Innovation Programs Update

October 23, 2020
Purpose

Provide an update on SVCE’s two innovation programs & seek Exec Committee input on draft BOD request
Background

• In SVCE’s Decarb Roadmap identified as one of six program focus areas
• In Dec 2018, BOD approved two innovation programs and allocated $1.2M in programs funds for FY19-FY20 for implementation

Six focus areas of programs portfolio
Goal of Innovation Programs

Leverage SVCE’s unique position to engage and support the innovation ecosystem in addressing key technical, market and policy barriers to achieving deep decarbonization in SVCE service territory & beyond.
SVCE’s Innovation Program Stimulus

- **Idea**: Sponsor and organize hackathons and other innovation events through Innovation Partners.
- **Prototype**: Pilot proofs of concept and demonstrations through Innovation Onramp.
- **Commercialization**
Innovation Partners
2019-2020 Activities

• **Sponsored three hackathons** to engage students, innovators and entrepreneurs
  - 2019 Stanford Cleantech Challenge
  - 2019 SunCode by Powerhouse
  - 2020 Suncode by Powerhouse

• **Organized our own GridShift Hackathon** with Powerhouse and regional partners

*Cancelled due to COVID; currently repurposing sponsorship funds*
GRIDSHIFT HACKATHON
with support from
POWERHOUSE

January 31 – February 1, 2020
GridShift Hackathon

- Sponsored by 4 community power agencies, held at Google Launchpad

- 100 developers competed for 24 hours:
  - **1st Place to Grove ($10k)**
    Intuitive interface for smart scheduling a customer’s flexible electrical loads
  - **2nd Place to Green Routes ($4k)**
    Find charging stations & optimize for carbon, cost & convenience
  - **People’s Choice Award to WattsDown ($2k)**
    Link to a smart light in homes to alert customers to planned power shut-offs & high electricity prices
GridShift Hackathon

“We saw a lot of innovative thinking about different ways to tackle the issues of resiliency, equity and access as we transform the grid. It’s in our best interest to engage the talented minds in our community to generate the best ideas and think creatively about solutions that will benefit residents and businesses and will help us achieve our goals to impact climate change.”

- Howard Miller, SVCE Board Chair & Saratoga Mayor
Innovation Onramp Overview

Small grants for innovative pilot projects

- Rapid, semi-annual application cycle
- Transparent evaluation criteria
- Standardized partnership agreements
- 18 months max term for pilot
- Cap of five pilots per cycle
- Grant size:
  - Stage 1: $10k-$75k for proofs of concept
  - Stage 2: $50k-$100k for demonstrations
Innovation Onramp
2019-2020 Activities

• **Developed program “infrastructure”** including application, evaluation process, standardized partnership agreements, etc.

• **Issued three calls for applications** with the following themes:
  o Spring 2019 – Open call (13 proposals)
  o Fall 2019 – Mobility (31 proposals)
  o Spring 2020 – Resilience (45 proposals)

• **Launched six pilots**, negotiating five more from latest application round
Pilots Launched to Date

http://www.svcleaneenergy.org/innovation/
Budget Status

• Current budget allocation for FY19-FY20 set to be depleted on schedule

• Additional budget allocation required to continue innovation programs

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<table>
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<tbody>
<tr>
<td>Innovation Partners (spent)</td>
<td>$97,500</td>
</tr>
<tr>
<td>Innovation Onramp* (spent or under contract)</td>
<td>$731,280</td>
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<tr>
<td>Innovation Onramp (under negotiation)</td>
<td>Approx. $350,000</td>
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<td><strong>Total:</strong></td>
<td><strong>$1,178,780</strong></td>
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<td><em>Current BOD Authority (FY19-FY20):</em></td>
<td><strong>$1,200,000</strong></td>
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*Includes program admin support from CSE, EM&V support from ADM, as well as direct pilot funding.*
Proposed Next Steps

• Adopt additional budget allocation to continue SVCE’s two innovation programs through FY21-FY22

• **Innovation Partners:**
  o Continue sponsorship of virtual hackathon events (events TBD)
  o Evaluate organizing our own hackathon again for 2022

• **Innovation Onramp**
  o Solicit feedback from applicants and participants on how to improve program
  o Add additional funding stage: a “seed” round for $5k-20k to support early stage concepts
Draft Request to BOD

- BOD request to approve budget allocation of $600k per year for FY21-FY22 to continue innovation programs
- Proposal has no incremental fiscal impact – all spending would remain within BOD-approved budget for programs
Next Steps

• Integrate Exec Committee feedback
• Contingent upon Exec Committee feedback, bring request to BOD in Nov
Supporting Scale

Idea

Prototype

Commercialization

Events, hackathons & ongoing activities through **Innovation Partners**

Stage 1 grant ($10k-$75k) for proofs of concept through **Innovation Onramp**

Stage 2 grant ($50k-100k) for demonstrations through **Innovation Onramp**
Pilot Evaluation Criteria*

Customer & Community Value
Emissions Impact
Scalable and Transferable
Equity in Service
Core Role for SVCE

*From SVCE’s Decarbonization Strategy & Programs Roadmap
Spring 2019 Cohort – Open Call

- White-labelled platform to support small business in getting secure, authorized, instant access to customer data
- Zero-carbon schools: supporting K-12 school and community college districts to achieve zero operating carbon emissions
- Understanding the role of land use and urban form in the energy efficiency and decarbonization of Silicon Valley’s urban energy systems
Fall 2019 Cohort – Mobility

- White-labelled app for telematics-based, residential smart EV charging
- Unlocking access to EV charging in MUD through a reservation-based software platform for shared charging
- Demonstration to accelerate EV adoption in low- and moderate-income multifamily properties through low-power charging
Spring 2020 Cohort* - Resilience

- Demonstration of novel residential smart electrical panel that supports resilience, decarbonization & demand flexibility
- Community fellowship program using “tactical urbanism” to enhance resilience
- White-labelled app for managing existing battery storage and electrical appliances of residential customers
- Solar resilient schools demonstration pilot
- Design of a local market for demand flexibility that would position SVCE as a pseudo-DSO

*Pilot partnership agreements currently under negotiation
Flagship Pilot with UtilityAPI

- **SVCE Data Hive** launched in March 2020
- Provides third parties instant, authorized access to customer data
- 80+ solution providers currently registered with portal

http://data.svcleanenergy.org/
Why this pilot?

• Supports small businesses
• Supports customer choice
• Accelerates clean energy project deployment
• Enables new business models
• Scalable & transferable to other CCAs, utilities
• And... enables virtual assessments during SIP
Data Hive in the News

- Greentech Media: [Silicon Valley Clean Energy and UtilityAPI Want to Free Your Meter Data](#)
- Greentech Media: [‘Data Hive’ Opens for Solar, Battery Vendors in Silicon Valley](#)
- Northeast Energy Efficiency Partnerships (NEEP): [‘Sharing Load Profile Data: Best Practices and Examples](#)
- California Community Choice Association: [CEI Webinar: Accelerating Decarbonization and Local Investment Through Better Data Access](#)
GridShift Hackathon Reviews

“Our team had a great time working on the EV challenge and collaborating on ideas with the CCA mentors. We left the event feeling we got a lot out of it including learning about the challenges in capturing LCFS credits for CCAs. The event was also a great opportunity to connect with software development recruits. We have been approached by a couple of candidates interested in joining us. We can use all the help we can get!”

- GridShift participant & local cleantech company CEO
Super JPA Follow-Up

Executive Committee Meeting
October 23, 2020
Questions from SVCE Board Members

• Why a super JPA vs a Joint Agreement?
• What are other potential projects for the Super JPA?
• How are participation levels determined?
• How is voting determined?
• Who will be managing the LDES project?
• How is the super JPA viewed by the state?
• How is risk and reward balanced?
JPA is An Enabling Organization

- Focused on projects and programs directed by its members
- A Facilitating Vehicle for Possible Procurement and Programs
- It is an “Opt In” model
- Project costs shared among project participants, not Non-Participants
- Avoid duplication and overlap with other CCA policy and advocacy efforts wherever possible
Other Principles related to the JPA & Project Agreements

- Financial Commitments of Project Participants
- Obligations of Project Participants
- Obligations of JPA
- Decisions and Dispute Resolution
- Addition of Project Participants and non-JPA Members
Next Steps

- Finalize Super JPA Enabling Agreement amongst the 9 CCAs
- Update the SVCE Board on November 13th as part of the CEO report
- Bring back to Executive Committee, as necessary
- **Target December 9th Board meeting for approval of JPA Agreement**
- Project Participation Agreement targeted for Q3, 2021
THANK YOU
Appendix
Long Duration Storage Procurement Efforts and Formation of a Super Joint Powers Agency

SVCE Board Meeting
October 14, 2020
Purpose

• Overview of Super Joint Power Agency
• Long-Duration Storage Goals and Procurement
• Seek Board feedback
• Timeline
• Next Steps
Business Need for Long-Duration Energy Storage (LDES) & Joint Procurement Super-JPA

**Long Duration Energy Storage**
- California Climate Goals require a clean electric grid & large-scale procurement of renewable power
- Keeping the lights on with high penetrations of renewable power requires energy storage
- CPUC has IRP requirements for Long Duration Energy Storage (LDES)
- Bills in 2020 session have included LDES
- Rolling blackouts result in more interest in storage

**Joint Procurement Super JPA**
- CCAs are proactive in purchasing cleaner power and are also focused on affordability & reliability
- LDES investments may be too large for any one CCA to successfully complete
- LDES is technically complex and has associated financial risk
- Joint procurement de-risks technology and financial risk
Super JPA Joint Procurement
9 CCA’s are taking steps to form a joint procurement Super-JPA
# 9 CCAs - by the numbers

<table>
<thead>
<tr>
<th>CCA considering Super JPA</th>
<th>Annual Load 2019 (GWh)</th>
<th>Est Peak Load (MW)</th>
<th>Customer Accounts</th>
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<tbody>
<tr>
<td>Central Coast Community Energy</td>
<td>3,094</td>
<td>679</td>
<td>275,750</td>
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<tr>
<td>Clean Power SF</td>
<td>2,706</td>
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<td>380,000</td>
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<tr>
<td>East Bay Community Energy</td>
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<td>533,000</td>
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<td>Marin Clean Energy</td>
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<td>470,000</td>
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<td>Peninsula Clean Energy</td>
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<td>293,000</td>
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<tr>
<td>Redwood Coast Energy</td>
<td>699</td>
<td>125</td>
<td>62,000</td>
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<tr>
<td>San Jose Clean Energy</td>
<td>3,286</td>
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<td>Silicon Valley Clean Energy</td>
<td>3,898</td>
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<td>270,000</td>
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<tr>
<td>Sonoma Clean Power</td>
<td>2,360</td>
<td>417</td>
<td>227,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>30,737</strong></td>
<td><strong>5,790</strong></td>
<td><strong>2,843,250</strong></td>
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</table>
Super JPA Highlights

• **Objective:** Develop a cost-effective, risk-minimized, CCA-controlled structure to develop or acquire necessary resources exceeding the procurement needs of a single CCA.

• **Structure:** Joint Powers Authority composed of CCAs; Enabling Agreement with Opt-in Project Participation

• **Target Projects:** Stand-alone storage and renewable resources exceeding individual CCA demand
  - Long Duration Storage – first project

• **JPA Timeline:** Form JPA by end of 2020 and not later than early 2021
Super JPA - Joint Procurement Benefits

- Economies of Scale
- Enhanced Negotiating Power
- Shared Risk – execution, development and performance
- Potential for Shared Financing – prepay/bonds
- Strategic value in demonstrating CCA self-procurement, reliability contributions (if successful)
Super-JPA - Joint Procurement Non-Benefits

• *Joint Procurement allows for sharing of risk but does not eliminate underlying risk*

  • Project Development and Performance Risk
  • Regulatory, Policy and Market Risk
  • Potential for establishment and/or expansion of centralized procurement entity or mandated procurement

• *Sharing risk with other members may increase risk for individual members due to step-up and/or other contract provisions*
Proposed Super JPA Structure

• Enabling Agreement – allows for CCAs to potentially participate in projects – *no obligation*

• Super JPA intended to be the direct party to any contract with storage or project developers
  • We will learn details on this as we go through the solicitation process
  • CCAs that chose to participate will sign Project Participation Agreement(s) with Super JPA

*First Joint Procurement Project Target: Long Duration Storage Agreement by September 2021*
Super JPA Agreement Schedule

• First Draft of JPA Enabling Agreement circulated to potential JPA member attorneys in late September
• Collaborative revisions are ongoing
• Draft JPA Agreement is scheduled for completion by the end of October 2020
• Potential Members are targeting November-December timeframe for individual governing body consideration and approval
  • Some potential JPA members may take a bit longer for local approval processes
Long Duration Energy Storage
Long Duration Energy Storage ("LDES")

- LDES are energy storage technologies with 8-hour minimum discharge duration
- Technologies – lithium ion, chemical flow batteries, gravity, pumped hydro, compressed air, etc.
- Can be grid-charged – not renewable
- Used to integrate renewables onto the grid and support reliability

**CPUC’s Integrated Resource Plan (IRP) - LDES needed to meet GHG reduction goals**
LDES Procurement Goals

• Target up to 500 MW of LDS from one or more projects with on-line date no later than 2026
  • Notional value $2 billion
• Assess Project Viability, Uncertainty & Risk
• LDS should not be procured for compliance alone – *must have market and/or strategic value and be cost-effective*
  • Cost, Energy value, Resource Adequacy, Ancillary Services
LDES Procurement Efforts

• June 2020
  • Multi-CCA Request for Information (RFI)
  • 13 CCAs participated
  • Over 58 projects submitted

• Sept. – October 2020
  • Stakeholder Outreach – CPUC, CAISO & Legislature

• October 2020
  • Multi-CCA (8) Request for Offers/Proposal
Super JPA & LDES Procurement Timeline

June 2020
Initiate Super JPA Formation Agreement

October 2020
Finalize Super JPA Agreement
Issue LDES RFO

Dec. - February 2021
CCA Super JPA Board Approvals
Evaluate RFO Proposals

March - September 2021
Negotiate/Execute LDES Project(s)
CCA Board Approvals for Project Participation Agreement
JPA & LDES Procurement Timeline

1. Long-Duration Energy Storage (LDES) RFO & Transaction
   a. RFI (done)
   b. RFO
   c. Shortlist Projects
   d. Negotiate LDES & Participation Agreements

2. Super JPA Enabling Agreement & Project Principles
   a. Develop Enabling-Agreement Super JPA document
   c. Obtain individual member approvals of SuperJPA
   d. Hire lead negotiator and associated support
   d. Negotiate LDES & Participation Agreements

These two tasks are identical and merge the RFO and SuperJPA tracks.
Next Steps

• Input from the Board
• Discuss comments with Executive Committee, as necessary
• Schedule for December 2020 Board meeting for approval
Backup
## Super JPA Buying Power

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Upcoming Position Requests

Executive Committee Meeting
October 23, 2020
NEW POSITIONS - Discussed & Supported at Board Strategic Planning and Budget Meetings

CURRENT STATE
Long-Term Procurement Negotiations

Developing customized contracts for high load customers

React to regulatory rules changes

Data systems and processes currently being centralized, streamlined and automated

Rudimentary modeling approaches used for consequential business functions

FUTURE STATE

Senior Government Affairs Manager
Relationship building at state and local level

Represent SVCE at state, regional and local hearings, meetings and other public forums

Power Resources Analyst
Generates agency-wide data-driven insights to support mission

Based on needs of the agency as we navigate the next few months
Positions Discussed & Supported at Strategic Planning and Budget

1. Policy - Senior Government Affairs Manager
   • Obtain approval and start recruiting process

2. Power Resources Analyst
   • Determine skill/need gap once current open positions are filled and new CFO is on board
   • Expect to bring a proposal to EC and Board in Q1 2021
Senior Government Affairs Manager

• Community Engagement and Outreach (Strategic Plan Focus Area)
  
  • Workplan:
    • Engage regulators, legislators and local electeds in developing policies that protect SVCE customer investments, promote decarbonization, reliability and affordability.
    • Influence policy makers building a coalition of diverse stakeholders
Senior Government Affairs Manager

• Duties
  • Focus on building relationships at the state and local level
  • Engage and collaborate with elected officials on policies that further SVCE mission and goals
  • Develop responses on key state and local policies that impact SVCE
  • Represent SVCE at state, regional and local hearings, meetings and other public forums
  • Build coalitions of stakeholders with similar goals to amplify SVCE’s influence and messaging
Recommendation & Next Steps

• Senior Government Affairs Manager
  • Request addition of 1 new position – Senior Government Affairs Manager - at the November 13th Board meeting
  • If approved:
    • Advertise and Recruit – December/January 2021
    • Shortlist – January 2021
    • Interview – January/February 2021
    • On boarding – February/March 2021

• Power Resources Analyst
  • Delay until Q1 2021
THANK YOU