

Community Solar Made Better

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For NRRI Webinar**

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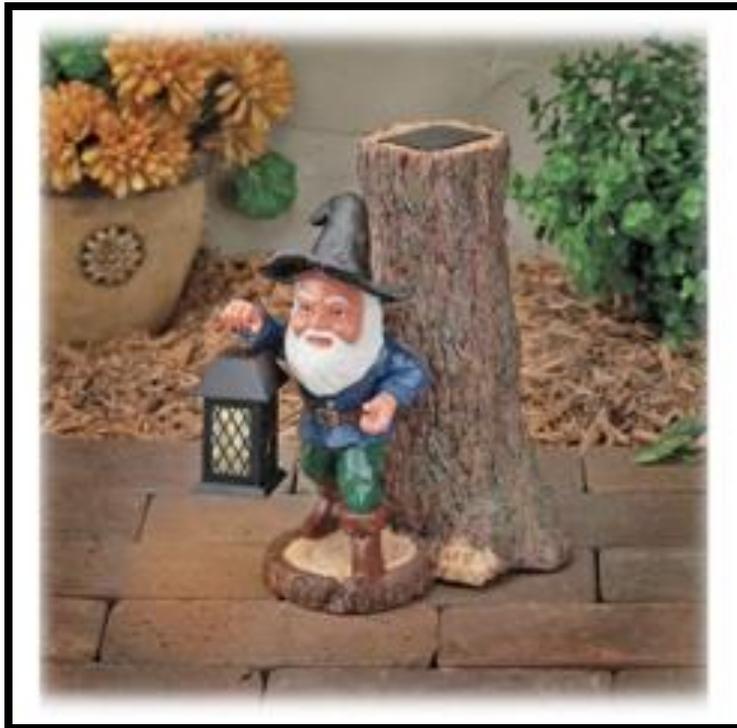


Community
Solar Value
Project

CommunitySolarValueProject.com



What is “high-value” community solar? Utility-driven leadership in better solar siting and design, procurement, target marketing, and companion measures (storage, DR) that address solar integration needs at lower cost.



**From gardens...
To grid resources**



Relevant History



- Green power marketing: wind to solar as value-added
- Renewables as a fuel-risk hedge
- Community solar in public power communities
- Changing the NEM conversation
- CSVP: Community solar as a market-based laboratory for increasing DERs and flexible grid solutions

Community Solar is a Possible Win-Win For Utilities and Their Customers

88% of utility execs ranked distributed energy resources as their greatest opportunity, but 63% weren't sure how to build a good business around it*

* Utility Dive, 2014 Annual Survey

What It Looks Like: CSVP Strawman Model

Competitive Product with Voluntary Companion Measures

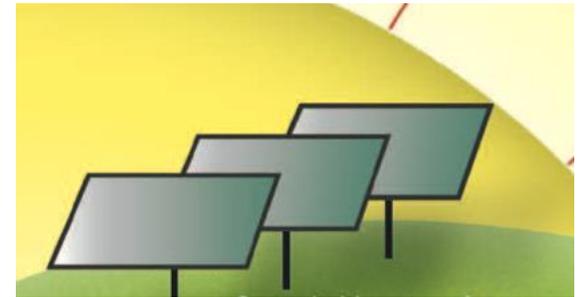


- Participants' rate based on wholesale solar cost + admin + wires costs

- Keyed to solar capacity "share"

- **Plus credits for adding integration value via DR / EE/ storage**

Solar Project/s with Strategic Design

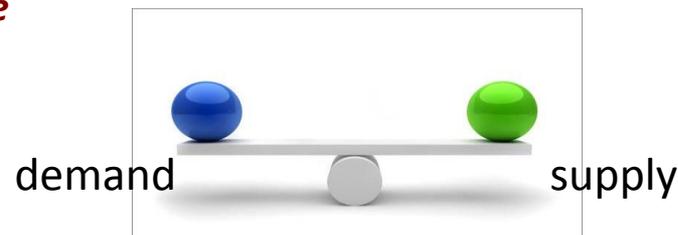


- Siting/design for value-added wholesale solar

- Utility pays price set by competitive PPA; spec for added value; likely buyout

- Fleet expansion expected, with technical and pricing adjustments

Utility



Some Project Designs Add First-Cost But Increase Long-term Value

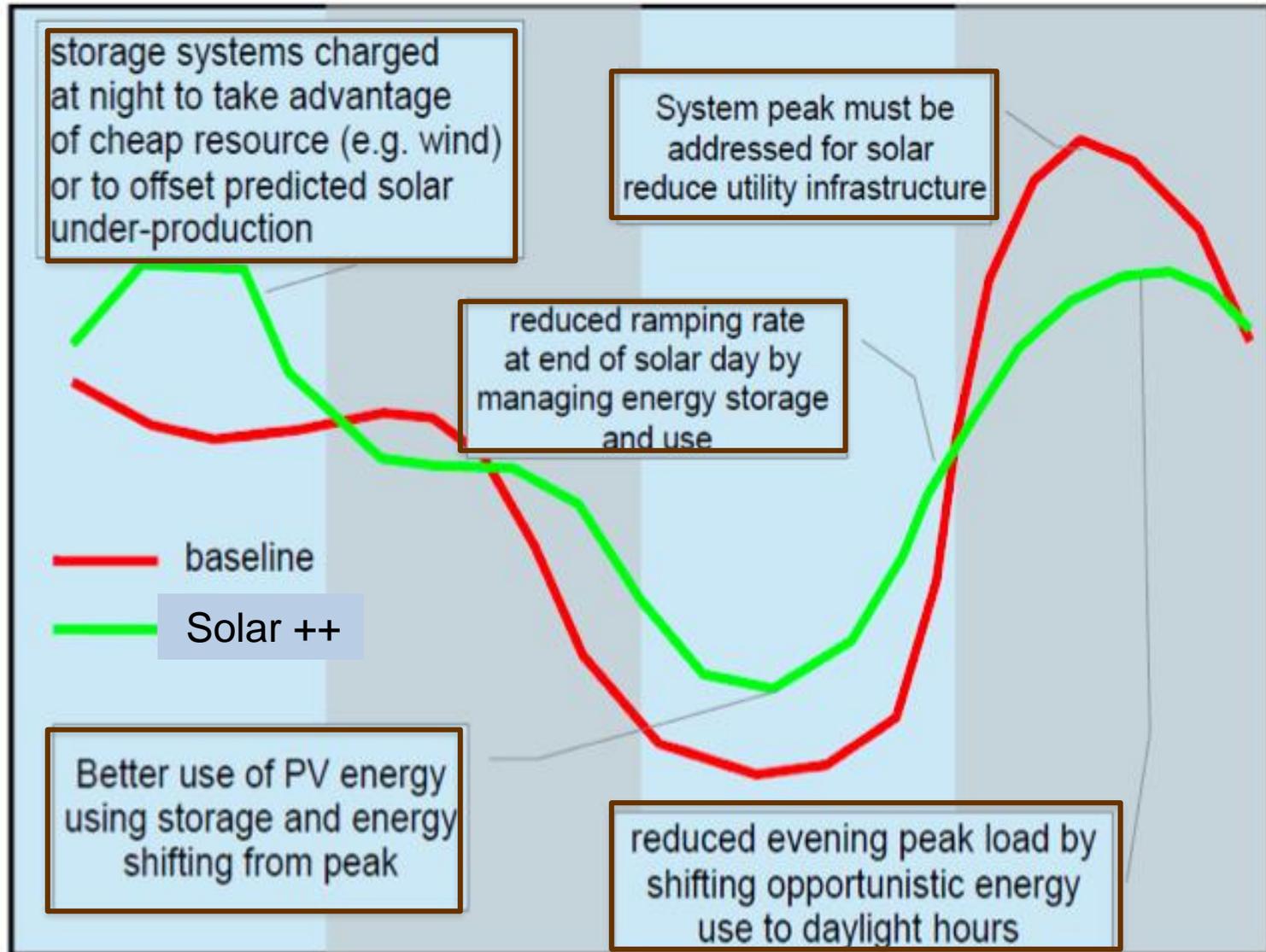
	PV Only	<u>Baseline</u>
	PV + Configuration	<u>Affects LCOE; improves value</u>
 	PV + Tracking	<u>Practically \$0 added cost; improves LCOE and value</u>
 	PV + Battery (Energy)	<u>High added cost; falling</u>
 	PV + Battery (Power)	<u>Moderate added cost; falling</u>



PV + Demand Response

We use **Demand Response as a “battery”** (with with or without storage capability) – Low-cost/high-value, and may enhance true battery value.

Addressing daily, seasonal issues w/ Solar ++



Strategic Benefits of High-Value CSS

- Customer choice: Many prefer community solar
- Optimal solar project location, orientation, and design
- Flexible operations
- Fleet strategy addresses pricing risk, adds diversity
- Customer acquisition and retention benefits from “solar-plus” service-bundling
- Clean electrification options: EVs, storage water heat, etc.
- Collaboration with customers and third-party innovators for emerging grid-interactive utility models

Regulatory and Policy Challenges

- Be cautious in comparing NEM- and utility-based programs
- Promote innovation in market-based laboratories: consider voluntary participation, evaluation
- Consider strategic as well as quantitative arguments; mindful of the dynamic nature of technologies, markets
- Emphasize silo-busting
- Encourage collaboration to improve CSS value
- Make it simple, but significant

The Presenter and the Project

Jill K. Cliburn is principal consultant with Cliburn and Associates, LLC and program manager of CSVP. She focuses on integrated DER solutions, including business model innovation and assessment of policy and regulatory options. Contact her at jkcliburn@cliburnenergy.com

The Community Solar Value Project is focused on improving community-solar program value, through solar + storage + demand-response and other strategies, at electric utilities in Sacramento and beyond. Led by Extensible Energy, LLC, and draws on expertise from three energy consulting firms. Contact John Powers, john@extensibleenergy.com

For more information on SunShot Solar Market Pathways, see



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