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CALIFORNIA ENERGY COMMISSION
CALIFORNIA PUBLIC UTILITIES COMMISSION

RESEARCH & DEVELOPMENT DIVISION



Adoption of Advanced Technologies in Disadvantaged Communities

August 1, 2017



Panel Agenda

Introduction and Overview of Efforts To-Date – Erik Stokes, CEC

Panel Presentations

- Catalina La Madrid, Inova
- Ed Lopez, Groundwork SD
- Ismael Herrera, Central Valley Cluster
- Jon Harding ,Charge Bliss

Moderated Panel Discussion – All



Introduction and Overview



Emphasis on Equity

- ▶ On November 7, 2013, in a letter to former CPUC President Michael Peevey, Chair Weisenmiller expressed a formal commitment to diversity and equity.
- ▶ On April 8, 2015 the California Energy Commission adopted the Diversity Policy Resolution.
- ▶ On December 14, 2016, the Energy Commission adopted the SB 350 Barriers study, which provided the following recommendation for EPIC:
 - ▶ Target 25% of technology demonstration and deployment funds to projects located in a DAC.



Our Strategy Toward Increasing Equity

The strategy we have employed to assist disadvantaged communities and underrepresented groups is three-pronged:

- ▶ Increase awareness of EPIC funding opportunities in disadvantaged communities.
- ▶ Provide preference points or reserved funding in competitive solicitations for proposals benefiting disadvantaged communities.
- ▶ Scope solicitations for technologies and technology packages specifically geared towards low-income market segments.



Increase Awareness of Funding Opportunities

The Energy Commission has undertaken a wide range of outreach activities to ensure a diverse range of applicants have the opportunity to participate in EPIC.





Solicitation Preference Points and Set-asides

Certain EPIC Solicitations provide preference points or reserve funding for projects with demonstration sites located in disadvantaged communities.

To-date:

- ✓ 11 solicitations have provided preference points for DACs
- ✓ 2 solicitations reserved funding for projects located in DACs
- ✓ 1 solicitation committed a minimum of \$4 million in small grant funding for entrepreneurs from underrepresented groups including:
 - Women-, LGBT-, Minority-, and Disabled Veteran-Owned Businesses
 - Small and Rural Businesses
 - Businesses located in DACs in California



Targeted Solicitation Scope

GFO-15-308

Reducing Costs for Communities and Businesses Through Integrated Demand-Side Management and ZNE Demonstrations

Projects focus on bringing large-scale, new and existing residential and commercial buildings and communities to or near to zero net energy (as close to ZNE as cost-effectively achievable) status.

Group 5: Technology Demonstrations and Deployment: Integrated Demand-Side Management Demonstrations to Achieve Maximum Efficiency

The purpose of this group is to demonstrate large scale, cost-effective pathways to achieving maximum energy efficiency in the building sectors or climate zones where it is most difficult to reach the ZNE targets outlined in the CPUC's Energy Efficiency Strategic Plan.

All projects in this group must:

Identify and demonstrate an innovative suite of pre-commercial IDSM measures to achieve near-ZNE (as close to ZNE as cost-effectively achievable) in large scale new or existing buildings and facilities. Projects must meet at least one of the following requirements:

- Demonstrations target disadvantaged communities;
- Demonstrations target high-energy-using commercial facilities;
- Demonstrations target small commercial facility;
- Demonstrations target large-scale residential deployment of IDSM measures in retrofit applications.





Progress to Date



74 EPIC project sites currently located in DACs

Technology Demonstration and Deployment

SB 350 GOAL: 25% of EPIC TD&D projects located in DACs

CURRENT STATUS: \$53.4 million out of \$172.7 million has been allocated to TD&D projects located in DACs.

31% of TD&D funding

Market Facilitation

8 projects, totaling \$14.5 million, specifically target benefits to DACs.



Projects Improving Municipal and Other Critical Services Provided to Disadvantaged Communities

EPC-14-080 - Renewable Microgrid for a Medical Center (Panelist)

EPC-15-055 - The Charge Bliss Advanced Renewable Energy Community for a Disadvantaged Southern California Community

EPC-15-077 - Huntington Beach Advanced Energy Community Blueprint

EPC-15-085 - San Diego Libraries Zero Net Energy and Integrated Demand Side Management Demonstration Project



Projects Improving the Affordability, Health, and Comfort in Disadvantaged Communities

EPC-16-013 - Integrating Smart Ceiling Fans and Communicating Thermostats to Provide Energy-Efficient Comfort

EPC-15-053 - Customer-Centric Approach to Scaling IDSM Retrofits

EPC-15-064 - Innovative Net Zero: ZNE Demonstration in Existing Low-Income Mixed-Use Housing

EPC-15-066 - Developing an Advanced Energy Master Plan for the Encanto Neighborhood in San Diego (Panelist)



Projects Supporting the Local Economy and Businesses in Disadvantaged Communities

EPC-14-081 - Irrigation Optimization and Well Pump Monitoring to Reduce Energy and Water Consumption

EPC-15-038 - Central Valley Energy Innovation Cluster (Panelist)

EPC-15-0101 - Increasing Workforce Development Opportunities in Disadvantaged Communities through Automated Demand Response Communication Equipment Training

EPC-16-060 - Adaptive Chargers for Delivery Customers Demonstrating California Advances in Charging



Projects Informing Policy and Planning Decisions in Disadvantaged Communities

EPC-14-032 – Capturing Cultural Diversity in California Residential Energy Efficiency Potential: An Energy Ethnography of Hispanic Households (Panelist)

EPC-14-073 – Monitoring the Urban Heat Island Effect and the Efficiency of Future Countermeasures

EPC-14-039 – Cultural Factors in Energy Use Patterns of Multi-family Tenants

EPC-15-007 – Climate Change in Los Angeles County: Grid Vulnerability to Extreme Heat



For More Information on Our Projects

The EPIC Innovation Showcase compiles information on projects in disadvantaged communities.

<http://innovation.energy.ca.gov>

The screenshot displays the EPIC Innovation Showcase website interface. At the top, there is a navigation bar with the CA.GOV logo, the California Energy Commission logo, and the text "ENERGY INNOVATION SHOWCASE". A search bar is located in the top right corner. Below the navigation bar, a dark banner reads "DISCOVER THE POWER OF ENERGY INNOVATION" and "Projects Located In CalEnviroScreen Disadvantaged Communities". The main content area shows search results for "19 projects found". On the left side, there are filter sections for "Project Status" (All Projects, Active Projects, Closed Projects) and "Home and Communities" (Affordable Housing, CalEnviroScreen, Disadvantaged Communities, Existing Homes, Multi-family Homes, New Homes and Residential Developments, Rural and Farm Communities). A "Sorted by Start Date" dropdown menu is set to "Ascending". The project listings include:

- Comparing Attic Approaches for Zero Net Energy Homes**
Lawrence Berkeley National Laboratory
Project Start Date: 3/30/2015
Project Amount: \$1,000,000
- Dairy Waste-to-Bioenergy via the Integration of Concentrating Solar Power and a High Temperature Conversion Process**
Southern California Gas Company (SoCalGas)
Project Start Date: 4/15/2015
Project Amount: \$1,494,736
- Low Cost Biogas Power Generation with Increased Efficiency and Lower Emissions**
InnoSeptra, LLC
Project Start Date: 5/1/2015
Project Amount: \$1,318,940
- High Temperature Hybrid Compressed Air Energy Storage (HTH-CAES)**
Regents of the University of California, Los Angeles



Panelist Presentations



Panel Discussion



Questions

1. What are possible strategies to move these projects from one-off demonstrations to broader adoption in DACs?
2. What data, information, and insights from these projects are critical to help achieve scale-up of advanced energy technologies in DACs?
3. What can state agencies do to facilitate the inclusion of advanced energy technologies in other funding programs, such as rebates and low-interest loans, targeting DACs and low-income customers?
4. What role can local jurisdictions, including cities, counties and school districts, play in accelerating the adoption of emerging clean energy technologies in DACs?
5. What factors, such as community buy-in, multi-disciplinary expertise, and private sector support, are critical towards the success of a project deploying advanced clean energy technologies in a DAC?