

# Community Solar – Options for Program Design & Delivery

**Moderator:** Andrea Romano, Navigant Consulting

**Panelists:** Carmine Tilghman, Tucson Electric Power • Amanda Mortlock, 3Degrees Inc.  
• Dan McIlroy, Clean Energy Collective

**Community Solar Procurements, Programs and Pricing**  
**June 8, 2017 • Golden, Colorado**



Community  
Solar Value  
Project

[CommunitySolarValueProject.com](http://CommunitySolarValueProject.com)



- Led by Extensible Energy, with funding from US DOE SunShot. Andrea Romano, the panel facilitator, is from Navigant Consulting, one of four firms supporting this effort.

- CSVP works with utilities, industry innovators, and community partners. The Project provides demonstration and documentation of four ways to make utility-led community solar better, including:

- strategic design
- target marketing
- procurement and pricing
- solar-plus integration



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# INSOURCE, OUTSOURCE, IN-BETWEEN?

Insource

Outsource



Develop  
100% of  
Program  
In-house



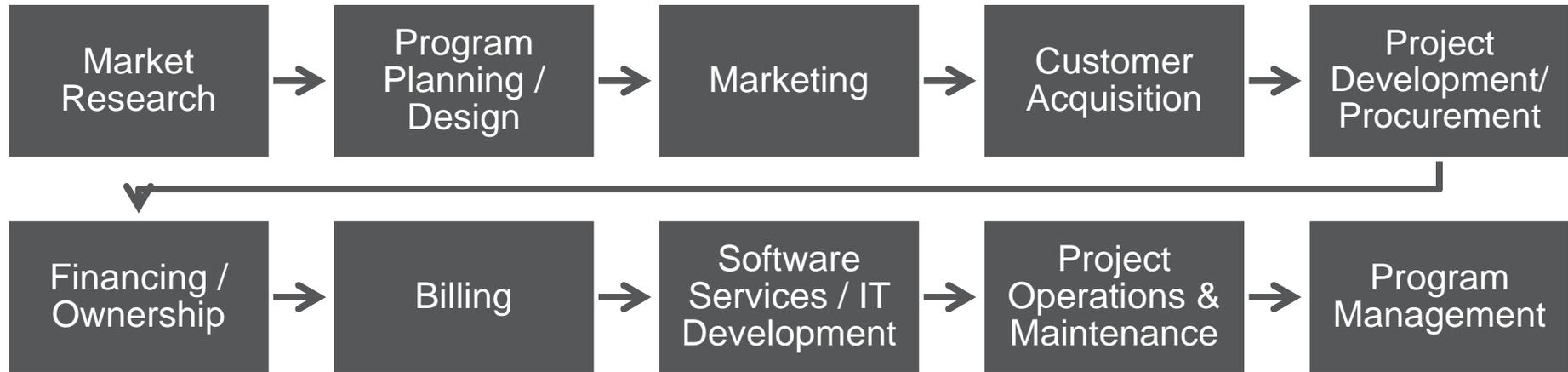
Customer  
Acquisition

Program Design

Billing  
Integration

Project  
Development

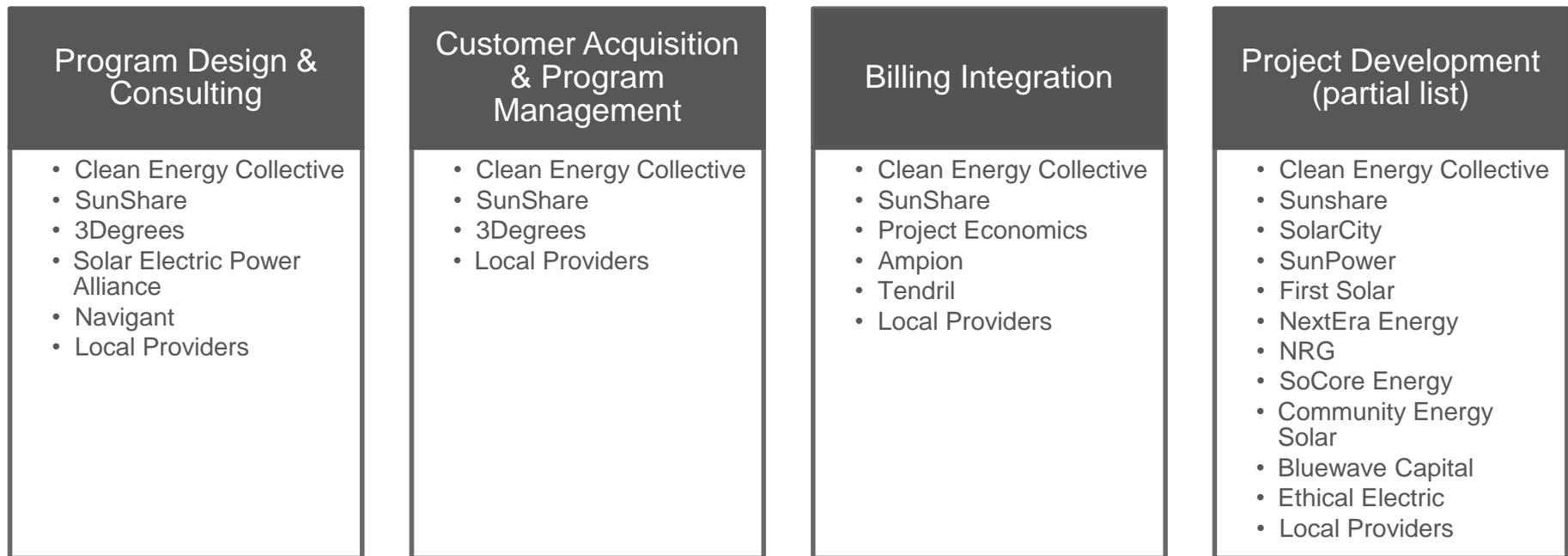
# COMMUNITY SOLAR VALUE CHAIN



- Developing a community solar program involves a number of stages (not necessarily in this order) involving various skillsets and engagement from different utility departments.
- Utilities can choose to outsource all or some of the stages of the value chain.
- Due to the shift toward the utility-driven business model in some markets, fully integrated providers (e.g. CEC and Sunshare) are now offering to support stages of the value chain.

# LEADING COMMUNITY SOLAR PROVIDERS

- Community solar industry players provide different combinations of services along the value chain.
- Local providers play an important role throughout the value chain in the development of community solar programs, especially in states where community solar is not driven by legislation.



\*\*This is a representative list of some industry players but not a comprehensive list.\*\*

# BARRIERS TO DEVELOPERS ENTERING MARKET



## Small Project Size

– Majority of CS projects to date are <1MW.



## State and Program Requirements

– Different across states and utility territories.



## Community Solar Compensation

– Behind the meter projects receive full NEM rates in majority of states while CS compensation varies.

# UTILITY REQUESTS OF THIRD PARTIES



# MODERATOR & PANELISTS



Moderator

**Andrea Romano, *Managing Consultant, Navigant***

With a background in solar project development, Andrea's work focuses on business and technology strategy, market and policy assessments, due diligence, potential studies and helping utilities and developers engage in the burgeoning community solar market. Her work on the Community Solar Value Project centers around financing and business models, the value chain, and developing best practices for community solar development and procurement.



Panelist

**Carmine Tilghman, *Sr. Director of Energy Supply, UNS Energy, Tucson Electric Power Parent Co.***

Carmine's primary responsibilities are to oversee all aspects of wholesale marketing & power trading activities, as well as all renewable energy development & procurement. Mr. Tilghman has over 30 years' experience in the energy production and procurement industry; including conventional and renewable energy. Prior to joining TEP, he spent 9 years as a nuclear reactor operator in the United States Navy submarine service.



Panelist

**Amanda Mortlock, *Vice President, Utility Partnerships, 3Degrees***

Amanda brings over a decade of experience partnering with utilities to design, launch and manage some of the most successful voluntary renewable energy & carbon offset programs in the country. Today she is Vice President of Utility Partnerships at 3Degrees and supports utilities in designing new products that meet a variety of stakeholder needs in a dynamic market and oversees a team focused on program implementation.



Panelist

**Dan McIlroy, *Vice President of Business Development, Clean Energy Collective***

Dan focuses on providing both bundled community solar programs and community solar software and customer management solutions to both utilities and asset owners. He has 25 years of business development and sales experience, beginning his career in the reinsurance business in London and later NYC and San Francisco. He also worked in the software business with Oracle. He has been at CEC for 4 years and completed over 15 MW's of community solar programs with utilities such as Xcel, Avista and Black Hills Energy.



# TUCSON ELECTRIC POWER

TEP has developed two solar programs over the last 5 years and is in the process of obtaining commission approval for the latest program revision.

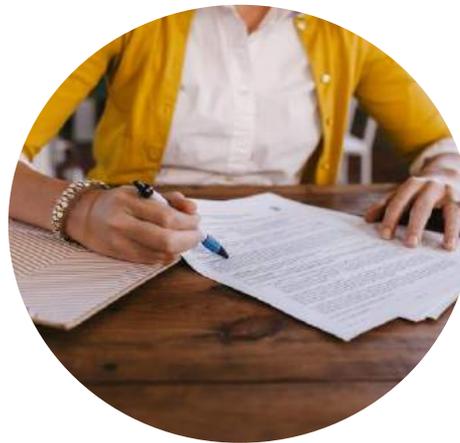
## Program Objectives and Development

<b>Key Program Objectives</b>	<ul style="list-style-type: none"><li>• In general, customers are looking for certainty in electricity rates. People want a fixed rate per month, similar to cell phones.</li><li>• <b>Bright Tucson Community Solar program</b> developed to provide option for customers who wanted to support to invest without major capital outlay or roof or credit constraints. Program allows customers to opt out at anytime.</li><li>• <b>Residential Solar Program</b> enables TEP to retain RECs for RPS compliance and meet the residential distributed generation carve out. Customers have solar on their roofs, a hedge against future electricity price increases, protects solar customers from NEM and rate design changes.</li><li>• <b>Hybrid Residential Community Solar Tariff</b> enables customers who can't have solar on their roof to participate in the Residential Solar Program and saves the utility project development costs due to building one large system.</li></ul>
<b>Program Development Approach</b>	<ul style="list-style-type: none"><li>• <b>Bright Tucson Community Solar program</b> was first developed internally by utility pricing and renewables groups.</li><li>• <b>Residential Solar program</b> was first tested with a group of 30 customers, then phase two with another 50 customers. In July accepting an additional 200 program applications, followed by 200 per month until the program is filled.</li><li>• <b>Hybrid Residential Community Solar Tariff</b> currently awaiting commission approval.</li></ul>

3Degrees provides end-to-end support for utility renewable energy & carbon offset products.



**PROGRAM  
DESIGN**



**PROGRAM  
MANAGEMENT**



**MARKETING &  
ACQUISITION**

## Leading market position

- Invented community-owned solar
- Dominant market share (#1) in programs, facilities, capacity and geographic reach
- Partnered with 12 Investor Owned Utilities, 3 Municipal Utilities and 12 Electric Cooperatives
- Provides solar solutions for thousands of customers
- Operations in 12 states



## Dynamic growth

- 8 years | 120 employees
- Inc. 500 Fastest Growing Private Companies
- 2-5x annual growth
- 150+ RooflessSolar facilities (300 MW) operating or under development



Clean Energy Collective is the leading provider and only proven, national player in the community solar market



# *The Panel and the Project*

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*The Community Solar Value Project* led by Extensible Energy, Lafayette, CA, (John Powers, Project Director) with support from Cliburn and Associates, Navigant, Olivine and Millennium Energy.

See more at [www.CommunitySolarValueProject.com](http://www.CommunitySolarValueProject.com)  
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