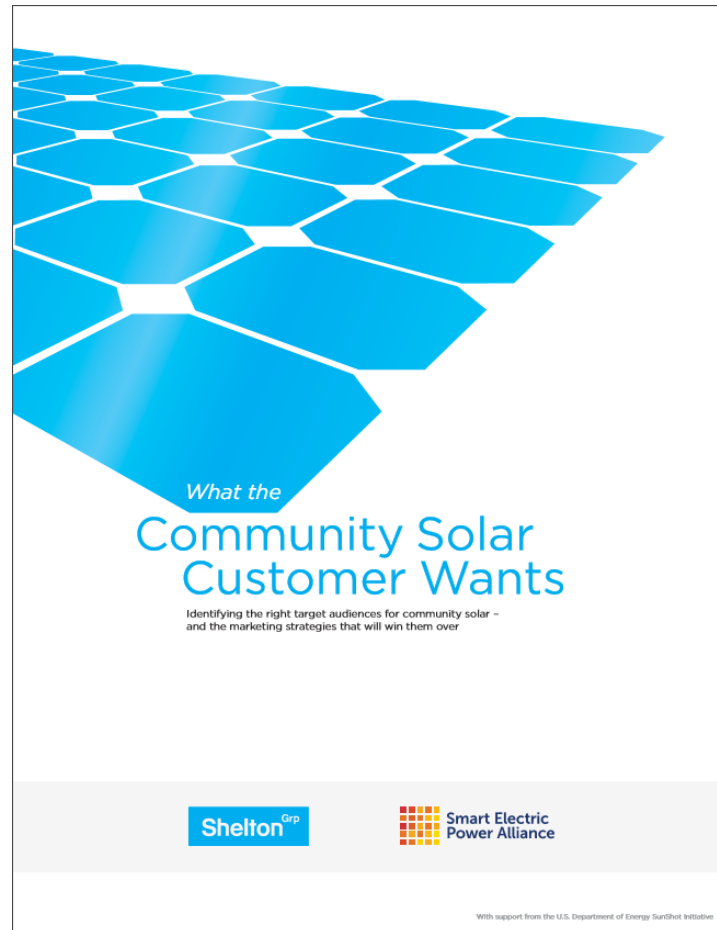
Commercial business utility customers to take the survey resulting in a 95% \pm 6.2% CI

2

SEPA and Shelton Group conducted focus groups to get the stories



Smart Electric
Power Alliance



www.SEPApower.org

www.sheltongrp.com

Q) How interested are you in solar ownership options?

Before information

16% Seriously considering rooftop ownership

14% Interested in community solar

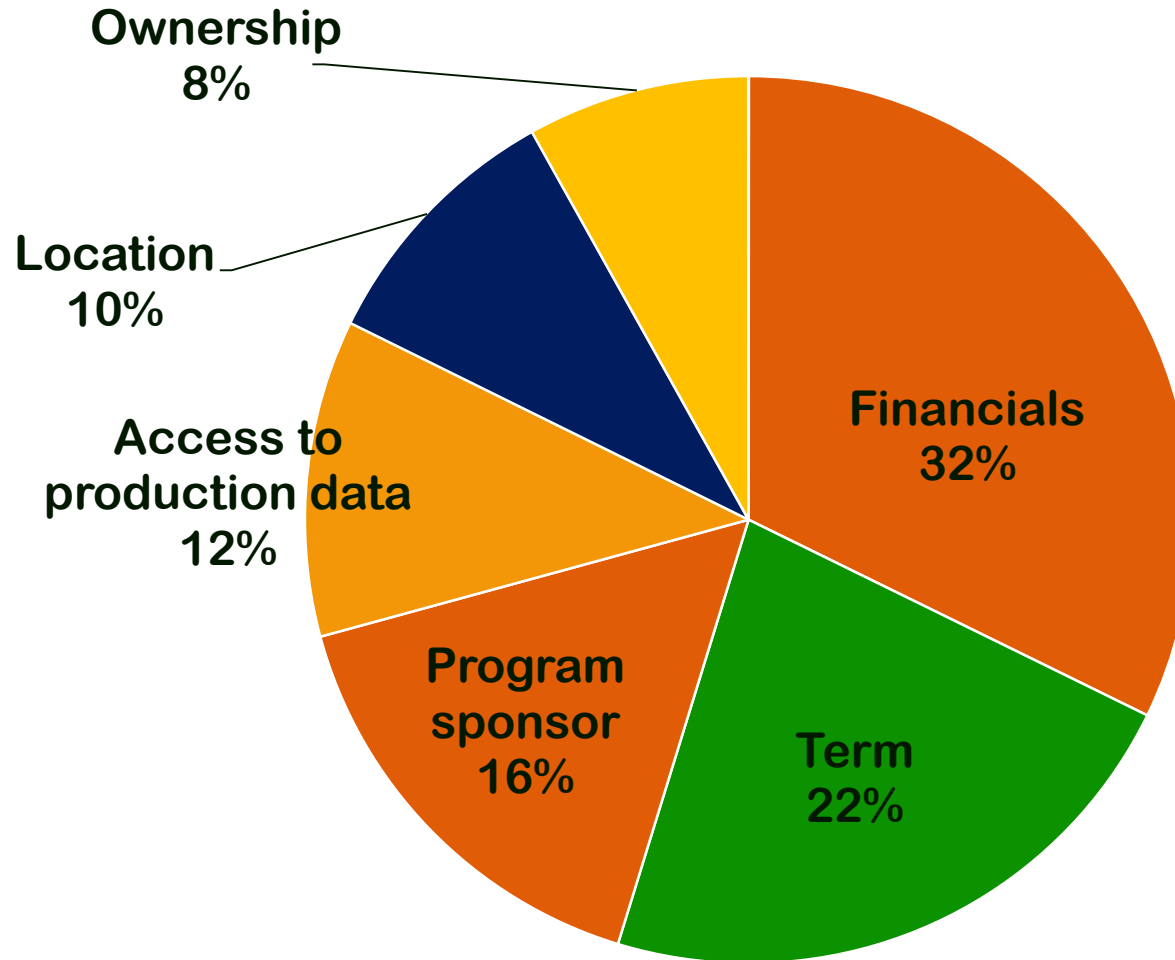
After information on concept, costs, options, etc.

24% Seriously considering rooftop ownership

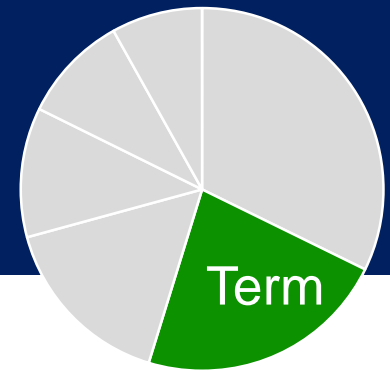
47% Interested in community solar



Q) What are the most influential aspects of a program design?



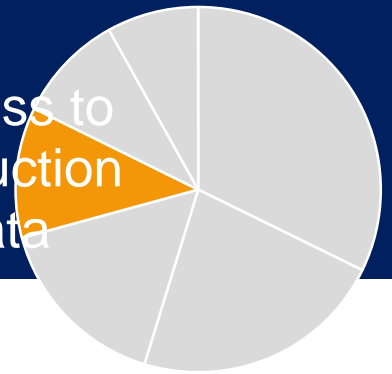
Q) What is the ideal term?



	Participants Want	Programs Offer
Rate programs	Complete Flexibility	Partial Flexibility
Upfront payment programs	2-5 years	Typically 20-25 year terms

Q) What production data do you want to see?

Access to
production
data



"Bill is confusing - would like info on monthly solar production on bill"



Participants

"It would be helpful to see reporting on solar panel energy generation (trends/patterns). I see the dollar deduction but not the energy generation info."

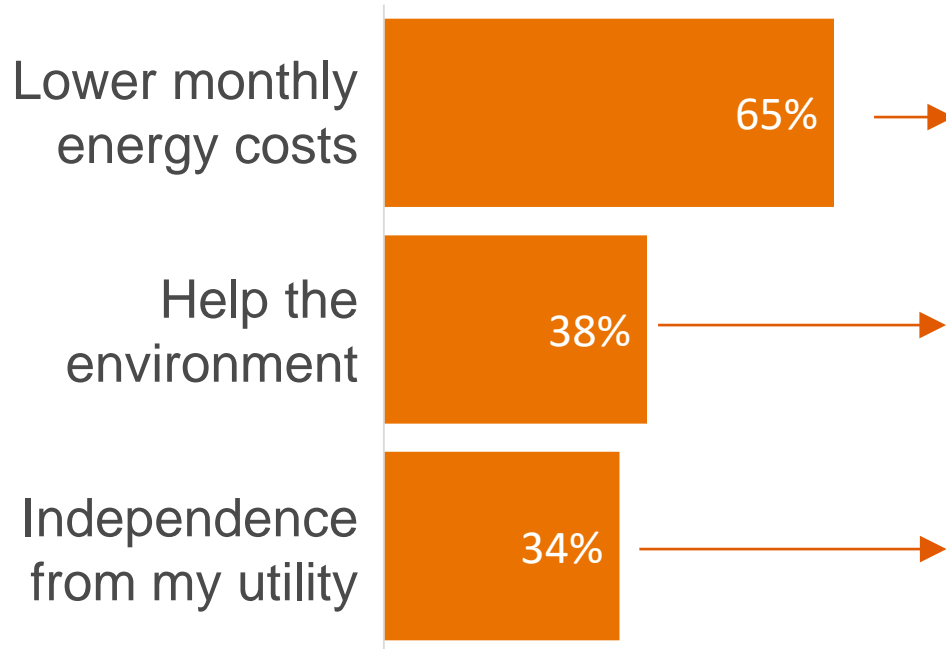
"Would like more data on total array output and its actual contribution to the local grid"



**Smart Electric
Power Alliance**

Q) What are the top reasons why you would pursue community solar?

Customer Preference



Customer Protection Implications

Transparent production and financial performance

REC marketing & clarity of ownership

Education on what the customer gets



THANKS!

Dan Chwastyk

Manager, Utility Strategy

202-660-0861

dchwastyk@sepapower.org



Smart Electric
Power Alliance



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- **About:** National community solar trade association representing 27 providers, customers, and professional service businesses in the community solar sector
- **Mission:** Formed in January, 2016 to expand access to clean, local, and affordable clean energy nationwide through community solar
- **Partners:** partnered with national advocates SEIA and Vote Solar, in addition to local and regional organizations across the country
- **Learn more:** www.communitysolaraccess.org, www.facebook.com/communitysolaraccess/ and twitter.com/SolarAccess



CCSA Core Principles

- ***Expanding Access***

- Allow all consumers the opportunity to participate in and directly economically benefit from the construction and operation of new clean energy assets
- Provide equal access for developers to build and operate community shared renewable energy systems and interconnect those systems to the serving utility's grid
- Incorporate a fair bill credit mechanism that provides subscribers with an economic benefit commensurate with the value of the long-term, clean, locally-sited energy produced by community shared renewable energy projects.



CCSA Core Principles

- ***Consumer Engagement and Protections***

- Support the participation of diverse customer types in renewable energy markets, and encourage customer choice with providers, product features, and attributes to catalyze innovation and best serve customers.
- Provide assurance of on-going program operations and maintenance to ensure overall quality, that the facility lasts for decades, and that customer participation is protected. Safeguard the continuity of program benefits to protect customers and developers' investment.
- Ensure full and accurate disclosure of customer benefits and risks in a standard, comparable manner that presents customers with performance and cost transparency.
- Comply with applicable securities, tax, and consumer protection laws to reduce customer risk and protect the customer.



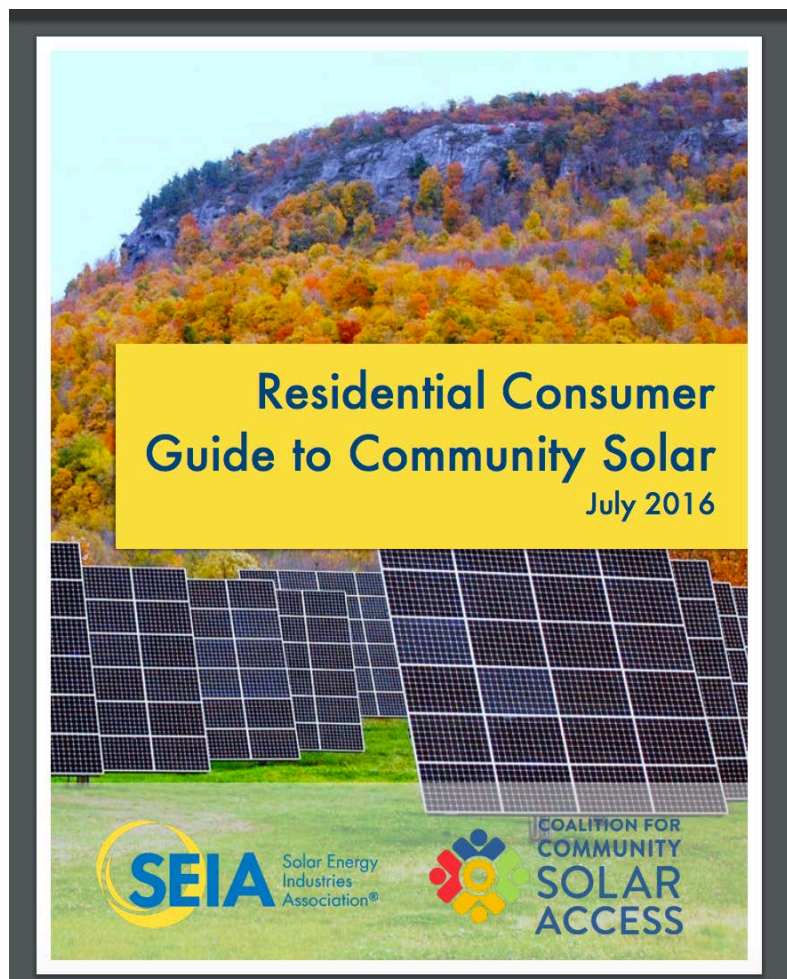
CCSA Core Principles

- ***Benefits for All Parties***

- Encourage transparent, non-discriminatory utility rules on siting, and interconnecting projects, and collaboration with utilities to facilitate efficient siting and interconnection.
- Maintain a 360-degree view of community shared renewable energy market and ensure a beneficial role for all parties in the partnerships forged between subscriber, developer, and utility.



CCSA/SEIA Residential Consumer Guide to Community Solar



The Guide provides consumers with an overview of community solar, expert tips on how to be an informed consumer, questions solar consumers should ask before entering into an agreement and handy links to other resources.

Link:

<http://www.communitysolaraccess.org/interested-in-community-solar-new-seiaccsa-guide-is-for-you/>





Contact: Jeff Cramer, Executive Director
jeff@communitysolaraccess.org

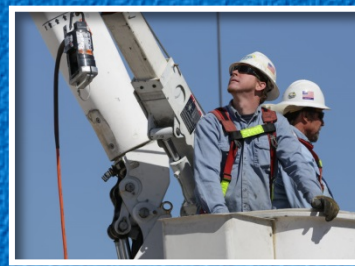
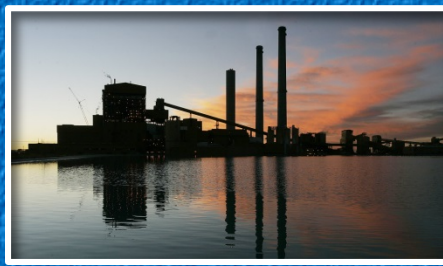




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TEP Community Solar Programs

Carmine Tilghman

Senior Director, UNS Energy



UNS Energy Corporation
A Fortis Company

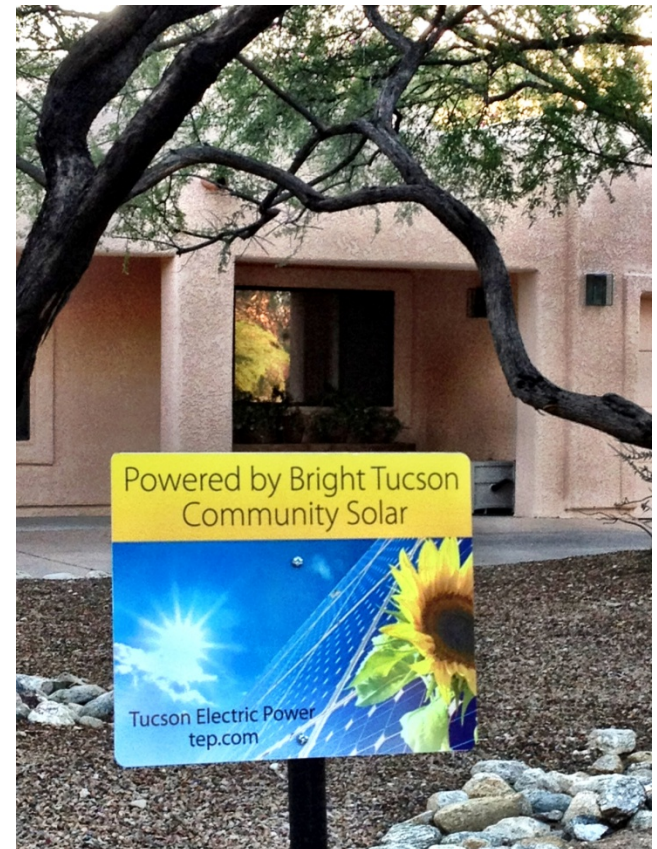
July 24, 2016

Bright Tucson Community Solar

Launched in 2010, TEP's Bright Tucson Community Solar Program was nationally recognized by Solar Electric Power Association (SEPA) as an innovative, first-in-nation community solar program.

For a \$0.02 per kWh premium (solar rate), customers can purchase "solar blocks" of energy from a local solar facility.

Each solar block of 150 kWh is exempt from conventional fuel charges and REST surcharges, while fixing the base fuel rate at today's rate for up to 20 years.



TEP Bright Tucson Community Solar

▶ **Program Attributes:**

- 150 kWh blocks available (equivalent of \$3.00/mo premium)
- Waiver (proportional percentage) of fuel surcharge and renewable energy surcharge
- Fixed energy rate (base rate component)
- Can purchase up to 100% of annual consumption, kWh rollover each month
- Available to standard residential and commercial customers (PRS & NEM excluded)
- Excess kWh at end of year credited back at solar rate
- No term commitment, may cancel at any time
- Can add or delete blocks once every 12 months

▶ **Program Advantages:**

- Free for customer to sign up
- Available to customers not eligible for NEM
- No term contract
- Regulatory oversight



TEP Owned Residential Solar

- ▶ **TEP-owned rooftop solar program (TORS)**
 - Launched in 2015 (max \$10 million or 600 cust)
 - Commission approved tariff
 - Fixed bill for 25 years
 - Approx. same as average monthly bill
 - +/- 15% bandwidth for annual consumption

- ▶ **Program Advantages:**
 - Customer gets price stability & flexibility
 - Reduction in traditional rate design cost shift
 - Local solar installer support – design and install system
 - No FICO credit score restrictions
 - Easily transferrable to new home-owners
 - No large, out-of-pocket expense
 - TEP is a 120 year old, stable, reliable community partner
 - Consumer protections afforded through ACC



TEP Residential Community Solar (Proposed)



- ▶ **Proposed new Residential Community Solar program**
 - Similar to TORS program – calculate fixed bill
 - Fixed monthly bills for 10 years (+/- 15% bandwidth)
 - Either utility owned or PPA can be used
 - Cheaper/more cost effective, lower rate impact
 - Open to even more customers
 - Termination fee (similar to cell phone)

- ▶ **Program Advantages:**
 - All the same program advantages as the TORS program, plus:
 - Greater reduction in cost shift due to lower cost of installation/PPA
 - All NEM eligible customers can participate regardless of home condition
(must be legally eligible to sign contract committing premise)
 - Able to use existing communications infrastructure for advanced, 2-way inverter function



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Community Solar and Customer Protections The Maryland Pilot Program



**PAULA M. CARMODY
PEOPLE'S COUNSEL
MARYLAND OFFICE OF PEOPLE'S COUNSEL**

**NARUC SUMMER MEETING- NASHVILLE, TENN
JULY 24, 2016**

MD Community Solar Pilot Program

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- MD has strong public policy goals for energy efficiency, renewable energy and reduction of greenhouse gas (GHG) emissions
- MD General Assembly passed community solar legislation in 2015

Legislative Rationale

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- Legislative rationale
 - Broaden access to solar
 - Encourage private investment
 - Enhance diversification of energy resources to achieve RPS and GHG Reduction Act goals
 - **Public interest:**
 - ✦ Allow renters, low and moderate income customers to own an interest in community solar
 - ✦ Facilitate market entry for all, while giving priority to those most sensitive to market barriers
 - ✦ Encourage developers to promote participation by these customers

MD OPC Position on Community Solar

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- OPC has supported community solar legislation with these elements:
 - Pilot program
 - Study of costs and benefits
 - Consideration of contributions of participants/non-participants towards the cost of the distribution system
 - Customer Protections
- After 3 previous attempts, community solar law enacted with these requirements

MD Community Solar Pilot Program

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- PSC Regulations Adopted Effective 7/18/16
- 3- year pilot program – PSC requirements
 - Program cap: 1.5% of 2015 MD Peak Demand – 218 MW
 - Program categories – includes % requirements for low and moderate income subscribers
 - Subscriber credits – Full retail credit
- PSC Study (14 specific study elements)
 - Report to General Assembly due July 1, 2019
- PSC Work Group
 - Model Tariff
 - Contract Summary Sheet
 - 3-Year Study: Task and Data Requirements

Major Consumer Protection Rules

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- Rules apply only to residential customers
- Written or electronic consent required
- Unfair and deceptive marketing practices prohibited
 - Projected savings – must include a comparison that projects future electricity rate increases at 1% or less per year (for apples to apples comparisons)
- Contract disclosure requirements
- Contract summary sheet
- Subscriber Agent Qualifications, Training and Compliance
 - Door to Door Sales
 - Telephone solicitation

References

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- Legislation
 - House Bill 1087 and Senate Bill 481
 - ✦ www.mgaleg.maryland.gov
- MD PSC Rulemaking 56
 - www.psc.state.md.us
- COMAR 20.62
 - www.dsd.state.md.us

Thank You!

For More Information:

Paula M. Carmody

Office of People's Counsel

6 St. Paul Street, Suite 2102

Baltimore, MD 21202

paula.carmody@maryland.gov

410-767-8150

www.opc.maryland.gov



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Solar Developments In Georgia

Commissioner Tim Echols

NARUC Summer Committee Meetings

July 24, 2016

Overview

- Georgia was the 6th fastest growing solar state in the US in 2015 (SEIA).
 - The State of Georgia will have over 1 GW of solar by the end of 2017 (SEIA).
- We have relied on competitive procurements to deliver the lowest cost solar resources for customers.
 - A significant percentage of bids have come in below Georgia Power's projected long term avoided cost.
- Georgia Power proposes to add up to 1,600 MW of renewables in their 2016 IRP stipulated agreement.
- Community Solar is a small part of Georgia's solar mix.
 - Several Georgia EMCs offer Community Solar.
 - Georgia Power is currently evaluating program designs.

Community Solar 1.0 in Georgia

- Began in 2003, 4000 customers subscribed (out of 2.1 million)
- Georgia Power buys solar and landfill gas
(solar at 17 cents per kWh is fully subscribed)
- Voluntary program for customers who wish to promote green energy
- Purchase green energy in blocks (Premium/Regular)
- RECs are transferred to Georgia Power/retired on behalf of customer
- Program is Green-e certified by the Center for Resource Solutions
- In 2010, the Commission approved an automatic trigger mechanism/ the more blocks that customers purchase the more solar that will automatically be purchased by Georgia Power
- We are terminating this program with Thursday's vote.



solar
made easy

Walton EMC
Cooperative Solar



1. Affordable

**Solution = \$25 buys output of
1.8 KW block/month**

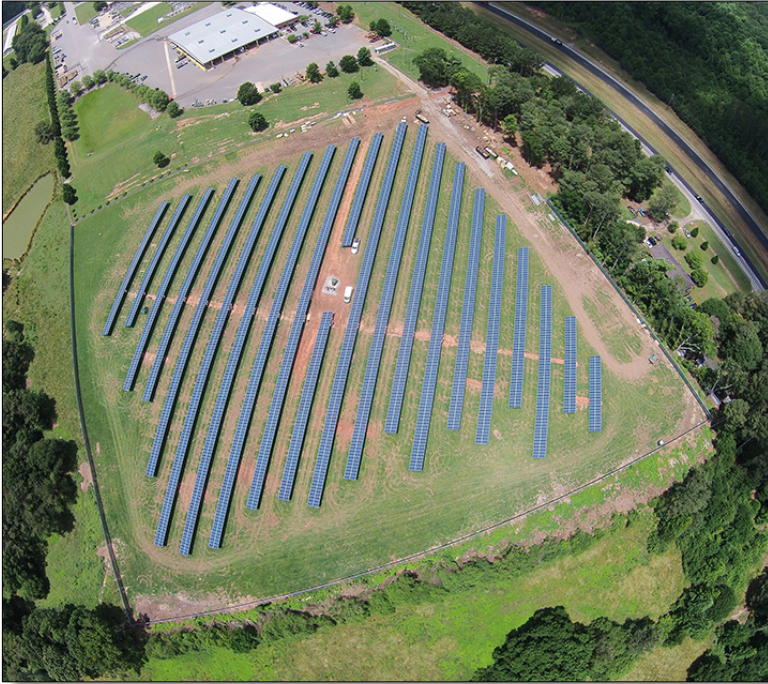
2. No Risk to Consumer

Solution = No Contract

3. Not Subsidized

Solution = True Pricing

Project 1



1 MW
750 Blocks
Online 7/15

Fully Subscribed Before Coming Online

+ 1,500 on Waiting List for Project 2

Project 2



2.5 MW
1,825 Blocks
Online 5/16

Fully Subscribed Before Coming Online

+ 750 on Waiting List for Project 3

Project 3



3 MW
2,250 Blocks
Online in 2017

750 on Waiting List for Project 3

Overview

- A significant percentage of residents in the southeast are low to moderate income – 46% make less than \$40,000 per year.
- Our renewable programs are designed to bring benefits to all customers through fuel diversity and long term energy savings.
- For those customers who are interested in owning solar, Georgia Power offers online tools and region based solar experts to help the customer make an informed decision.
- Given that...

A better way for Community Solar?

1. 963 MW placed primarily in rural and poor counties (county gets benefit too)
2. No risks to customers—price cannot be over avoided costs
3. Everyone participates and GA gains renewable leadership

Questions For The Panel

- What is the appropriate value of the Community Solar credit to the subscriber?
 - Crediting at the full retail rate provides maximum benefits to the subscriber and spurs participation but shifts fixed costs to non-subscribers (many of which are low / moderate income customers).
 - Crediting at the utility's avoided cost reduces the value proposition to the subscriber but non-subscribers are held harmless.
- How do you manage the risk of stranded investment if the Community Solar program is not fully subscribed?
 - Do you spread the cost of the unsubscribed portion to non-participating customers?