Executive Summary: Community Solar Webinar Overview

Hosted by: Solar Valley Consortium, UC Riverside
Moderator: V. John White, Executive Director, Center for Energy Efficiency and Renewable Technologies (CEERT)
Keynote Speakers: Erica Bowman, VP of Strategy, Southern California Edison; Charles Louden, Legislative Director for Assembly Member Chris Ward; Matt Freedman, Staff Attorney, The Utility Reform Network (TURN), Derek Chernow, Western Regional Director, Coalition for Community Solar Access (CCSA), Jaquelyn Fairbairn, VP Corporate Development, Luminia, Ed Smeloff, Consultant to CEERT, Moderator for Q&A
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1. Introduction

The Solar Valley Consortium hosted a crucial webinar addressing the pressing issue of community solar in the context of escalating climate impacts and ambitious renewable energy goals. With the increasing frequency of climate-related disasters and extreme temperatures, particularly in California, the need for scalable and diverse renewable energy solutions is more urgent than ever.

2. Climate Context and Urgency

Fred Schwartz highlighted the severe climate challenges facing the region. Extreme weather events, including heat-waves and wildfires, are becoming more frequent and severe. Climate Central data shows that the time between billion-dollar disasters has decreased significantly, from 82 days in 1980 to 18 days in 2020. In California, extreme heat is expected to increase, with temperatures exceeding 100°F for up to 166 days annually by 2099. To meet state clean energy goals and adapt to these conditions, a massive scale-up in renewable energy installations—primarily solar and wind—is required.

3. Community Solar as a Solution

The webinar focused on community solar as a critical component in addressing California's energy needs. Community solar projects offer a middle ground between rooftop and utility-scale solar installations, making renewable energy accessible to renters, multifamily residents, and those unable to install solar panels on their properties.

Community solar programs represent a significant opportunity for California to enhance its renewable energy capacity and address the needs of underserved populations. However, recent developments and decisions by the California Public Utilities Commission (PUC) have created a challenging environment for the implementation of these programs. This summary outlines the current state of community solar and energy storage integration, identifies the primary issues and opportunities, and suggests strategies for overcoming obstacles to achieve a scalable and sustainable solution.

Community Solar in California has faced significant hurdles, including limited scalability, low participation rates, and insufficient integration of storage. Despite the state's ambitious climate goals, recent developments have highlighted gaps in policy and program design that undermine the potential benefits of community solar.

The integration of community solar with energy storage presents a significant opportunity for California to advance its renewable energy goals, address equity concerns, and improve grid reliability. However, achieving these outcomes requires a thoughtful approach to program design, compensation, and funding. By addressing the current challenges and leveraging available opportunities, California can develop a robust and scalable community solar program that benefits all residents and supports the state's climate objectives.

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California has the opportunity to lead in community solar by revising its program design to include comprehensive storage solutions, adopting more favorable compensation models, and addressing existing barriers to participation. Collaborative efforts among legislators, regulators, and industry stakeholders are essential to realize the full potential of community solar and storage, meet the state's climate goals, and provide equitable benefits to all residents.

4. Key Insights from Speakers

- **Erica Bowman (VP Strategy, Southern California Edison):**
  Erica emphasized the importance of expanding solar capacity to meet the state's goals, noting a requirement of an additional 63 gigawatts of solar. She highlighted the role of battery storage in managing reliability, particularly during heatwaves. Bowman addressed concerns about rising utility rates, driven by wildfire investments and power supply issues. She suggested that incentivizing community solar at the state or federal level could help mitigate costs and support broader adoption and she shared SCE's concerns about Community Solar installations needing to be "visible" to SCE and the ISO (Independent System Operator).
- **Charles Louden (Legislative Director, Assemblymember Chris Ward):**
  Charles discussed the legislative efforts to promote community solar, including AB 2316, which aims to consolidate and improve community solar programs. The focus is on ensuring access for low-income and underserved populations, improving bill credit structures, and enhancing grid reliability. Louden stressed the need for aggressive state-level actions to meet renewable energy goals and to counteract opposition to solar initiatives.
- **Matt Freedman (Staff Attorney, The Utility Reform Network - TURN):**
  Matt provided a detailed analysis of the impact of net metering on utility rates and customer bills. He highlighted the increasing cost shift resulting from net metering, which has led to higher rates for non-solar customers. Freedman advocated for community solar as a more cost-effective and equitable alternative, suggesting that larger-scale solar projects can reduce overall costs and improve access for a broader range of consumers, and can also provide a broad range of benefits to both the grid and to customers who currently have no way to access the solar and storage.
- **Derek Chernow (Coalition for Community Solar Access - CCSA):**
  The CCSA is the Trade Association for over 125 companies, non profit organizations, and other interested parties. Community solar has been around in California for about 10 years and practically nothing has happened. It hasn't been scalable or sustainable as a program and low-income participation has been minimal. With Assembly Member Chris Ward's bill - AB 2316, a broad coalition including TURN, CCSA, environmental justice groups, the Building Industry Association and others came together to craft a sustainable scalable program. As a result they proposed the Net Value Billing Tariff that would have enabled the potential for Community Solar to flourish. The CPUC did not adopt that and really boxed in where we can go from here with their decision. A Wood McKenzie report showed that – prior to the CPUC decision - California could provide 19% of the growth in community solar across the US. After the CPUC decision approved in late May, that figure dropped to 2%. The nation cannot achieve its goals without California, and California needs to find a better way to move forward so that the benefits can go to the communities that need them the most.
- **V. John White.** One of the things I have observed about the nature of policymaking and decision-making at the PUC is that they have a tendency to subdivide everything into individual proceedings and do not see the bigger picture or the links between various proceedings. When they did the Net Metering decision there was no thought given to what should come next or what the ongoing cost-shift issues are, and I think this is something that we have to look at more holistically than we have been able to do up to now. It's going to require the Commission to get out of its own way and think about how to make change.
- **Jacquelyn Fairbairn, VP Corporate Development, Luminia**
  Luminia works both behind the meter and in front of the meter and we were really looking forward to a strong Community Solar Program in California. Community Solar is one of the most challenging ways to do solar because there are so many different stakeholders. There are

subscribers, developers, land-owners, interconnection queues, the CPUC, the CAISO, and the utilities. Good programs have been brought to scale in New York, Illinois, New Jersey. Over 20 states have great Community Solar programs. California does not. Erica Bowman said we need 15 gigawatts of behind the meter solar. California's program is capped at 144 megawatts statewide. In California there should be a way for us all to come together to stand up a large resilient program that also includes and incentivizes energy storage.

- **Q&A: Ed Smeloff, CEERT and Grid-Lab**
  A question for Erica Bowman: Is there an opportunity now to better plan and drive Community Solar by properly crediting the resource adequacy benefits beyond local resiliency in order to find a way that links the benefits together with the cost?
- **Erica Bowman.** That's a good question and it relates to how the program could be organized. I think there certainly could be opportunities if the CAISO could have visibility on those assets. That might need to come through the load-serving entity (the utility). I could see how, depending on the size of those assets and how they contribute to the system and it's reliability that Community Solar could see resource adequacy payments. This is certainly a conversation that could be had.
- **Ed Smeloff.** Matt do you see opportunities through the CEC or DEA to fund Community Solar?
  Matt Freedman: I think all sources of funding external to the rates are on the table. The problem in Sacramento is that there's no money in the budget. The California budget is like a roller coaster. One year there's money and the next year there's scarcity. So right now we're sort of stuck in these one time infusions of funding but a one time infusion is not going to be enough if we want this to be more that a boutique program that serves a small number of customers. I think the path forward is to look at cap and trade funding and the greenhouse gas reduction fund to support Community Solar. Right now the PUC is stuck with a program it adopted and cobbled together at the last minute that is pretty incoherent. It's so incoherent that people don't even agree on what they adopted. There's a second phase of the proceeding where parties are trying to salvage something including "Hey maybe you need to change what you just adopted because ir doesn't really make any sense!" There's a lot of issues here and unfortunately I'm not optimistic only because the PUC seems really disinterested in developing a program that can scale and go big.
- **V. John White:** One thing I would observe is that this is a relatively unexplored source of solar between utility-scale and rooftop and a visualization of how much land there is so we could see locations would help us understand the ability to provide local reliability. The PUC tends to view these things as not connected. I think a bigger vision could be presented by a broad group of stakeholders. You have to approach this as a campaign. You have to have a goal, a vision, and you have to make it tangible. We have to talk about the policy combinations that are going to be needed. Matt's slides are a good start.
- **Ed Smeloff.** Charles what do you make of where we are now?
- **Charles Loudon:** It's a lot to take in. There are lots of concerns about the recent decision and its viability. I'm hoping we can move to a wide-scale adoption of Community Solar. The PUC did leave it open for the second phase of the proceeding to try to figure out the details. I think we should continue the conversations. I think this webinar was a great opportunity to bring some of those voices forward, and a lot more discussions are needed. What we are trying to do is see what has worked in other states and try to replicate those successes here in California. The legislature is sensitive to the cost shift and increasing rates. Especially as the climate keeps changing and the risk factors get worse we need to really be aggressive to meet the state's goals. We brought together a pretty unprecedented group here and we want to keep that momentum going. We're all thinking in the same direction and if we can use the information that's been presented here and focus on the takeaways we can come together as a group to approach the PUC and the Governor's Office to discuss what we feel the barriers are and what some of the solutions might be.

5. Key Takeaways

- **Urgency of Action:** The need for immediate and substantial action on renewable energy is critical given the rapid increase in extreme weather events and rising temperatures.
- **Role of Community Solar:** Community solar projects are essential in expanding access to renewable energy and achieving state clean energy targets. They offer a viable solution for those who cannot install solar panels on their properties. And Community Solar + storage can play an important role in getting California off of fossil-fueled peaker plants as we face greater energy demand from AI/data centers and the electrification of our transportation and housing sectors.

- **Legislative and Regulatory Support:** There is a need for continued legislative support and incentives to drive the deployment of community solar. Proposed bills and regulatory changes must address cost shifts and ensure equitable access.
- **Focus on Affordability and Reliability:** Strategies to balance affordability, reliability, and grid integration are crucial. The role of battery storage and scalable solar projects will be pivotal in managing the energy grid effectively.

Key Issues

1. **Integration with Energy Storage**
    - **Value of Energy Storage**: Energy storage has been recognized as crucial for balancing intermittent solar generation and providing grid reliability. Despite this, the PUC's recent decisions have made storage optional rather than integral to community solar projects. This creates a risk of missing out on the full benefits of energy storage, which include enhancing grid stability and shifting energy usage to meet peak demand.
    - **Economic Challenges**: Storage is expensive, and without appropriate compensation structures, its integration into community solar projects may be financially unviable for developers. There is a need for a compensation model that reflects the true value of energy storage.
2. **Optimized Deployment of Community Solar**
    - **Location Optimization**: As a distributed energy resource, community solar projects can be strategically sited to minimize interconnection costs and maximize benefits. By contrast, residential rooftop solar installations are dispersed and not strategically placed, leading to inefficiencies.
    - **Program Design**: The current PUC decision limits the scope of community solar projects, focusing on existing green tariff programs and PURPA, which have historically shown limited uptake. There is a need for a more flexible and scalable approach to project deployment.
3. **Compensation and Financial Structures**
    - **Delinking Generation Compensation**: Retail rates include costs unrelated to the value of generation. A revised compensation structure could better align payments with the value provided by community solar projects.
    - **Subscriber Payment Models**: A model where subscribers pay their full bill upfront and receive credits later could simplify the financial process and potentially increase participation.
4. **Impact on Non-Participants**
    - **Rate Impacts**: Implementing a well-structured community solar program can help minimize rate impacts on non-participants by spreading costs more effectively and utilizing federal incentives.

Opportunities

1. **Leveraging Federal Incentives**

    Tax Credits and Funding: Federal tax credits and funding, including the Solar For All program, present significant opportunities to support community solar projects. However, these funds are limited and need to be allocated strategically to maximize their impact. These funds are meant to spur private investment and accelerate markets, not be the foundational compensation of a community solar program.

2. **Engaging Underserved Populations**

    Renters and Low-Income Residents: Community solar provides a crucial opportunity for renters and low-income residents, who are often excluded from rooftop solar options. Targeting these populations can expand access to renewable energy and provide financial benefits to those who need them most.

3. Alternative Compliance Under Title 24

Regulatory Flexibility: Community solar programs can offer an alternative to the Title 24 requirement for residential solar installations, potentially reducing costs for new construction while promoting broader solar adoption.

4. Community Partnerships

Local Involvement: Municipalities and local entities can play a role in developing and financing community solar projects, contributing to local resilience and potentially improving project viability. Encourage partnerships between communities and developers to leverage local resources and support the development of community solar projects.

5. Value of Storage:

Integrating energy storage into community solar projects is crucial for enhancing grid reliability and maximizing the value of solar generation. Storage helps manage peak demand and ensures a stable energy supply during critical times, such as heat waves.

6. Program Design Challenges:

The current Community Renewable Energy Program, as shaped by the CPUC's recent decision, limits compensation to existing green tariff programs and relies heavily on one-time federal funding. This design fails to adequately address the value of storage or scale effectively, hindering the program's impact.

7. Cost and Funding Analysis:

Comparative cost analysis shows that alternative models, like the Net Value Billing Tariff, could provide significant savings and support larger-scale community solar deployment. However, the CPUC's decision does not adopt these models, instead leaning towards less favorable and less scalable solutions. If using the Net Value Billing Tariff as an alternative funding example, and depending on where the funds come from to support the program, a cost shift could still occur between adopters of community solar and non adopters with adopters paying less and non-adopters paying more.

8. Legislative and Regulatory Barriers:

Assembly Bill 2316, which was intended to create a more effective community solar program, has been constrained by the CPUC's restrictive decisions. This has led to a lack of progress and missed opportunities for broader implementation.

9. Participation and Equity:

Community solar has the potential to serve renters and low-income households who cannot benefit from rooftop solar. However, current program limitations restrict access and fail to meet the needs of these groups.

Recommendations

1. **Revise Compensation Structures**
    - Develop compensation models that reflect the full value of community solar and energy storage, ensuring that both generation and storage are adequately funded.
    - Adjust compensation to reflect the true value of solar generation and storage, potentially using reverse auctions or performance-based pricing.
2. **Enhance Program Flexibility**

    - Implement a more flexible program design that allows for larger-scale projects and integrates energy storage as a mandatory component.
3. **Streamline Interconnection Processes**
    - Address the challenges related to interconnection queues by exploring reforms that expedite the process for distributed generation projects. Address delays and inefficiencies in the interconnection process to expedite project deployment.
4. **Expand Federal and State Funding**
    - Increase efforts to secure additional federal and state funding to support community solar and storage projects, ensuring that resources are allocated efficiently.
    - Increase funding beyond one-time federal sources to ensure long-term viability and support larger-scale projects.
5. **Foster Community and Developer Collaboration**
    - Encourage partnerships between communities and developers to leverage local resources and support the development of community solar projects.
6. **Optimize Deployment**
    - Utilize strategic locations and minimize interconnection costs to enhance project feasibility and effectiveness