CleanEnergy States Alliance

CASE STUDY

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A Model of Collaborative Solar Purchasing

The Alameda County Regional Renewable Energy Procurement Project

CleanEnergy States Alliance

Acknowledgements

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For municipalities and local public agencies, there are three main challenges to installing solar energy systems: high transaction costs, a steep learning curve, and fragmented regional demand. The process can be confusing and expensive, requiring more time and energy than a single agency could afford. Collaborative solar purchasing addresses all of these barriers to solar deployment.

Alameda County, California, in collaboration with two local non-profit organizations, is facilitating wide-scale renewable energy adoption across a four-county area through a groundbreaking collaborative solar purchasing project among local public agencies. The Regional Renewable Energy Procurement Project (R-REP) is the largest multi-agency solar procurement project in the US. Beyond its size, R-REP incorporates extensive workforce development goals, along with several other improvements on previous approaches to collaborative purchasing. This case study provides an overview of the R-REP project, with an emphasis on their best practices as they could be used as a model by other public agencies and local governments.

The Benefits of Collaborative Solar Purchasing

Group purchasing is a tool to leverage the collective buying power of a group to obtain discounts from a vendor. Working together with other groups in the potentially complicated process of acquiring solar technology has many benefits to those involved, and is especially well-suited to local governments and public agencies.

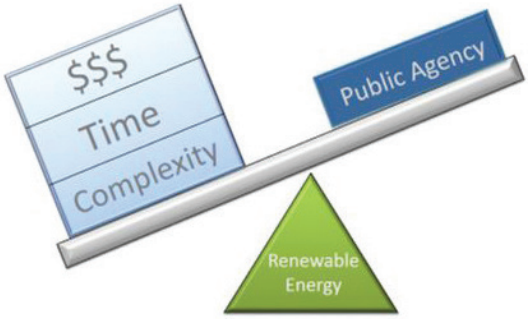
- **Sharing resources cuts costs and leverages assets.** Collaborative purchasing allows public agencies to share transaction costs, staff time and resources. By working together, public agencies can share the administrative and organizational burden of solar projects, thereby reducing redundant efforts. A larger group also gets volume discounts from purchasing in bulk. Whereas an individual school district or county might not be able to afford expert consultants, a regional collective of public agencies can pool resources to access their services. Many public agencies that would like to acquire solar power, especially those which would benefit from it the most, could not afford to undertake a solar procurement project alone, but a collective effort makes solar procurement much more accessible.

- **Larger projects are more attractive to vendors.** A small, geographically isolated solar project that might not otherwise be worth vendors' time will attract their attention when bundled together with other small projects in the area. Increased competition by qualified vendors means more competitive bids and volume discounts, and ultimately better pricing and outcomes.

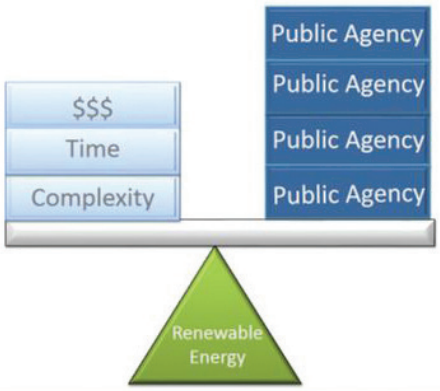
- **Boost to regional economy.** The larger the project, the greater the potential for workforce development, economic stimulation, and electricity cost savings.

- **Accelerated, wide-spread deployment of solar.** A collaborative prooecurement effort encourages and aids solar deployment in a region. ublic agencies which might not otherwise be able to purchase solar energy are able to do so, and those which did have the means to acquire solar will see their project accomplished more cost-effectively. The effect is wide-spread, simultaneous adoption of renewable energy technology.

The challenges of renewable energy adoption are weighing public agencies down



Collaboration allows public agencies to tip the scales



The Collaborative Procurement Team

A collaborative solar procurement project is potentially large and complex, with many participants, organizations, and locations involved in an effort that may last several years. For a project of this magnitude to be successful, good leadership and project management are crucial. There must be well-defined roles and responsibilities, a division of labor, and good communication among all parties. R-REP developed an organizational structure with which they have had great success, and which they would recommend to anyone pursuing a similar project.

At the head of R-REP is a **three-tiered leadership team**:

- The **conveners** are responsible for coordinating the project and leading outreach to outside stakeholders. They play an enabling role: bringing together stakeholders, acting as a catalyst, facilitating communication, and promoting interest. Requirements for the convener role are that the group be a local organization interested in renewable energy and economic development. The conenor must not have any direct financial stakes in the project itself, meaning that they are not making money on the project or purchasing solar through the project. In R-REP, the conveners are Joint Venture Silicon Valley and Contra Costa Economic Partnership. Both are local non-profits dedicated to supporting regional economies through renewable energy development.

- The **lead agency**, Alameda County in this case, is one of the public agencies purchasing solar power through the project that has decided to take on additional responsibility. Their role is to lead the procurement and negotiation process, and act as intermediary between the convener, the participating public agencies, and the vendors. The lead organization should be a group that has the motivation and capability to purchase solar power without the collaborative, but is willing to take a leadership role because of the benefits of the collaborative to its own bottom line, and to the region as a whole.

- The **steering committee** is a local leadership team made up of participants, regional organizations, and people experienced in collaborative solar procurement or regional collaboration. The steering committee oversees the project and provides guidance and regional input.

The R-REP leadership team hired three different types of independent **expert consultants**. They were paid for by the lead agency, Alameda County, which had many sites in the project and could better justify the expense.

- **Technical Consultants:** The technical consultants are responsible for advising and supporting the project through their experiences and resources. Their responsibilities include advising participants, incorporating vendor input, preforming site feasibility assessments, supporting the procurement and evaluation processes, and site bundling. Due to the large size of R-REP, two technical consultants were hired, which had additional benefits: besides the division of labor, it allowed for more discussion and let the two consultant teams quality-check each other. The County of Alameda hired Optony, Inc. and Newcomb, Anderson, McCormick as Technical consultants.

- **Financial Advisor:** The role of the financial consultant is to: 1) Validate the stability of the bidding firms, and 2) Help evaluate the financing offers bidders propose. Having a financial consultant helps build reasonable expectations in terms of financing and capital. The County of Alameda hired KNN Finance as the project's Financial Advisor.

R-REP Participants:

R-REP Regional Renewable Energy Procurement
POWER THROUGH COLLABORATION

- Alameda County Fire Department
- Castro Valley Sanitary District
- Central Contra Costa Sanitary District
- Cities of Berkeley, Cupertino, Emeryville, Foster City, Fremont, Menlo Park, Mountain View, Oakland, Redwood City, Richmond, and Walnut Creek
- Counties of Alameda, Contra Cost, and San Mateo
- Hayward Area Recreation and Park District (HARD), Berkeley

- **Economic Analyst:** During the planning phases of this project, an economic analysis was preformed to measure the direct and indirect benefits and potential impacts of R-REP. This analysis provided concrete data in the development stage of the project, which was more powerful because it came from an independent third party. It helped validate the perception of significant economic impact and jobs growth resulting from the project.

The majority of those involved in the procurement end of R-REP are the **participants**—the public agencies buying solar power through the R-REP collaboration. The participating agencies typically would not be able to acquire solar power alone, but they were able to get involved at the participant level when their purchasing power was combined with the other participants. In R-REP, the participants included 19 public agencies (cities, counties, districts and municipal departments) across four counties. There are 115-187 installation sites, which include community centers, libraries, fire stations, medical facilities, and schools. Each group had to apply, and each proposed installation project went through a rigorous assessment to determine suitability.

The Vendors and Job Creation

The vendors are the solar manufacturers, installers, and maintenance and operations providers. Most of the jobs created by R-REP will be among the vendor companies. About one-third of these jobs will last longer than one year: operations and maintenance, finance and accounting, and other support services, most of which will employ local people. Shorter-term jobs, lasting less than a year, are construction-based, including labor and installation. These construction jobs will be primarily locally based as well.

Importance of attracting vendors: Developing a project that is attractive to vendors is paramount. More vendors applying to the project means more competition, which leads to better prices and quality. Alameda County issued a Request for Information (RFI) to vendors to help better understand how to market the projects. The RFI also helped inform the vendor community of the upcoming solicitation.

R-REP: Facts & Figures

Project Size: 4 counties, 19 public agencies, and 186 installation sites. The proposed installation sites include schools, senior centers, libraries, fire stations, community centers, and clinics

Technologies Included: Solar PV, solar thermal, and fuel cell

Jobs Created: An estimated 839 jobs will be created within participating counties

Economic Benefits: Projected to generate $200 million+ in local economic activity

Cost Savings: 75-90 percent of agency internal administration costs

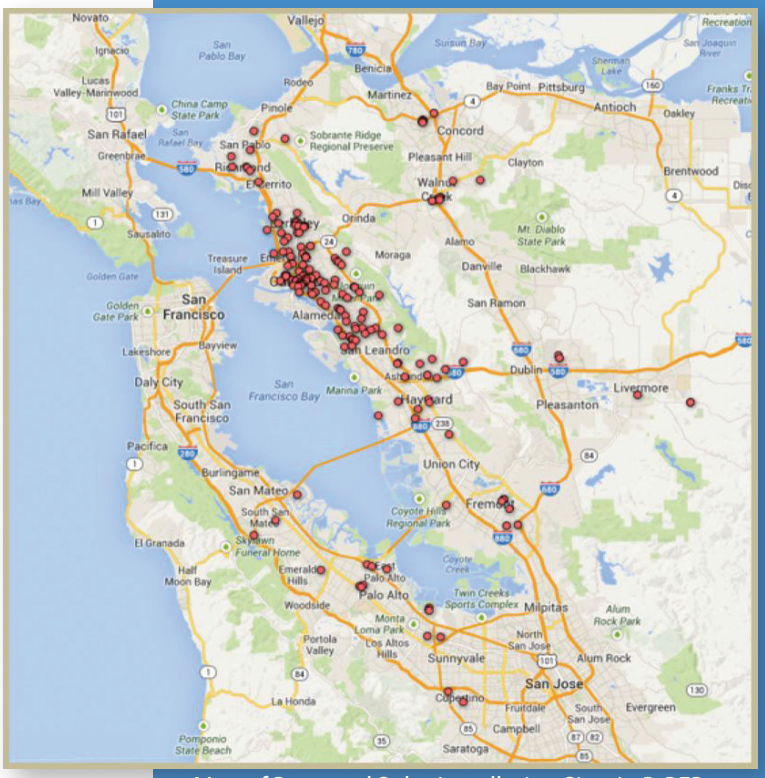
Price Reduction: Pricing met or exceeded goal of 10–15 percent discount from existing PG&E rates

Projected Installed Capacity: 20-50 MW

Greenhouse Gas Emissions Reduced: The equivalent amount generated by 6,300 homes/year

Timeline: Began September 2011. Currently selecting vendors. All renewable energy projects are expected to be installed by late 2014, and will run for 20+ years.

Project Leaders: Alameda County, CA, Joint Venture Silicon Valley, and Contra Costa Economic Partnership.



Map of Proposed Solar Installation Sites in R-REP

Workforce Development Task Force: Given the large scope of R-REP, project participants recognized the potential for this project to impact the community workforce early on. R-REP reached out to local organizations involved in workforce development and assembled a task force to determine how they could best collaborate and encourage partnerships among community groups and vendors. The task force created guidelines for workforce development, including a requirement for bidding vendors to acheive 40 percent local hiring, and has been facilitating the collaboration effors throughout the project.

The Importance of Strategic Site Bundling – Benefits to Vendors and Purchasers

Vendors will not automatically line up to bid on a collaborative solar project just because it is big. In fact, just as a project can be too small to attract vendors, it can also be too large. While one of the essential elements and strengths of a collaborative purchasing project is its large size, vendors will not want to undertake a project that appears to be unmanageable. A huge project with different sizes and types of installation sites spread out over a large region is unwieldy and, for many vendors, unfeasible.

Larger projects are also a bigger risk for vendors: after extensive effort in applying, they either win the entire bid or are left with nothing.

The way to maximize the benefits of a large collaborative purchasing group while maximizing the attractiveness of the project to potential vendors is through **strategic site bundling**. Good bundling will attract good vendor competition. In this approach, the technical consultants break the participants down into smaller "bundles" of purchasing groups. Each bundle contains about 5-10 installation sites grouped together based on similar site characteristics and proximity, and each bundle will be managed by one vendor. R-REP created different types of bundles to attract different types of vendors. Larger national companies wanted big sites, while smaller local firms bid on medium and small-sized projects. Having local vendors involved is important to the local economy, while attracting national-scale vendors is important because of their greater expertise and capability. By bidding out all the bundles at the same time, R-REP attracted more attention from vendors than each bundle would alone.

Financing Options

R-REP participants had several options for financing their solar installations. Two thirds of the participants in R-REP chose to finance their projects through **Power Purchase Agreements** (PPAs). A PPA is a financing arrangement in which a third-party developer owns, operates and maintains a solar system on the host customer's property. The host customer pays the solar services provider a pre-determined rate for the electric output, and enjoys the benefits of stable, lower-cost, clean electricity. The solar services provider gets tax credits and income from the electricity sales. PPAs are best for cash-poor participants, as there are no upfront costs and maintenance is the responsibility of the service provider. R-REP project developers created standardized pricing and application forms for PPA financing. The remaining third of participants in R-REP opted to pay in cash or obtain their own financing, typically through a leasing arrangement.[2]

[2] For more information on the various financing options available for renewable energy projects, including PPAs, direct purchase, and leasing, Joint Venture has created a brief and useful overview here: http://www.jointventure.org/images/stories/pdf/financing_renewable_energy_projects.pdf

R-REP's Forerunner:

The Silicon Valley Renewable Energy Project (SV-REP)

SV-REP was launched in 2009 by Joint Venture Silicon Valley in collaboration with the county of Santa Clara, CA, and was completed in 2012. SV-REP was the largest multi-agency procure-ment project up to that time, consisting of nine public agencies and 70 installation sites. It installed a total of 14.4 MW of solar PV. SV-REP achieved 10-14 percent cost reductions through bulk purchasing and saved 75-90 percent of administrative costs and time. The project generated over $70 million in local economic activity and over 300 jobs, and electricity consumption was completely offset for 25 percent of the sites.

Many of the same people and organizations were involved in SV-REP and R-REP, including the convener organization Joint Venture, and the technical advisor Optony, Inc. Both projects were the largest of their time. R-REP is an expansion of SV-REP, and includes many improvements over its predecessor.

R-REP improvements over SV-REP:

- Increased size
- Workforce development component
- More expert consultants
- Compiled pre-approved list of vendors
- Improved quality of site surveys
- Removed guesswork for vendors, did more legwork for them
- More workshops, handholding and outreach
- Additional financing options offered

Map of Solar Installation Sites in SV-REP

A New Best-Practice Model

The vendors are the solar manufacturers, installers, and R-REP and SV-REP were developed with the goal of creating a new best practices model that could be replicated by others across the US. The project organizers produced standardized procurement documents and power purchase agreements that could be used not only within their project but also by other groups.

In 2011, the leaders behind SV-REP created a best practices guide based on their experiences and lessons learned, entitled *Purchasing Power: Best Practices Guide to Collaborative Solar Procurement*.[3] Until an updated best practices guide is published incorporating lessons learned from R-REP, this edition is highly recommended for anyone considering a collaborative purchasing project. The guide serves as both an introduction to collaborative solar purchasing as well as a step-by-step guide. The appendix to the guide contains standardized documents, including sample PPAs, RFPs, site inventory checklists, and more.

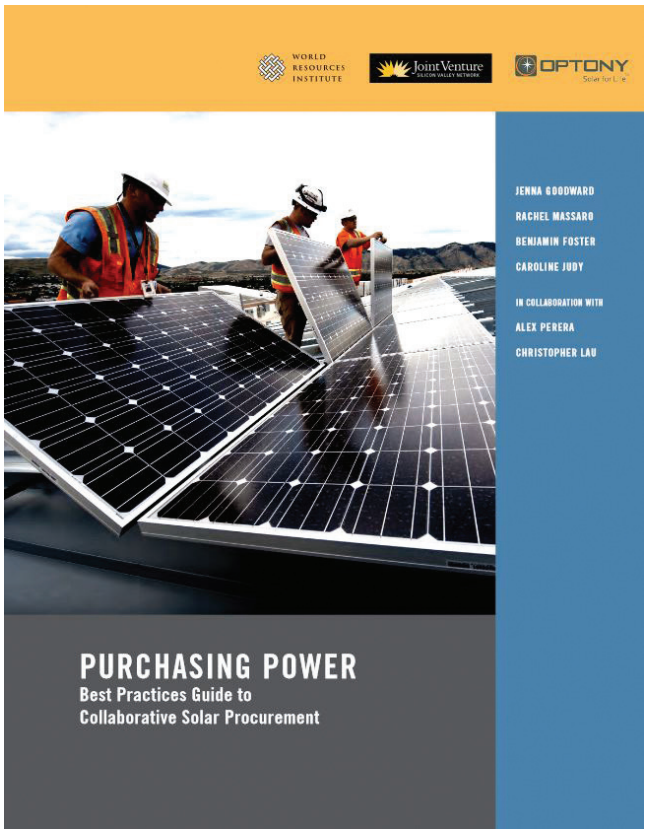
Repeating this Model

What are the essential elements that a region must have in order to repeat the success of R-REP's collaborative solar purchasing project?

Leadership: For a collaborative renewable energy procurement project to work, several organizations will need to take on a leadership role. The vision, commitment and hard work of these leadership groups will see the project from beginning to end.

Regional support and interest: A collaborative purchasing project necessitates adequate regional interest in acquiring renewable energy. Existing renewable energy incentive programs from the state or utilities are helpful, as is general site suitability for renewable energy technology.

R-REP is currently reviewing bids from vendors, and solar installation should be completed at all sites by late 2014. A revised edition of this case study will be released later in the year with project updates.



[3] Purchasing Power: Best Practices Guide to Collaborative Solar Procurement, 2011. http://www.wri.org/publication/purchasing-power

Resources

R-REP project page http://www.jointventure.org/index.php?option=com_content&view=article&id=646&Itemid=565

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The Clean Energy States Alliance (CESA) is a national, nonprofit coalition of public agencies and organizations working together to advance clean energy. CESA members—mostly state agencies—include many of the most innovative, successful, and influential public funders of clean energy initiatives in the country.

CESA works with state leaders, federal agencies, industry representatives, and other stakeholders to develop and promote clean energy technologies and markets. It supports effective state and local policies, programs, and innovation in the clean energy sector, with emphasis on renewable energy, power generation, financing strategies, and economic development. CESA facilitates information sharing, provides technical assistance, coordinates multi-state collaborative projects, and communicates the positions and achievements of its members.

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