How local energy providers are advancing community resilience with solar+storage
CalCCA Webinar Team

Leora Broydo Vestel
Director of Communications

Sandra McCafferty
Administrative Coordinator
Thank you to our sponsors!
Meet our Speakers

Peter Levitt
Associate Manager
Distributed Energy Resources Strategy
Peninsula Clean Energy

Michael Norbeck
Director, Business Development
Grid Services
Sunrun
Housekeeping

• Webinar is being recorded
• All participants will be in listen-only mode
• Use the Q&A button on your screen to submit questions
• Q&A will begin following presentations
Power On Peninsula: Clean Backup Power and Grid Services
Agenda

• Background
• Intro to the Program
• Sunrun’s Experience & Program Approach
• Key Challenges and Learnings
Peninsula Clean Energy Mission

Mission Statement

*Peninsula Clean Energy is San Mateo County’s locally-controlled electricity provider. We are reducing greenhouse gas emissions and offering customer choice at competitive rates.*
San Mateo County

- Peninsula Clean Energy is a CCA formed as a joint powers authority (JPA) local public agency in 2016
- Governed by a Board of Directors made up of each member of the JPA
- Created by a **unanimous vote of every member** of the San Mateo County Board of Supervisors and the city councils of all 20 cities
Community Benefits

Savings of more than $18 million for accounts across San Mateo County in 2018

105,000 metric tons of carbon emissions avoided annually (based on 2017 data) in San Mateo County

Emissions avoidance equivalent to CO₂ like removing 22,290 cars from San Mateo County for one year!
About Sunrun, Inc.

Who We Are

Formed in 2007 and headquartered in San Francisco, CA, Sunrun pioneered the residential solar-as-a-service product.

Sunrun is the largest residential solar, storage, and home energy services company in the US, with more than 300,000 customers, across 22 states, D.C., and Puerto Rico.

Sunrun has raised over $5 billion to deploy more than 1.8 GW of solar PV with past and current investment partners including Credit Suisse, US Bancorp, J.P. Morgan, and Goldman Sachs, among others; projects in this customer aggregation will include assets financed with investments from multiple tax equity and debt investors.

In 2017, Sunrun expanded its products to battery storage (over 11,000 units / ~110 MWh installed to date) and is the leading residential grid services provider, with multiple grid services contracts won/in process, including with ISO-NE; HECO (HI); Orange & Rockland (NY); Glendale (CA); EBCE, PCE, and SVCE (CA).

Sunrun is publicly listed on the NASDAQ and has grown consistently and sustainably over its 13-year history.
What is a Virtual Power Plant?

IOUs
- Hawaiian Electric
- Southern California Edison
  
Muni, CCA
- Silicon Valley Clean Energy
- Peninsula Clean Energy
- East Bay Community Energy

Sunrun Energy Services Platform

BACK-UP

Sunrun
Rolling Blackouts Underscore the Critical Need for Dispatchable Capacity and Local Resiliency

During recent CAISO rotating outages, Dynegy/Vistra jet fuel power plant in Oakland was running overtime - flooding a community of concern with toxic emissions.

Sunrun is helping to shut that plant down by deploying a VPP comprised of resilient solar+battery storage projects for low-income multifamily residential customers in West Oakland.

During this same time, Sunrun was called by our partners at SCE to ensure our batteries were helping the grid manage near-record demand.

We are deploying a VPP comprised of hundreds of solar+battery systems to help SCE manage current and emerging grid conditions via Demand Response.
Background

- **Summer & Fall 2019:** Public Safety Power Shutoff (PSPS) caused widespread power outages in California

- **November 2019:** Peninsula Clean Energy, EBCE, SVCE, and SVP launched a solicitation for Resource Adequacy (RA) from Distributed Energy Resources (DERs)
  - Distributed RA to provide backup power to customers and RA benefits to Load-Serving Entities (LSEs)

- **January 2020:** Peninsula Clean Energy published a three-year, $10M Energy Resilience Strategy

- **June 2020:** Three LSEs signed Load Modification Agreements with Sunrun

- **August 2020:** Peninsula Clean Energy launches **Power On Peninsula**
Drivers of Clean Energy Resilience

● PSPS events
  ○ San Mateo County’s largest PSPS event affected 55,000+ accounts and lasted up to 92 hours

● Rolling Blackouts
  ○ Affected 33,000+ Peninsula Clean Energy accounts

● Reduce reliance on and emissions of diesel generation
  ○ Solar + Storage (S+S) reduces energy bills and/or serves grid with renewable time-shifted energy

● Potential for future natural disasters that damage the grid (wildfires / earthquakes)
  ○ Multiple day or longer outages
## Partnership Details

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity Product</td>
<td>0.4 – 5 MW (1.6 – 20 MWh)</td>
</tr>
<tr>
<td>Installation Size</td>
<td>2 – 11 MW (8 – 44 MWh)</td>
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<tr>
<td>Delivery Term</td>
<td>Ten years</td>
</tr>
<tr>
<td>Customer Type</td>
<td>Single Family or Multifamily Residential</td>
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<tr>
<td>Islanding</td>
<td>All systems able to island</td>
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<tr>
<td>Equity</td>
<td>At least 10% of systems will be installed to serve customers who are low-income, in a DAC, or enrolled in CARE, FERA, or Medical Baseline</td>
</tr>
<tr>
<td>Price</td>
<td>Small premium to standard RA procurements</td>
</tr>
<tr>
<td>Customer value</td>
<td>Bill savings; resiliency/backup power; reduced pricing for PPA/lease, to reflect value of PCE partnership</td>
</tr>
</tbody>
</table>
Capacity Product – Load Modification

- RA requirements set based on expected peak load
- Assets charge from solar, discharge during evening ramp, achieving a permanent load shift
Capacity Markets Considered

• Load modification is a new approach. PCE and other LSEs have been working with regulatory agencies on this mechanism, however there is still some uncertainty

• **Collaboration with CCAs** has been a key part of developing LMA commercial construct

• Proxy Demand Response (PDR) was evaluated and determined to be suboptimal
  • Designed for demand response rather than energy dispatch
  • LIP process is burdensome
  • Capacity volume is dependent on reducing customer load, resulting in higher capacity price
Workforce Development

• Sunrun leveraging its relationship with GRID Alternatives in the low-income solar space to provide workforce development and training in every installation provided to low-income customers
  • GRID has an Installer Basic Training and has trained more than 17,000 individuals in solar installation since its inception
• Commitment to having San Mateo County residents provide 50% of the work hours associated with construction, operation, and maintenance of the projects
• Sunrun provides equal opportunities for businesses owned by historically underrepresented communities to bid on supply chain contracts. That includes minority-, women-, disabled-, veteran-, and LGBTQ-owned businesses.
Co-Marketing Plan

- Sunrun will provide customers an **upfront incentive up to $1,250** to motivate their participation in this program.

- How do we make that happen? In order to spur customer participation, PCE and Sunrun have developed a Co-Marketing Agreement:
  - Marketing channels: Nonprofit outreach partners, PCE’s newsletter, social media, events, and direct mail.
  - Working together on program outreach lowers costs and allows us to reach a greater range of priority customers more quickly and efficiently.
  - This ensures that PCE’s program **benefits the greatest diversity of customers possible** - including low-income seniors, customers on CARE / FERA rates, customers in High Fire Threat Zones and DACs, and others.
Program is Live!

Program Website: https://www.peninsulacleanenergy.com/pop-homeowner/

Michael Norbeck
michael.norbeck@sunrun.com

Peter Levitt
plevitt@peninsulacleanenergy.com

Be prepared for power outages with a solar + home battery backup system

Benefit from rebates and incentives and reduce your costs by selling excess power back to the grid.

Contact:
Sunrun (888) 625-9786

See if you qualify today!

In joining the Power On Peninsula program you will get:

- Safe clean reliable solar energy
- Earn credits or cash by selling excess power back to the grid
- Battery backup keeps the power on during outages
- Get up to $1,250 rebate incentive
- Be part of the network that is helping San Mateo County become 100% renewable by 2025

The information you submit on this form will only be used for the Power On Peninsula program.
Q&A

Peter Levitt
Associate Manager
Distributed Energy Resources Strategy
Peninsula Clean Energy

Michael Norbeck
Director, Business Development
Grid Services
Sunrun
What’s Next?

• Recording/slides will be posted at cal-cca.org/webinars

• Next CEI webinar on September 25

• Topic: Assisting commercial customers assess the backup power potential of battery energy storage

• Registration link and details at cal-cca.org/webinars
Thank you and stay well!

Leora Broydo Vestel
CalCCA Director of Communications
leora@cal-cca.org