## **High-Value Community Solar:**

#### A Brief Guide to Utility Program Design That Makes Community Solar Better

September 2017





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

CSVP is led by Extensible Energy, co-funded by the US DOE SunShot, Solar Market Pathways Program. Jill Cliburn, Project Team Leader, comes from Cliburn and Associates, one of four firms supporting this effort. This report, summarizing the CSVP program-design framework, references more detailed CSVP materials, available on its website. Accompanying on-site training and support are also available, upon request.



www.communitysolarvalueproject.com/solutions











#### Introduction

On the opening page of the <u>CSVP Solutions Toolkit</u>, we advise, "Avoid casting any program design process in stone."

Nevertheless, we suggest that your team choose a **program design process**, depicted as a flow diagram, to start. This vision of that idealized process will serve both as a tool for unifying diverse team members and as a checklist for your key considerations. The next slide shows CSVP's recommended overall process. Based on bestpractice research, it emphasizes collaboration and iterative communications, where customer-driven and utility-driven concerns are given equal consideration. Different steps in this process key to **planning resources** developed by CSVP.

The CSVP web site offers additional planning diagrams, which emphasize different aspects of program design. In any case, be prepared to step "outside the box," to address particular challenges when and how they come up!



## Overview (1): Get Ready

- Utility-led community solar programs should be in sync with the utility's mission and values. First, articulate program drivers, e.g.,
  - Offer a direct response to customer interest
  - Provide a market-based laboratory for 21<sup>st</sup> C. utility strategies
  - Manage the transition to greater use of distributed resources
  - Offer more solar choices, including high-value strategies
  - Support local government sustainability and economic goal/s
  - Equity: broader or universal access to a solar option
  - Other
- Initial "situation analysis" should include
  - Internal (utility/city) stakeholders: individual views and relationships
  - External stakeholders: community and business groups, policy/regulatory
  - Market conditions and trends
  - Program choices; likely suitability of existing choices; alternatives

#### Overview (2): Aspects of the Process

- Program design is iterative; a give and take between customer- and utility- interests/needs
- Market research, including nationally and locally obtained information, leads to understanding customer interests/needs
- Solar- and utility- economics drive pricing, but market based concerns (e.g., competing options; customer appeal) must be considered, too
- The **Program Offer** will be the outcome of about a dozen key decisions, including pricing
- Implementation will include administrative details (e.g., customer application process, billing and credits), as well as short- and long-term marketing campaigns. These elements are relevant whether or not the program is out-sourced.

## Early Decision: What to Out-source and Why?



- 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 some stages of the value chain, rather than only to offer complete turn-key services.

Source for Slides 7, 8 and 9: *Key Points to Consider… Outsource and In-House Strategies* (Romano and Cliburn, 2017) on the CSVP Solutions website.

#### Key Considerations: Expertise + Bandwidth

#### Program Designer/Manager

Coordinates cross-departmental team Coordinates external stakeholders Collects initial research; outlines plan Works across departments and leads GAP analytics to finalize the program plan Member of procurement team/s Leads budget coordination and reporting

#### **Resource Manager**

Coordinates with utility resource planners and engineering staff Provides input for program design Leads solar project specification; coordinates with procurement staff Oversees EPC and commissioning Oversees system O&M

#### **Business and Finance Manager**

Advises on business model, financing plan Resolves cross-departmental budget questions Coordinates with rates and policy staff Oversees billing and accounting needs

#### Marketing Manager

Leads market research & segmentation Participates in iterative cross-departmental plan Leads development of program offer/s Leads development of marketing materials Develops plans for customer acquisition and care Leads consumer service and sales training

#### **IT Manager**

Develops customer acquisition tools Supports GAP analysis and other economics Integrates software to support marketing and billing, including billing system modifications Reporting and budgetary support

#### Legal Counsel/CPA Firm

Advises regarding IRS, SEC, and FERC compliance

Advises regarding state policy, guidelines Reviews procurement plans, contracts Participates in PPA and offer development Advises on acceptability of marketing messages

#### Each utility will be organized differently; these are typical utility roles and responsibilities

#### Key to Your Decision: Find Your Balance At Every Step From Program Design to Delivery

Typical Benefits Cited for In-House and Out-Sourced Strategies			
In-House	Out-Sourced		
<ul> <li>Stronger opportunities to integrate between customer- and technically oriented benefits</li> <li>May focus on longer term benefits; less vulnerable to cutting corners for profitability</li> <li>Returns on investment and savings if utilities can own DPV; review balance sheet options</li> <li>Greater flexibility to change program</li> <li>Requires cross-departmental team-work; may be a benefit toward integrating operations around tasks, e.g., IT, marketing, procurement</li> <li>May force system upgrades that will benefit other programs in addition to community solar</li> <li>Stronger opportunities for savings on site acquisition; leveraging utility relationships with local government and land-owners</li> <li>Risk management on long-term stability of the solar project</li> <li>Maintains utility brand identity</li> </ul>	<ul> <li>Partners strongly motivated toward success</li> <li>Likely to be quicker to market</li> <li>Frees utility staff for other projects</li> <li>Requires agreement from top-level utility execs; less chance of back-tracking</li> <li>Mix and match the expertise that is most needed</li> <li>Regional or national reputation for community solar or specific expertise</li> <li>Likely to have greater case-study experience</li> <li>Likely to have a network of other experts to tap as needed</li> <li>Can put some risks off on the contractor</li> <li>Third-party developers can tap into tax benefits</li> <li>Today's agreements can be highly flexible</li> </ul>		

#### The Customer-Driven Side of the Equation

Market Information (Target Segmentation)	
Draft Offer	
Competitive Test	
Delivery Approach	
Customer Engagement	



## General Market Information: What We Know

- >60% of residential customers say they want a solar option. Nationally, interest in *community solar* is relatively low, until customers are informed; then interest rises sharply, rivaling interest in rooftop options
- Highly rated community-solar selling points:
  - Favorable economics
  - Environmental benefits
  - Community benefits; project sited in the community
  - No-hassle, low-risk solar, including locked-in costs
- Data suggests a premium is okay, if small; economics are impacted by *perception of value*
- Different customer market-segments rank these appeals differently, and different utilities will see slightly different results. (A lot depends on how you ask your questions!)

### CSVP Recommends a 5-Step Process To Get From National Research Findings to Tailored Local Market Research





"It's really hard to design products by focus groups. A lot of times, people don't know what they want until you show it to them."

- Steve Jobs

Early customer outreach and education can make or break your program's success!

### Common Utility Target Market Segments



- Young Families
- Money Strivers
- Plugged-In Families
- Green Echoes
- Uninvolved Achievers
- Senior Savers
- Green Boomers
- Boomers, Buyers
- Big Toys

These segments are typically keyed to demographics, neighborhoods, lifestyle preferences, and for many utilities, energy-use characteristics. They are further defined by applying Prizm-type micro-segment research.

## A New Market Opportunity?

Utilities need to move beyond the aging boomer market in order to insure their futures. Millennials are:

- Community minded
- Tech savvy
- Different in spending habits
- Strong in education, earnings
- Already forming families
- Less likely than previous generations to own homes

% Extremely/very interested in community solar Source: Deloitte Research



#### SMUD Lesson Learned: Market Research Questions Influence the Findings You Get

- SMUD's original Solar Shares program (2008) asked customers to pay \$/mo. for each 1-kW equivalent share
- Provided an incentive and a virtual net metering benefit, for a lower net cost (<\$15/mo.)</li>
- Rate was locked in for those who stayed in the program

Early research, including surveys focused on program economics, suggested the program would appeal to renters and working women; *not older women and not retirees.* 

But ultimately, the top segments *were* "Green Boomers" and "Boomers, Buyers, & Browsers." Why?

Why? 1) Boomers learned the program was highly convenient and predictable—perfect for their needs. 2) Many Boomers were already using SMUD products—and were easily reached with the new offer.



## Market Segmentation + Conventional Targeting



Engagement Level Building characteristics Usage & Program Participation Interest in Self Gen, Sustainability

**Revenue**/ Profitability



Demographics

Psychographics

Usage & Program Participation

Housing characteristics

Source: Shah, SMUD, 2015

- Benchmark expectations against other sources of market research, for example segmentation attributes + past customer data, including participation in past programs + building suitability + location, etc.
- 2. Sketch **Program Offer** based on preferred technology, financing, level of engagement, and check against other market-research information
- 3. Rank targets, based on market potential and overall benefits.
- 4. Complete detailed draft offer to suit the targeted sector/s. The offer includes site location, bundled services, pricing/terms, channels, and other elements, based on the sector's lifestyle values and preferences.

#### **CSVP** Worksheet: Research How You Compare

	Your Proposed Plan	Your Competition
Who are the Targeted Customers		
Who are the Enablers		
What is the Offer in a Nutshell		
What is the Solar Design Strategy		
What is the Procurement Strategy		
Where is the Project Siting		
Why is the Offer Compelling		
How Does the Pricing Work		
How Does the Utility Fare		
When—Describes the Utility's Long-Term Benefits		



## **Detailed Program-Design Decisions**

- Is the program an in-house, outsourced or a hybrid approach? (Note: customers prefer utility as the contact point for the program, regardless.)
- Will customers pay for capacity or energy (\$/W, \$/kWh) or an alternative, e.g., % of use? Each choice maps onto a business model\*
- Sign-up fee. Customers prefer none
- Program length. What happens then?
- Minimum participation term
- Transferability for purchase/lease
- Renewable Energy Credits (RECs)\*
- How to cover production risks?
- How to cover unsubscribed energy risks?
- Participation limits (energy, capacity) per customer; other
- Pricing and credit details\*

\*See CommunitySolarValueProject.com/Solutions for more

### Continued Marketing and Customer Care Insure Program Success

- Information provided early-on influences customer expectations
- Testimonials and neighbor-to-neighbor campaigns are powerful in all solar marketing; for community solar, it may also be helpful to enlist community groups and the utility itself, as trusted resources
- Community solar participants respond to recognition, e.g., door stickers, bumper stickers, logo merchandise... even the chance to sign their panel/s; a program website may also feature participants who help to lead the campaign, as well as real-time performance information
- Marketing may micro-target different program attributes for different customers, via social media or events
- Plan for periodic evaluations and fine-tuning

#### Nationally, Survey Trends are Clear

Rate Model: Low Probability of Success	Rate Model: High Probability of Success
2-yr. term; option to renew	20-year term; may opt-out
\$100 non-refundable "sign-up fee"	No fee or small, refundable deposit
3 to 5 cent premium/kWh	0 to 2 cent premium/kWh
Solar gen from unrelated 3 <sup>rd</sup> parties	Utility owner or co-sponsor
Distant project/s	Local project/s
No real-time production information	Web portal or phone app
11% Support in Survey Testing	89% Support in Survey Testing

Source: Shelton Group for SEPA, 2016

#### The Lesson Here: Double-Check Your Own Research Before You Stray

Panel Model: Low Probability of Success	Panel Model: High Probability of Success
20-yr. term	5- to 10-year term
\$595+/panel or share	\$395 or less/panel or share
No financing	On-bill financing
Power to grid; no ownership	Ownership of power; even better, of panels
Solar gen from unrelated 3 <sup>rd</sup> parties	Utility owner or co-sponsor
Distant project/s	Local project/s
No real-time production information	Web portal or phone app
16% Support in Survey Testing	84% Support in Survey Testing

Source: Shelton Group for SEPA, 2016

#### Ultimately, You Want to Talk Price

- Historic green power approach: Historically, dominated by wind.
   Yields 2% participation on average for ~\$0.02/kWh premium.
- Mass-market green tariff solar programs are following this model, e.g., Colorado Xcel or California options.
   Streamlined...many advantages. BUT this model does not meet all community solar program norms. (Often, customers can choose green tariffs *or* shares in a local community solar project.)
- If the program is tied to a local solar project, customers may receive a net rate for solar kWh purchased or if they own or lease a share, a payment (\$/kWh) for generation from their share. Options: full retail NEM, modified NEM, or other.
- Newer lease or purchase options offer on-bill financing, shorter terms or provide other ways "out" –Make it easy.
- Newer subscription options include the Tucson model of a flat fee, with a built-in incentive for energy efficiency (up to 15%)

#### **Typical Purchase or Lease Program Pricing**

#### **Customer Pays** Upfront or Monthly for Installed Cost per Share (\$/kW)

Price May Incorporate (O&M + Integration + Marketing + Admin Costs) Plus On-Bill Financing Cost, If Applicable

Customer Continues to Purchase Electricity at the Applicable Rate Plus Applicable Wires/Service Costs; Fuel Adjustment Charges Typically Waived

**Customer Receives** 

Monthly Credit for Each Share's Solar Generation to Grid Also Incorporating Any Applicable Incentives And +/- the Value of Terms (e.g., REC value incorporated)

Savings Accrue As Utility Rates and Fuel Charges Are Likely To Rise

**Typical Subscription-Based Program Pricing** 

Over the term, the <u>Customer Pays</u>:

(PPA + O&M + Integration + Marketing + Admin Costs) Minus Utility Levelized Benefits = Net Cost per Share \$/kW, \$/kWh, flat \$/month

Plus Applicable Wires/Service Costs Minus Any Applicable Incentives And +/- Value of Terms (e.g., RECs, Avoided Fuel Adjustment Charges)

> <u>Customer Receives</u> Credit For Each Share's Solar Generation to Grid

Savings Accrue As Utility Rates and Fuel Charges Are Likely To Rise

#### **Green Tariff Based Program Pricing**

The Customer Pays:

(PPA + O&M + Integration + Marketing + Admin Costs)

Minus Utility Levelized Benefits

= Preliminary Net Cost in \$/kWh

Adjusted to reflect

Any Incentives + REC Value if Applicable + Credit for Anticipated Generation per Unit (\$/kWh) + Credit for Avoided Fuel Adjustment Charge

= Total Net \$/kWh on Community Solar Tariff

Customer also Pays Wires/Service Costs and Full \$/kWh for Electricity Beyond the Share-Size Limit (If Applicable)

Rate May Be Locked in for the Program Term Utility Usually Provides Backstop for Anticipated-Generation Risk

#### Pricing Must Be Cost Based and Market Driven



Remember, Market-Driven Elements Need To Work for Utility-Side Planners, Too



#### What We Will Cover On the Utility Side

- Financing and Ownership vs. PPA Options
- High-Value Solar Project Design
- Procurement Processes
- Fine-tuning Project Economics; the GAP Process
- Stepping Back: How the Full GAP Process Brings Both the Utility-Side and the Customer-Side Together
- More High-Value Options: DR and Storage Measures

#### One Path: Working on Financing and Procurement

	Table 2: Comparative Summary of Financing Options Community Solar Programs					
	Utility-Driven Solar Acquisitions			Outsourced Third-party Acquisition		
	Utility Developer	Third-Party Develo Agreem	per; Power-Purchase ent (PPA)	Operating Lease	Utility as Prime Point of Contact	Customer as Prime Point of Connection
		PPA	PPA with Flip/Buyout			
Pros	Within regulatory guidelines, utilities can earn a rate of return on the solar asset. IOUs may get tax benefits, though normalization which limits the benefit. Municipalities and POUs have access to municipal bonds and QCEBs; Cooperatives may have access to RUS or CFC and CoBank financing, as well as to programs geared for rural development. Some hybrid models take advantage of both tax-exempt financing benefits and third-party tax incentives.	Third-party can take advantage of ITC and MACRS, and will pass some of this benefit to the utility. Utility does not have to take any of the ownership risks. While the lifetime benefits to the utility are not as great as the ownership option, a PPA generally has a lower utility rate impact.	Third-party can take advantage of ITC and MACRS, and will pass some of this benefit to the utility. The utility also can reap the long-term value of the generating asset, after the tax benefits have been monetized.	Utility can treat the project as an operating expense and leave it off its balance sheet and avoid long-term ownership risk. Under an operating lease, the lessor monetizes the tax benefits and it typically passes some of these benefits along.	Allows utility to roll out a program quickly. In the outsourced model, the utility typically has little role in program design, marketing or program subscription, though the program may be utility- branded. Additional services may include support for virtual net metering and customer information apps. Third- party passes through some of the tax benefits.	Usually policy driven, minimally involving the utility. Utility has minimal responsibility. This model is popular with large customers, especially local governments. Also, some community groups or churches may form small shared solar projects if allowed.
Cons	POUs, municipalities or cooperatives cannot monetize the ITC or MACRS benefits directly; IOU must use normalization in accounting for ratepayers. This spreads the benefits over the useful life of the asset (usually 20 years) and shares the benefits with ratepayers. Ownership risks include long-term O&M, managing long-term warranties, insurance for catastrophic events, and removal if the project becomes obsolete.	Third-party debt may be more costly than utility debt. Utility cannot incorporate project as part of rate base and earn a rate of return. Also, the project typically outlives the PPA (producing for 35 years or more), so utilities forego long-term benefits.	Third-party debt may be more costly than utility debt, so if the utility can monetize the tax incentives it may make sense to own the project from the beginning. The more complicated financing model requires tax and legal support, which may be costly for relatively small projects.	Utility must take risk associated with the solar equipment output, as expected to make lease payment regardless of system production. A buyout may be arranged, but not at the time of the original agreement.	Similar to the drawbacks for PPAs, including third-party debt may be more costly, utility cannot incorporate project as part of rate base and project outlives PPA. In addition, the utility loses some connection with its customers, who deal exclusively with the third- party. Consumer-protection risks possible. Some third- party provider's offer limited customization.	Projects present some technical risks and possibly some equity risks as only a small subsector of customers can take advantage of this model; small customers are involved there may be consumer protection risks. Modeled on net metering programs, with the same risks to the utility.

\*See CommunitySolarValueProject.com/Solutions for more

#### Working on Solar Design Strategies

- The utility may call for highvalue solar design strategies, whether it plans to develop and own the project or to enter into a PPA.
- Some high-value solar design strategies increase first-cost, but bring high-value benefits over the project term
- Other high-value solar design strategies are low-cost, but require planning consideration



### Customizing Solar Project Design Strategies

The CSVP GAP analysis taps high-value design strategies that are well-suited to the specific utility/market for each project. CSVP has additional resources available on high-value, community-scale solar. *Depending on the situation*, these may include:

- Strategic Site Characteristics
- Fleet Siting for Geographic Diversity of Multiple Projects
- Single-Axis Tracking Mount
- Optimized Orientation and Tilt Angle of Fixed-Tilt Mount or Carport
- Matching PV Types to Geographic / Site Conditions
- Use of Smart Inverters
- Financing and Business Model Strategies
- Partnerships to Monetize Non-Utility Values
- Solar-Plus Measures

### Considerations That Yield High-Value Design From the Project-Procurement Process

- Balancing specification against openness to bidders' solutions
- Opportunities for economies of scale, without turning to largescale, remote project siting: aggregating over a build-out, or developing partnerships with other communities
- Careful RFP preparation/issuance and a strong bidder's list
- Careful RFP evaluation; second round for refinements
- Numerous aspects of contract negotiation; driving for savings without sacrificing quality, timeliness, or risk protection

See www.communitysolarvalueproject.com/solutions for CSVP procurement guides, sample project RFPs, and tips

#### **Procurement Pitfalls**

- Jumping into procurement too soon: losing site of the narrative and what matters most to decision-makers
- Assuming that bidders will work from comparable assumptions without instruction
- Assuming that a PPA offer incorporates all costs and benefits that are relevant to your program
- Zeroing out refutable values
- Succumbing to silos
- ... • ...



#### How the CSVP GAP Analytic Process Can Help

Utility-led community solar programs often struggle with the economics and the need for pricing that is both cost-based and competitive. While policymakers work to address fundamental changes to utility rate-design policies, planners still need an internal process to help advance solar projects and programs today.

CSVP's GAP process (Getting At Price) was designed around:

- 1. Basing the analysis on a program narrative, which concisely describes all the benefits of the procurement and the program;
- 2. Utilizing the analytic processes as a tool for decision-making, and not as an end in itself;
- 3. Encouraging the introduction of customized solar design elements that add strategic net value;
- 4. Including a rigorous solar- benefits analysis, narrowly focused on **achieving the GAP pricing goal**;
- 5. Adapting familiar rate-design strategies that are cost-based and market driven

#### GAP Analytics: Streamlined & Goal-Oriented



The GAP analysis is named for need to fill the gap between the baseline "sticker price" on a solar procurement and the net value that the utility can accept, in order to achieve competitive pricing on the program offer.

The GAP analysis is a process to "Get A Price" that reflects strategic DER value, but conforms closely enough to utility norms that it can be achieved and accepted by decision-makers in a relatively short time.

#### Basis for the Methodology

- One metric often used in evaluating resource acquisition decisions is the Levelized Cost of Energy (LCOE)
- LCOE is defined as the net present value (NPV) of project costs divided by the NPV of kWh output evaluated over the project life
- Traditionally, since most electricity resources were procured from central station projects on the transmission grid, only the NPV of project *costs* were compared
- When considering DERs, it is important to evaluate the net LCOE, which also incorporates incremental benefits of distributed PV on a levelized basis, i.e., the LBOE
- Even without including every possible benefit, the *net* LCOE analysis provides a more valid comparison of DPV resources

#### Equations

CSVP defines the LBOE categories as falling into four areas:

- Generation
- Transmission
- Distribution
- Societal

The equations for calculating the net LCOE are:

♦ LCOE<sub>DPV NET</sub> = LCOE<sub>DPV GROSS</sub> - LBOE<sub>DPV</sub>

♦ Where,▶ PPA Price▶ DPV Benefits

LBOE<sub>DPV</sub>= LBOE<sub>GENERATION</sub> + LBOE<sub>TRANSMISSION</sub> + LBOE<sub>DISTRIBUTION</sub> + LBOE<sub>SOCIETAL</sub>

Once the LCOE<sub>DPV NET</sub> is calculated, the utility's non-bypassable wires charge may be included, as usual, for bottom-line CS program pricing.

While some alteration of the wires charge may be warranted, most utilities find that very difficult to achieve. Modifications to support better pricing may be presented as an Adjusted PPA Price or Gross PPA Price + credit.

## **Generic GAP Analysis Calculation**

Descline Cost 7	PV PPA Price (LCOE <sub>GROSS</sub> )	\$0.075
Baseline Cost A	DPV Value Category (LBOF)	Value (\$/kWh)
	DPV Benefit Category #1	\$0.010
	DPV Benefit Category #2	\$0.005
	DPV Benefit Category #3	<u>\$0.005</u>
	TOTAL OF DPV BENEFITS (LBOE <sub>GROSS</sub> )	\$0.020
Aggregated DPV Benefits <b>7</b>		

	PPA Price Adjustment Calculation	Value (\$/kWh)
	Baseline PPA Price (LCOE <sub>GROSS</sub> )	\$0.075
	Aggregated DPV Benefits (LBOE <sub>GROSS</sub> )	<u>\$0.020</u>
Coot Minus Deposite	Adjusted PPA Price (LCOE <sub>NET)</sub>	\$0.055
Cost Minus Benefits A		
	Program Price Offering Calculation	Value (\$/kWh)
	Adjusted PPA Price	\$0.055
	Non-Bypassable Wires Charge	<u>\$0.045</u>
	Community Solar Program Price	\$0.10
	Community Solar Program Price	\$0.10

#### Summary of GAP Process Findings

- The GAP process is easily adapted to different:
  - Community solar program designs
  - PV system types
  - Utility situations
  - Solar-Plus companion technologies (i.e., storage and demand response)
  - Alternative pricing structures
- CSVP has applied the GAP process to 3 generic scenarios, demonstrating how utilities can make a minimum number of strategic adjustments, in order to add just enough benefit to make a project viable. This is in contrast to a typical value-ofsolar (VOS) process, which is more general, and generally more contentious.
- A GAP approach that is streamlined and conservative, yet rigorous in its analytics, can be an effective tool in garnering management support for a community solar program.
- See the website for reports, sample data forms, scenario results.

## Solar-plus can be one last high-value option



Best-practice project financing/ procurement

Utility-driven target market development & a more customized offer DR and storage companion measures increase net solar value



# Solar + Integration Strategies

Solar-Plus or Solar Triple Play Strategies defy mass-market research, which puts emphasis on the simplicity of the offer. However, particular market segments seem likely to find that the easy attraction of the solar opportunity makes the more difficult "pitch" for DR acceptable—even attractive!

#### Integration Measures Follow High-Value Design

- Smart solar project design and smart inverter technologies are firstline tactics
- Solar geographic diversity, with quality forecasting minimizes shortterm variability impacts
- Many DR 2.0 strategies, including devices, controls and pricing, work essentially like a battery (and this is often overlooked).



Yes, There is Process for Including Solar-Plus Measure Into Your Plan



## Many Useful Solar+ Technologies



#### A Solar-Plus Strategy Is Timely for Creating a Market-Based Laboratory

- Using low-cost, customer-side storage, the utility may offer a participation incentive that makes the community solar offer that much more appealing.
- Co-marketing of community solar with DR or storage can lower component-program customer-acquisition costs.
- Introducing community solar with companion measures can engage customers directly with an emerging 21<sup>st</sup> Century utility model.
- The community solar-plus model offers a scalable opportunity for utility to work with customers and third-party innovators as they all learn to succeed in a fast-changing market.
- Utilities that are not ready to deploy community solar plus storage as an integrated program offer can learn from CSVP's DR and Storage Guides for Utility Planners, as they continue to build out strategic DER portfolios.

Whether or not you go solar-plus, high-value community solar is within your reach.



#### Final Advice for Program Designers

- Return to the program design process diagram, and adapt it to your own process. Whether or not a utility implements all available high-value options, a commitment to customer satisfaction and internal collaboration will lead to success.
- Engage top-level decision-makers early and often:

"Top-level support is the top predictor of program success."\*

 CSVP's Solution's Toolkit takes planners beyond the assumptions of a smooth-flowing planning process—assuming, instead that planners must think outside the box, in order to address the challenges that come up unexpectedly, but inevitably. See

www.communitysolarvalueproject.com/solutions for details

\*Jane Peters, 30 Years of Process Evaluation, Research Into Action



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