Overcoming Barriers to Solar+Storage in Critical Facilities Serving Low-Income Communities
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THE RESILIENT POWER PROJECT

• Increase public/private investment in clean, resilient power systems (solar+storage)
• Protect low-income and vulnerable communities, with a focus on affordable housing and critical public facilities
• Engage city, state and federal policy makers to develop supportive policies and programs
• Visit www.resilient-power.org for more information and resources
Boulder: Nonprofit transportation center serving elderly and disabled residents

Puerto Rico: Supporting the installation of solar+storage at multiple community medical clinics

Boston: Multiple housing properties representing 1,000+ units of senior and affordable housing

New Mexico: Added resilience for remote wildfire operations command center

DC: First solar+storage resilience center at affordable housing in DC

Puerto Rico: Supporting the installation of solar+storage at multiple community medical clinics

SUPPORTING 250+ PROJECTS ACROSS THE COUNTRY
WEBINAR SPEAKERS

Abbe Ramanan
Project Manager, Clean Energy Group

Nicole Lim
Executive Director, California Indian Museum and Cultural Center

Seth Mullendore
Vice President, Clean Energy Group (moderator)
Overcoming Barriers to Solar+Storage in Critical Facilities Serving Low-Income Communities

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• Solar PV and battery storage have proven benefits, but implementation among critical service providers remains low.

• To dig into the potential reasons behind this, CEG surveyed 60 community-based organizations, municipalities, affordable housing developers, and technical service providers that were planning, developing, or recently completed solar+storage projects.
Primary Sectors

Most respondents were from affordable housing (40%), community services (e.g., resilience hubs and community centers) (31%). Our report examined some key differences in the experiences of these two large groups in terms of solar+storage development, including:

- Project motivations
- Barriers encountered
- Services/policies needed
Geography

Most survey responses were from affordable housing and community service providers. Solar-storage projects were primarily in California (14), Massachusetts (11), and Puerto Rico (6). The remaining 29 projects were dispersed across 16 states and the District of Columbia. Colorado had 4 projects. Minnesota and Virginia each had 3 projects, and the District of Columbia, Florida, New Mexico, and Georgia each had 2 projects. The remaining states – Connecticut, Illinois, Kentucky, Michigan, Missouri, New York, Ohio, Pennsylvania, and Wisconsin – each had one project.

The concentration of projects in certain regions reflects the strong regulatory environment and incentive support for solar+storage in some states, including the ConnectedSolutions program in Massachusetts and Self-Generation Incentive Program (SGIP) in California.
Project Motivations

Energy Resilience: Affordable Housing

- Electric bill cost savings
- Energy resilience (health and safety)
- Clean, renewable electricity
- Revenue generation (for example, through providing grid services)
- Direct ownership of energy generation

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Project Motivation: Revenue Generation

Another notable difference in motivation is the gap between affordable housing developers and community service providers who ranked revenue generation as their top motivation. 40% of affordable housing developers ranked revenue generation as their top motivation, whereas only 11% of community service providers gave revenue generation the same ranking.
Barriers

65% respondents either expected to encounter or had encountered a lack of information about battery storage, the highest percentage of all barriers. Technical issues ranked as a close second.
Barriers: Differences Between Affordable Housing and Community Services

Legend
- Solid Fill: Affordable Housing
- Pattern Fill: Community Organizations

- Fire Safety
- Building energy usage data access
- Difficulties with vendors
- Regulatory uncertainty
- Project not economically feasible
- Lack of financing options
- Permitting/interconnection issues
- Technical issues
- Lack of information about battery storage
Recommendations

• Increase Awareness of Battery Storage
• Create Opportunities for Capacity Building
• Provide Technical Assistance Support
• Develop Innovative Incentive and Finance Options
• Establish a Monetary Value for Resilience
Resilient Native Generations
The purpose of the California Indian Museum and Cultural Center (CIMCC) is to educate the public about the history, culture and contemporary life of California Indians and to honor their contributions to civilization.
Community, Culture, Connectivity

- Culturally Sustaining Pedgogy
- Youth Centered
- Intergenerational Learning Opportunities
- People not Objects
Wildfires

2017 Tubbs Fire, 36,807 acres, 5,643 structures

2017 Nuns Fire, 54,381 acres, 1,355 structures

2020 LNU Lightning Complex Fire, 363,220 acres, 1,491 structures
Renewal, Regrowth and Stewardship of our Ancestral Territory
Climate Vulnerabilities and Native Climate Resilience Tribal Community Survey

CIMCC collected community input on identifying climate vulnerabilities, solutions, and Native advocacy efforts concerning Native climate resilience in our tribal communities throughout Sonoma, Mendocino and Lake Counties. The goal of the project was to ensure that Native voices and perspectives are represented in city and county climate change planning and adaptations.

- **Policy and Infrastructure Impacts**: emergency response, transportation/evacuations and equitable distribution of aid
- **Health Impacts**: Water quality, accessing medical treatments, exposure to fire related toxins
- **Cultural Impacts**: Loss of traditional foods, gathering areas, cultural resources
- **Environmental Impacts**: Wild fires and rise in sea temperatures
- **Social and Economic Impacts**: home displacement and affordable housing, economic losses from power outages
- **Other**: chemicals and pesticides
- **Priority issues**: wildfires, water, loss of traditional foods, loss of cultural resources, health issues and Future Generations
Community Climate Change Stories

I believe the fossil fuel consumption outside of the valley, has a greater effect on what’s happen on the Reservation. However, I see a change and greater respect for our “reservation” from the youth. They are learning and understandings that they must be involved and take a leadership role in the preservation of our land. Through them, and their persistence, they may be able guarantee the future of their children and their great grand children.

-Alberta Manuel,(Round Valley Tribal Member)
Healing Hub and Strengths-Based Approaches
CIMCC Resilient Power System

74.25 kW Rooftop Solar Array
30kW/360kW Battery Storage – 72 hours of operation
Clean Air Filtration and Cooling Center
Traditional Food Incubator
Reduced energy costs of $21,700 annually
Off set 68 metric tons of carbon per year
Provide services during Public Power Safety Shut Offs, Wildfires and Poor Air Quality
Sustaining Values for Traditional Ecological Knowledge and Stewardship
Challenges

Waiting for the SGIP Equity Resilience Program to re-open before installing the battery.

Option 1: The SGIP Equity Resilience Program would give us a $1,000 kWh rebate towards the battery and totally cover the cost. Currently the program is oversubscribed and awaiting more funding. With our letter of support from the Sonoma County Board of Supervisors, we are well positioned to apply when it reopens in the future.

Option 2: Apply to the SGIP Commercial Facilities Program - $250 kWh rebate towards the battery. The remaining cost for the battery would have to be absorbed through the PPA and would make it less financially favorable toward savings in our electric costs.

CIMCC is seeking additional funding opportunities for the battery - due to the status of the SGIP and these prospects, we are taking a phased approach.
Lessons Learned

EQUITABLE DISTRIBUTION OF RESOURCES

VISIBILITY, REPRESENTATION AND COLLABORATION – COMBATTING USURPATION OF AUTHORITY

COMMUNITY LEAD: STEWARDSHIP AND FOOD SOVEREIGNTY

INCREASING GREEN INFRASTRUCTURE CAPACITIES WITHIN COMMUNITY AND OUR ORGANIZATION
Contact Information

Nicole Lim
The California Indian Museum and Cultural Center
5250 Aero Drive
Santa Rosa, CA 95403
(707) 579-3004

www.cimcc.org
www.californiamissionsnativehistory.org

https://caindianeducationforall.com/

nikkmyers@aol.com
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A Survey of Service Providers
Abbe Ramanan and Mariele Mango
April 2021

Overcoming Barriers to Solar+Storage in Critical Facilities
Serving Low-Income Communities: Q&A

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Thank you for attending our webinar

Seth Mullendore
Vice President
Clean Energy Group
seth@cleanegroup.org

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*Thursday, May 13, 1-2pm ET*

NREL Solar Permitting Tools: An Introduction to SolarAPP+ and TRACE Tool
*Wednesday, May 19, 1-2pm ET*

How Low- and Moderate-Income Solar Programs are Evaluated: Trends and Best Practices
*Thursday, May 20, 1-2pm ET*

Evaluating the Financial Performance of Connecticut’s Low- and Moderate-Income Solar Lease Program
*Wednesday, May 26, 1-2pm ET*

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