

## **Public-Sector Case Study:** **Silicon Valley Collaborative Renewable Energy Procurement Project**

### **AUTHORS**

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### **Introduction**

This case study describes the Silicon Valley Collaborative Renewable Energy Procurement (SV-REP) Project, a large-scale initiative intended to serve as a replicable, scalable model of regional collaboration. Due to the vision and leadership of the participating organizations and individuals in Silicon Valley, the SV-REP Project is the largest multi-agency procurement of renewable power in the country (as of January 2011) and serves as an example of how collaboration can significantly reduce costs associated with the procurement of solar power by public agencies.

The history of the project to date also demonstrates how the inherent difficulties of trying to facilitate and manage collaborative projects can be overcome by launching the effort with the right partners and following the best practices synthesized in this guide.

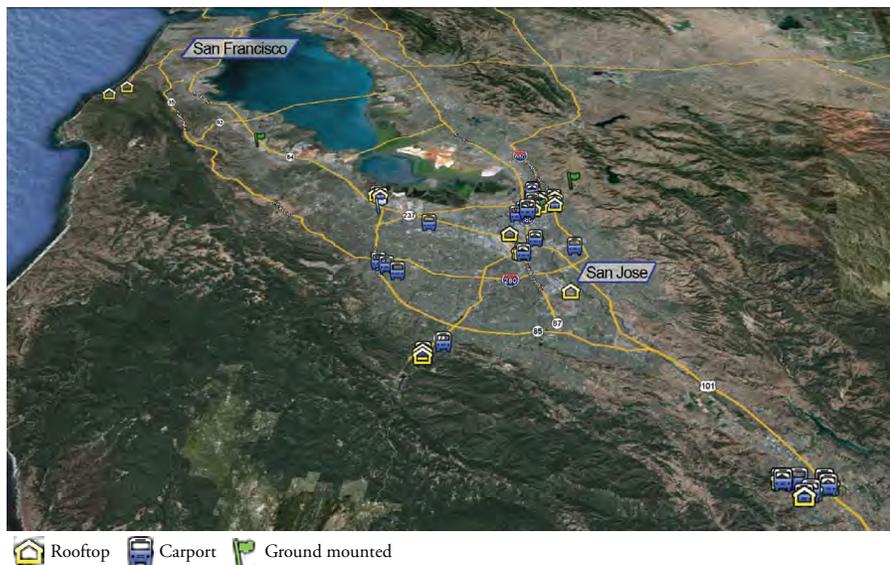
### Project Summary

The SV-REP project included the following collaborators:

- Convener – Joint Venture: Silicon Valley Network (Joint Venture)
- Lead Organization – The County of Santa Clara, California (County)
- Technical Adviser – Optony Inc.
- Participants – County of Santa Clara; the cities of Milpitas, Cupertino, Morgan Hill, Pacifica, and Mountain View; the town of Los Gatos; the Santa Clara Valley Transportation Authority (VTA); and the South Bayside Waste Management Authority (SBWMA).

The nine participating public agencies were drawn from the members of Joint Venture’s Public Sector Climate Task Force (Task Force). They represent a total of 70 solar installation sites spread across more than 40 locations, with the potential to generate more than 14 MW of power at peak capacity. This is the environmental equivalent of planting approximately 2,800 acres of trees and can provide enough power for 2,700 average California homes. In total, these sites will more than double the entire solar installed capacity for nonresidential systems across the County. Collectively, the SV-REP project installations are expected to generate approximately \$70 million in local economic activity and more than 300 jobs.

**Figure 4**  
**Map of Silicon Valley Showing Locations of the SV-REP Installation Sites**



**Source:** SV-REP with the use of Google Maps

Installations include rooftop, carport, and ground-mounted solar PV systems, located at community centers, city halls, fire stations, police stations, office buildings, senior centers, libraries, clinics, and other publicly owned facilities. Some examples include South Bayside Waste Management Authority's recycling and waste transfer facility in San Carlos, Los Gatos corporate yard, and Santa Clara Valley Transit Authority's bus maintenance facility.

The installation sites were strategically grouped into four bid "bundles." The selected vendors include SunPower Corporation for the large-sized system bundle, Borrego Solar for the medium-sized system bundle, and EcoPlexus for the small combined and small rooftop bundles. At the time of writing this case study, contracts had been awarded with site installations in progress. Contract negotiations were conducted by bundle to streamline and unify the process. The County led the contract negotiations with selected vendors for each bundle, and Oprotony was engaged to provide technical consulting services throughout the solicitation process.

By leveraging resource investments from the County and capturing economies of scale, all participants benefited by reducing their renewable energy costs as well as costs associated with the procurement process. Savings occurred in four areas:

1. The benefit of site aggregation was calculated to be 12 percent below standard vendor pricing.<sup>16</sup>
2. Average electricity cost savings per participant over the 20-year Power PPA term is expected to be 8 percent (with a range of 2 to 19 percent) below Pacific Gas & Electric pricing. For an average-sized commercial installation site (300 kW solar system) this could amount to approximately \$125,000 in electricity cost savings.
3. Participating agencies saved 75 to 90 percent in administrative costs and time compared to an individual (non-collaborative) procurement. The lead organization spent approximately the same amount as would be expected had it not led the effort but received additional benefits from site

aggregation and favorable contract terms.<sup>17</sup>

4. Savings resulted from favorable contract terms and associated reduction in risks. With the County leading negotiations with the high-ranked bidder for each bundle and by including representatives from each participating agency with projects within the bundle, all participants were able to achieve more favorable contract terms than they would have otherwise.

For more information and resources see [www.jointventure.org/renewableenergyprocurement](http://www.jointventure.org/renewableenergyprocurement)

### Background

The SV-REP project was launched in 2008 by Joint Venture: Silicon Valley Network's Public Sector Climate Task Force in partnership with the County.

Formed in 2007, the Task Force includes representatives from nearly 50 Silicon Valley cities, towns, and counties, plus several special districts and other public agencies. The goal of the Task Force is to develop effective, collaborative solutions for the reduction of greenhouse gas emissions from public agency operations and to learn from each other about climate protection programs. The SV-REP project fit well within this overarching goal, facilitating regional collaboration in a way that assists each participating agency with achieving its renewable energy and/or greenhouse gas reduction goals while promoting cost savings.

### Objectives and Expected Outcomes

The SV-REP project was created to address the following three major challenges regarding public-sector adoption of renewable energy in an era of diminished financial resources: high up-front costs associated with the purchase and installation of these technologies, the considerable transaction costs involved in conducting competitive bid processes and developing agreements, and the general lack of understanding of financing options and available incentives. The goal of the SV-REP project was to address these challenges via a regional collaborative effort using a standardized PPA financing model, lease agreements, and procurement process.

A regional PPA provided an opportunity to break down both the up-front capital barriers to direct ownership and the transaction costs associated with third-party financing. Additionally, by doing an aggregated procurement rather than individual ones for each agency, the costs of developing the agreement were reduced significantly for the parties involved. Through a collaborative and transparent process, the SV-REP project addressed the informational barriers and limited resource capacity that are impediments to adoption of renewable energy and nontraditional financing approaches. This method not only conserved funds, but also accelerated the financing process and deployment of renewable energy technologies to achieve climate protection goals while supporting local economic development.

With an emphasis on economic development (also in line with the organizational goals of Joint Venture), the County developed a solicitation meant to enable broad market participation from small and large firms, new market entrants, and older, more established firms and allow for those participating jurisdictions who were interested in innovative technologies to post exploratory projects. Preference for local firms was included, and projects were segregated into bundles that could be bid on separately, thereby allowing for the possibility of selecting more than one firm.

### Project Success Factors

The project success factors included well-defined roles and responsibilities, an effective leadership and organizational structure, and strategic bundling of sites.

### Roles and Responsibilities:

#### Joint Venture: Silicon Valley Network (Convener).

Joint Venture worked to facilitate the multijurisdictional effort in collaboration with the County. Joint Venture's Task Force structure provided the framework for close collaboration necessary for a project with such a large regional scope. Joint Venture encouraged the participation of member agencies by providing a communication platform as well as encouraging information sharing using a Web portal and through

### Box 6

### Expected Outcomes

- Conservation of government funds for capital investment
- Volume discounts and decreased electricity prices
- Reduced transaction costs
- Reduction of greenhouse gas emissions from local government operations
- Stimulation of the local economy
- Increased public-sector adoption and installation of solar systems throughout Silicon Valley
- Standardized PPA and procurement documents for public-sector use
- Providing smaller cities access to third-party financing and technical expertise
- Stabilization of electricity costs over the PPA term (hedge against rising and volatile electricity rates)
- Reduction in vendor costs through economies of scale and standardization of purchasing methods
- Creation of a case study to share with other regions looking to do similar collaborative projects

structured educational opportunities for renewable energy, financing, and other topics related to the initiative. Joint Venture staff facilitated the project through project planning, convening meetings and events, providing sample documentation, collecting and aggregating information, organizing group purchases of technical consulting services, and providing publicity for the project.

#### The County of Santa Clara, California (Lead Organization).

The County initiated this project by scoping collaboration and doing a significant amount of research and information sharing on solar power. The County accepted the responsibility of lead organization based on its staff's belief that reduced transaction costs and economies of scale in the procurement would result in significantly lower pricing than could otherwise be negotiated with an independent procurement. The County developed standardized documents

and solicitation proposals, including the request for information (RFI), request for qualifications, and RFP, which included components of economic development and a sample PPA. The County released and managed these solicitation proposals and provided guidance to participating agencies through negotiation of PPA terms and conditions.

**Optony Inc. (Technical Adviser).** Optony, an energy research and consulting services firm, served as the project’s technical adviser. Optony was engaged by the County and the participants to provide independent technical expertise in solar project evaluation, procurement, and project management. The efforts from the Optony team were initially focused on vetting sites, gathering required information, and strategically bundling the sites for the RFP to create high levels of interest by the solar industry. During the RFP development process Optony developed standardized evaluation criteria to ensure best-value awards with low implementation risks. As the bids were received for more than 40 locations across four bundles and nine agencies, Optony assisted in analyzing technical aspects of the bid proposals.

**Participating Public Agencies (Participants).** There were a total of eight participating agencies (listed in the project summary) in addition to the lead organization. These participants ranged from small towns to large county-wide special districts. The participants were responsible for attending informational sessions, gathering preliminary site information and conducting analyses, reviewing RFP template documents, and participating in contract negotiations. In addition, participants obtained internal approval for their project sites to proceed with the solicitation and award.

**Leadership and Organizational Structure:**

As a trusted convener of local government agencies, Joint Venture was able to effectively bring together the SV-REP project participants. By leveraging the framework of an existing Joint Venture initiative, the Public Sector Climate Task Force, the project began with a common level of understanding and already developed channels of communication.

**Box 7  
SV-REP Project Leadership Team**

**Rachel Massaro**  
**(SV-REP Project Director)**  
*Associate Director of Climate Initiatives*  
Joint Venture: Silicon Valley Network

**Siva Darbhamulla**  
*Chief of Design Services*  
County of Santa Clara

**Ben Foster**  
*Vice President, Operations*  
Optony

**Caroline Judy**  
*Assistant Director, General Services Agency*  
County of Alameda  
*(Formerly the Manager of Intragovernmental Support Services and SV-REP Project Manager)*

**Jerry Lahr**  
*Power Program Manager*  
Association of Bay Area Governments

**Kara Gross**  
*Vice President*  
Joint Venture: Silicon Valley Network

**Steve Mitra**  
County of Santa Clara  
*County Counsel*

**Lin Ortega**  
County of Santa Clara  
*Utilities Engineer/Program Manager*

**Chris Schroeder**  
*Purchasing Agent*  
City of Milpitas

**Mary Tucker**  
*Energy Program Manager*  
City of San Jose

Shortly after the launch of the project, Joint Venture assembled a steering committee, the SV-REP Project Leadership Team, in order to keep the regional perspective in mind throughout the process. The team met regularly to strategize and guide each phase, engage the participants, and shape the overall collaborative effort. Members were self-selected and reflected those participants of the Task Force who had a particularly strong interest in collaborative procurement models. As the project progressed, Joint Venture added several others to the team to provide advice on technical and legal issues. This team represented members from the participant pool as well as others who had experience with municipal solar purchasing or an interest in promoting the adoption of renewable energy technologies by public agencies. With these members, the Leadership Team was able to keep in mind the goals of the project while also focusing on benefits to the region as a whole.

County staff provided leadership by conducting significant research into different methods of financing renewable energy systems and concluded that, given tight budgets and the desire to avoid debt financing, using a PPA financing model was optimal for the project. This belief was tested in a series of informational interviews with private-sector participants in several renewable energy sectors, solar financiers, and public-sector PPA early adopters. The interviews led to further research that guided the creation of early goals and objectives for the project, such as the goal of generating a standardized PPA document with mutually acceptable terms and a standardized lease template, as neither of these standards existed for public-sector projects.

**Figure 5**  
**Members of the Leadership Team**



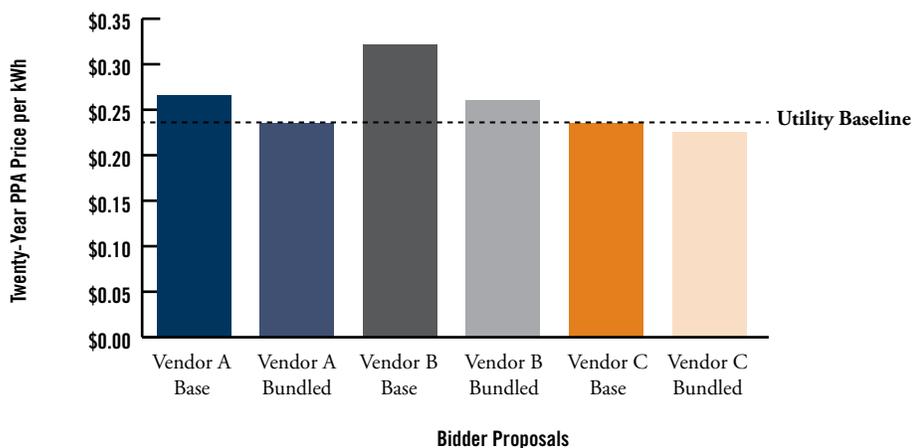
*Members of the SV-REP Leadership Team with the co-chairs of Joint Venture: Silicon Valley Network's Board of Directors. From left: Lin Ortega (County of Santa Clara), Benjamin Foster (Optony), Mayor Chuck Reed (City of San Jose), Siva Darbhamulla (County of Santa Clara), Caroline Judy (County of Alameda), Chris Schroeder (City of Milpitas), Chris DiGiorgio (Accenture), and Rachel Massaro (Joint Venture: Silicon Valley Network).*

### Strategic Bundling of Sites:

Strategic “bundling” (aggregation and grouping) of sites was essential in generating vendor interest, competition, and volume pricing and therefore was crucial to the success of the initiative. Optony led this effort with the County, using site characteristics, size, location, and type of installation to group sites into bundles of 6 to 15 locations each. The bundle of small individual sites was about 700 kW in size, while the bundle of large sites was over 8 MW. Bundling encouraged active local vendor participation on the smaller bundles while driving national-level players to bid on the larger bundles. Ensuring that each bundle did not contain too many sites but allowing vendors to bid on multiple bundles encouraged participation by avoiding the risks inherent in an all-or-nothing process.

Another key feature of the approach to maximizing the benefits from collaboration and bundling was to conduct proposal evaluations and contract negotiations by bundle (rather than separately for each participant). For evaluations, the benefits of bundling were clearly demonstrated by enabling accurate comparisons for the combined pricing given specific site characteristics (e.g., comparing the pricing for a small 50 kW rooftop system with a large 900 kW carport would have been misleading to decision makers without a proper context). Figure 6 illustrates the price reduction due to bundling for several bidders on the large bundle as compared with prices for individual sites and the prevailing utility rate. Contract negotiations were also conducted on a bundle-group basis. This approach was important in driving better terms and conditions with all participating agencies’ input and to streamline PPA documents for both the vendor and buyers. Based on vendor feedback

**Figure 6**  
**Twenty-Year Average Pricing for Selected Large Bundle Bidders**



Source: SV-REP

and analysis of other PPA contracts, the final contract for the SV-REP may be in the top 10th percentile from a buyer's perspective when all terms and conditions are considered.

The SV-REP project timeline (see Table 2) is included to provide details that assist from a planning perspective. Every milestone on the timeline is related to one or more of the best practices, but the major milestones are mapped to best practices in Column 1.

### Results

The first contracts between the vendors and participating agencies were signed in January 2011, and in the following months project teams began working on project implementation. Table 3 summarizes the sites, participants, and contracts by bundle.

**Table 2**  
**SV-REP Project Timeline**

Best Practice	Milestone	Date
1	<b>Project Concept Initiated</b>	July 2007
1	<b>Leadership Team Formed</b>	Spring 2008
1, 2	<b>Formal Project Launch</b> Task Force Meeting	February 2009
2	<b>Requested Preliminary Site Information</b>	March 2009
	Web Portal Created Mapping of Project Sites Task Force Meeting	May 2009
3	<b>Solar Project Workshop</b>	July 2009
	Task Force Meeting	September 2009
6	<b>RFI Released</b> Task Force Meeting	November 2009
4	<b>Engaged Technical Advisor</b>	December 2009
5	<b>Special-Purpose Participant Meetings</b>	December 2009- January 2010
	Task Force Meeting	January 2010
7	<b>RFP Released</b> Press Conference Held Task Force Meeting	March 2010
	Preproposal Conference Held	April 2010
	RFP Addenda Released	April - May 2010
	Deadline for Step 1 (Prequalification) Task Force Meeting	May 2010
	Prequalification Finalized Special-Purpose Participant Meeting	June 2010
	Deadline for Step 2 (Proposal Submission)	July 2010
8	<b>Vendor Selection Finalized</b>	September 2010
	Task Force Meeting	November 2010
9	<b>First Contracts Signed</b>	January 2011

**Table 3**  
**SV-REP Installation Sites by Bundle, with Associated Capacity and Benefits**

<b>Bundle</b>	<b>Participating Agencies</b>	<b>Total Capacity</b>	<b>Benefits</b>
<b>Large Systems</b>	County of Santa Clara Santa Clara Valley Transit Authority	8,125 kW Avg. 1,354 kW	Annual Output: 11,200 MWh Annual CO2 Offset: 8,050 Metric Tons REC Pricing: \$100–\$200/MWh Performance Guarantee: 85–110 %
<b>Medium Systems</b>	City of Cupertino City of Milpitas City of Morgan Hill County of Santa Clara	4,191 kW Avg. 299 kW	Annual Output: 5,700 MWh Annual CO2 Offset: 4,100 Metric Tons REC Pricing: \$100–\$200/MWh Performance Guarantee: 85–110 %
<b>Small Combined &amp; Rooftop Only</b>	County of Santa Clara City of Cupertino City of Milpitas City of Morgan Hill City of Mountain View City of Pacifica South Bayside Waste Management Authority Town of Los Gatos	1,690 kW Avg. 77 kW	Annual Output: 2,300 MWh Annual CO2 Offset: 1,650 Metric Tons REC Pricing: \$100–\$200/MWh Performance Guarantee: 80–100 %

**Source:** Optony, based on bundled contracts



Conceptual rendering of one of the SV-REP installation sites, the Santa Clara Valley Transit Authority's Bus Storage and Maintenance Facility: view looking west (above), and possible layout (below)



Source: Santa Clara Valley Transportation Authority