

Maximizing Public Sector Energy Efficiency Programs: Adapting to Policy Through Innovative Design

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ABSTRACT

Despite being a leader in energy efficiency (EE), California faces substantial challenges in meeting the ambitious goal of doubling EE savings by 2030. Increasingly stringent building codes, combined with higher cost-effectiveness requirements, have created a stranded savings gap for the public sector. In parallel, distributed energy resources (DERs) have become essential to achieving the state's goals while state policy has typically created siloed ratepayer-funded EE programs, preventing customers from going beyond EE to evaluate demand-side solutions for reducing energy costs and emissions.

This paper will focus on how public sector programs are evolving by highlighting three programs that address these barriers and provide innovative services beyond traditional EE to ensure that public agencies—especially those serving disadvantaged communities—are not left behind in California's energy future. The first program uses normalized metered energy consumption (NMEC) modeling to document energy savings for whole building retrofit projects, encouraging and supporting agencies to complete projects even without incentives. The second program supports agencies with EE and DER project implementation by combining ratepayer EE program resources with a California Energy Commission (CEC) grant. These program examples provide insights into how overcoming policy constraints, capturing stranded savings, and incorporating DER service offerings leads to greater energy efficiency savings.

The paper also reviews additional services for public agencies, such as bridge funding and cooperative procurement, to demonstrate how a holistic program approach reduces the complexity of multi-measure projects, allows for deeper savings, and aligns with state goals.

Introduction

Public agencies play a critical role in saving energy and reducing greenhouse gas (GHG) emissions to meet California's aggressive energy and climate goals.¹ Unleashing the potential of the public sector to lead by example and motivate action will chart the path to a clean energy future, particularly within underserved and pollution-burdened communities. Moreover, public agencies support local jobs and economic growth when they invest in clean energy projects. They can lead by example to inspire similar progress throughout their communities.

Public agencies can create clean energy communities by implementing energy efficiency (EE) and distributed energy resource (DER) measures in their buildings and facilities, educating

¹ California passed climate legislation AB32 (Nunez, 2006) and SB32 (Pavley, 2016) requiring California to reduce its overall greenhouse gas emissions to 1990 levels by 2020 and 40% below 1990 levels by 2030. California passed energy legislation SB 350 (de Leon, 2015) and SB 100 (de Leon, 2018) requiring the state to procure 60% of all electricity from renewable sources by 2030 and 100% from carbon-free sources by 2045; double the energy efficiency of existing buildings; and allow greater electric utility investment in electric vehicle charging infrastructure.

their community on energy programs and strategies, creating regional energy and resilience action plans, and adopting local policies, codes, and standards that support and accelerate the transition to a clean energy future (PCAST 2016).

However, public agencies face unique challenges, including limited technical resources to identify, develop and implement projects, inadequate and limited access to data about building performance, financing hurdles, unique procurement requirements, multi-step decision processes, and navigating complex political environments (Bain and Rothschild 2016).

Since 2013, the Southern California Regional Energy Network Public Agency Programs (SoCalREN) have provided turnkey services to help public agencies become more energy efficient. The success of this program is illustrated in Figure 1.

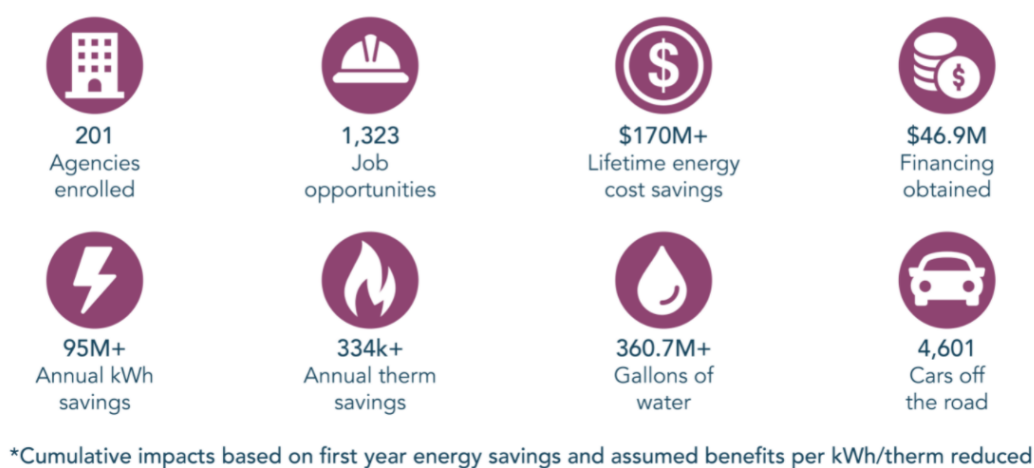


Figure 1: Cumulative impacts of SoCalREN Public Agency Programs projects, as of December 2021. Some savings/benefits for 2021 are still pending CPUC verification.

In 2019, SoCalREN expanded to offer three new programs: the Metered Savings Program, Pathway to Zero, and the Revolving Savings Fund. These new programs were designed to help public agencies overcome significant market barriers, capture stranded savings, and move along the path to zero net energy (ZNE) while ensuring that disadvantaged communities are not left behind. SoCalREN Public Agency Programs’ goals are as follows:

Building Capacity and Energy Competency - The programs help public agencies access their energy usage data and benchmark their facilities, which provides them with information about their energy usage and savings opportunities. The programs also identify agency “energy champions,” a dedicated point of contact at the agency to champion agency efforts within their agency and with program staff, and educate agency staff to build their energy competency. This helps ensure public agencies have the capacity to make long-term decisions about energy management of their facilities, equipment and processes, even after SoCalREN’s support.

Climate Action Leadership - The programs help agencies implement projects, which supports the state goal that local governments lead by example and reduce GHG emissions. The Pathway to Zero Program also supports DER efforts, which advance local climate action and sustainability goals.

Economic Resilience - The programs reduce energy and operating costs for public agencies, which frees up capital for other community needs. The programs help agencies access non-ratepayer funding that can be invested into their communities, leading to greater energy savings and other local benefits.

Equity - The Pathway to Zero Program supports projects in disadvantaged communities (DACs). SoCalREN plans to continually assess local equity needs through an Equity Action Plan.

Innovation - SoCalREN develops and implements innovative programs such as the Building Capacity sub-program, the Metered Savings Program, Pathway to Zero and through strategies to use additional funding sources, such as Los Angeles County American Recovery and Reinvestment Act (ARRA) funds for DER projects and energy upgrade financing.

All SoCalREN Public Agency Programs work together to drive energy efficiency savings and complete clean energy projects with a focus on equity. The programs are described in detail in the following sections.

Capturing “Stranded” Savings: Metered Savings Program

Overview

Existing energy efficiency programs require bringing facilities above Title 24 standards,² which can deter public agencies from acting due to financial constraints—leaving facilities that do not comply with Title 24 standards (or “below-code” facilities) that have the largest energy efficiency opportunities “stranded.” Assembly Bill No. 802 calls on energy efficiency programs to address stranded savings by offering meter-based savings programs. It mandates that programs use whole building metered data to measure the impacts of energy efficiency program interventions, instead of using methodologies that measure energy at the equipment level. Previously, program administrators could only count energy savings for projects where the improvements exceeded Title 24 code requirements. Now, program administrators can claim energy savings from and provide support for “stranded” EE projects that help public sector entities meet current energy code requirements.

SoCalREN’s Metered Savings Program (MSP) is a resource program³ that identifies and measures projects with stranded savings using site-level normalized metered energy consumption (NMEC) models for pre- and post-installation periods. The program compares this NMEC data to a baseline of existing conditions. Then, it reports full measure costs in accordance with Commission Resolution E-4818 and D.16-08-019 and following the framework in the International Performance Measurement and Verification Protocol (IPMVP), using the Option C: Whole Facility method.

The Metered Savings Program typically supports projects with measures that are not eligible through investor-owned utility (IOU) or third party programs. It also supports other high-impact retrofit, retrocommissioning, or operational measures that will lead to deep energy efficiency savings. For example, the Metered Savings Program supports exterior lighting and whole building retrofits. The Metered Savings Program offers technical expertise and project management support. It provides the following services to fill gaps for the public sector and help them maximize energy savings:

² Title 24 is California’s statewide building code, which requires new and existing buildings to achieve minimum energy efficiency thresholds among other environmental and sustainability standards.

³ Energy efficiency programs that generate energy savings that are quantified and tracked by program administrators.

- Technical reviews and application processing to verify savings and ensure savings persist into the future.
- Measurement and verification plan, maintenance plan, and a training plan to confirm equipment and projects are performing as expected.
- Quarterly savings reports and technical support for agency staff to ensure savings persist into the future.

Barriers Addressed

The Metered Savings Program was designed to fill gaps left by retired energy efficiency programs and to help public agencies overcome common barriers to implementing energy efficiency projects as outlined below.

Barrier 1: Limited IOU services for savings below code. With the closure of the Southern California Edison (SCE) Public Sector Performance Based Retrofit program, there were no programs in the market to help public agencies complete holistic (electric and gas) energy projects. IOU programs have generally focused on upgrades that are above code or standard practice, leaving below code energy savings unrealized. The Metered Savings Program provides the necessary resources for agencies to complete these projects and to meet or exceed code or standard practice, helping agencies realize additional energy and cost savings. The following best practices have been incorporated into the Metered Savings Program's design:

- Measure meter energy usage before and after installation. Normalize data as needed to support maintenance and monitoring activities managed by facility staff.
- Focus on asset and building controls upgrades including interior lighting, exterior lighting, heating, ventilation, and air conditioning (HVAC), and energy management systems (EMS) to capture savings up to and above code.
- Offer customized project management and technical expertise as needed to maximize positive outcomes and minimize program cost.
- Gather and ensure accuracy of project data including inventory, equipment specifications, and maintenance protocols to support ongoing project performance and savings persistence.

Barrier 2: Lengthy project implementation schedules. Typical public agency energy efficiency projects can take 18-24 months from identification to completion. This means agencies sometimes wait for years before starting to see energy and cost savings once an opportunity has been identified. Moreover, priorities can change during this time, thus jeopardizing the availability of resources and funding. The following best practice has been incorporated in the program design to address this barrier:

- Expedited reviews of program applications to mitigate the cost of delay and ensure savings are realized as soon as possible. Applications are reviewed within an estimated 30 business days of application submission, a shorter timeline than typical application processes which can take months.

Barrier 3: Lack of available funding and financing. Capital upgrades often require both upfront and long-term financing. However, most financing services offer either a construction phase short-term loan or loan-term financing. This requires agencies to navigate and secure

multiple funding sources for a single project. The Metered Savings Program addresses this barrier through a three-pronged approach. First, the Metered Savings Program provides no-cost technical assistance to support below-code projects and help agencies to take action. Second, SoCalREN offers access to financing support services to address capital barriers. By using the NMEC calculation method, SoCalREN provides a high level of certainty on project performance and energy and cost savings, which can help agencies secure financing from risk-averse sources. Finally, as of 2022, the program offers monetary incentives to participating agencies based on verified post-installation energy savings, with higher incentive rates for disadvantaged, rural, and low-income communities. The following best practices have been incorporated in the program design:

- Support whole building energy efficiency efforts, combining elements of mechanical replacement, retrocommissioning, weatherization and lighting where possible to optimize financials and support project approval.
- Offer performance-based incentives that encourage deep energy retrofits.

Case Study: Culver City Cardiff Parking Structure

In February 2020, Culver City completed an LED lighting upgrade project at their Cardiff parking structure. Since LED exterior lighting upgrades were no longer eligible (or “claimable”⁴) for deemed⁵ or custom⁶ utility incentives, SoCalREN would not have been able to support this project without the Metered Savings Program. As a result, SoCalREN explored and confirmed the project’s viability through the Metered Savings Program.

As a Metered Savings Program participant, Culver City gained access to SoCalREN's full suite of project delivery services including energy analysis, technical specifications, project management, and continued energy savings and usage tracking after the install. Based on the initial model, the project was projected to save 52,000 kWh and \$7,500 in energy cost savings per year. However, the first mid-performance period report indicates that the savings may be higher than anticipated. As shown below in Figure 2, the performance report occurred 43% of the way through the 12 month performance period, but the facility had already achieved 54% of the anticipated annual cost and electricity savings.

⁴ Claimable Savings (or “claimed savings”, or “savings claims”) is the savings reported by program administrators to the Commission prior to formal evaluation, measurement, and verification (EM&V). (CPUC 2020b).

⁵ A prescriptive energy efficiency measure. (CPUC 2020a).

⁶ Energy efficiency efforts where the customer financial incentive and the ex ante energy savings are determined using a site-specific analysis of the customer’s facility. (CPUC 2020a).

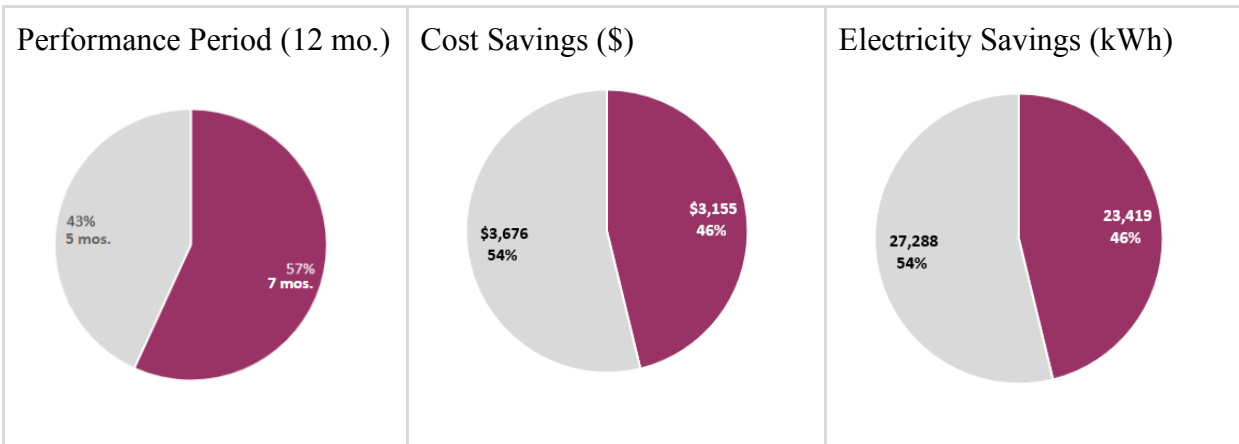


Figure 2: Culver City Cardiff Parking Structure Actual Electric Consumption Savings (kWh). Note: The gray pie wedge represents time spent in the performance period so far and the maroon represents the remaining time.

The Cardiff parking garage upgrades bring significant benefits to the public. Since the parking garage is located in Culver City’s popular downtown area and is used by patrons from nearby restaurants and the ArcLight theater, it is usually occupied by many vehicles every day. The light fixture upgrades made the parking areas brighter and easier to see, increasing the safety for anyone parking in the garage.

SoCalREN support was instrumental to helping Culver City complete this project, save energy, and benefit the community. These improvements would not have been possible without the NMEC pathway through the Metered Savings Program.

“Absent SoCalREN’s involvement, the number of energy efficiency projects implemented would be dramatically reduced. [SoCalREN] free and unbiased energy efficiency project evaluation and project management services fulfill a role that in-house staff do not have the time to do themselves.”

-Joe Susca, Senior Management Analyst, Culver City

Pathway to Zero Program

Overview

Public agencies desire a holistic approach to addressing community energy needs and meeting resiliency and clean energy goals. When considering local policies or upgrades to a facility, they find public agency service offerings that focus on energy efficiency alone very limiting. Unfortunately, the current regulatory environment creates significant challenges for program administrators (PAs) and implementers to design holistic programs that support all Integrated Distributed Energy Resource (IDER) solutions. This leaves a market gap for public sector customers looking to rate-payer funded programs to support their ambitious goals.

SoCalREN’s Pathway to Zero (P2Z) program takes public agencies from benchmarking to audit to installation of energy-saving measures, DERs, and complementary sustainability solutions, such as water efficiency measures. The program maximizes energy efficiency opportunities in hard-to-reach communities while driving the integration of distributed energy

resources (DERs) and other sustainability strategies. SoCalREN prioritizes providing Pathway to Zero support to disadvantaged communities (DACs). More than 46 percent of SoCalREN projects since program launch in 2013 have been completed in disadvantaged communities. In 2021, SoCalREN expanded its focus to underserved communities beyond DACs⁷ to include low-income⁸ and rural⁹ communities.

Through SoCalREN’s experience implementing the Project Delivery Program and feedback collected from an annual survey that solicits feedback from all public agencies enrolled in the Program. Through survey responses, public agencies requested additional support when pursuing non-energy efficiency projects, such as distributed energy resources like solar photovoltaics (PV), energy storage, and demand response¹⁰. Figure 3 summarizes the 2018 survey results from agencies that responded to the survey.

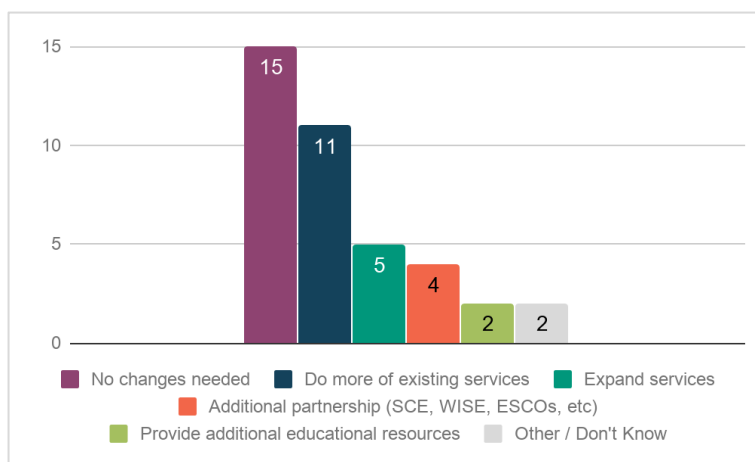


Figure 3: 2018 SoCalREN agency survey findings.

Pathway to Zero offers high level analyses to identify opportunities and services that help agencies prepare to install DERs, such as load analysis technical support. Pathway to Zero reviews the distributed energy resources and other strategies outlined in the table below.

Table 1: DER strategies

Strategies	Program services
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⁷ A "DAC agency" serves populations in zip codes that overlap with the top 25 percent of census tracts in CalEnviroScreen 3.0. A "DAC project" must be located in one of these zip codes for Pathway to Zero program services.

⁸ Includes Title 1 schools per the California Department of Education Public School and District Data; as defined by AB 1550 Low income Communities.

⁹ Defined as "rural" and "highly rural" as classified by the Veterans Health Administration Rurality Map.

¹⁰ 2018 SoCalREN agency annual satisfaction survey and 2020 SoCalREN agency focus group.

Demand response (DR)	Analyze savings, benefits and costs for potential DR measures and available SCE DR programs, support accessing SCE rebates, and provide advisory services
Electric vehicles (EV) charging stations	Provide general cost estimates for charging stations, information and support with accessing SCE and other rebates, and advisory services
Solar water heating	Analyze savings, benefits, costs, and rebates for Southern California Gas Company and SCE solar water heating systems
Photovoltaic (PV) and battery storage systems	Analyze savings, benefits, costs, and rebates for solar PV and battery storage, and provide information and support for participation in SCE pilots and programs
Greenhouse gas emission (GHG) reduction options	Educate customers on options to reduce GHG through SCE or local Community Choice Aggregation provider renewable energy tariff programs
Permanent load shifting via energy storage	Analyze savings, benefits, costs, and rebates for facility peak demand and possible load shifting benefits
Water efficiency	Analyze savings, benefits, costs, and rebates for water efficiency measures

Beginning in 2020, SoCalREN's program administrator, Los Angeles County, identified external funding from the CEC to fund additional support beyond the high-level resources and information provided by Pathway to Zero. Pathway to Zero was allocated non-ratepayer CEC funds to provide in-depth technical and project management expertise to help public agencies move from understanding DER and sustainability opportunities to acting on them. Pathway to Zero's expanded support funded by non-ratepayer funds include audits, procurement assistance, financing support, and construction support services. Los Angeles County intends to continue identifying and providing the program with non-ratepayer funding so Pathway to Zero can continue supporting underserved communities with energy reliability and resiliency needs.

This external funding allows SoCalREN to offer enhanced benchmarking services to empower agencies to make informed decisions about energy management. Through benchmarking services, SoCalREN can assist agencies with AB 802 compliance, calculate facility Energy Star scores, and analyze a facility's pre- and post-retrofit energy performance metrics. In 2021, two school districts met their AB 802 compliance for fifteen of their facilities thanks to SoCalREN's support.

Barriers Addressed

Underserved agencies must overcome significant barriers to complete energy efficiency projects to support their communities, which tend to be the most impacted and vulnerable to

climate impacts. Some barriers such as limited access to technical assistance, procurement assistance, financing support, and construction support services are addressed by multiple SoCalREN programs. However, the following two barriers are specifically addressed by this program.

Barrier 1: Isolated energy efficiency and DER programs. Rate-payer funded energy efficiency programs often work in isolation from other DER programs, which can cause confusion and slow action due to competing program offers. The Pathway to Zero Program complements SoCalREN's other energy efficiency services, allowing agencies to see the big picture of all energy opportunities at their facility/facilities. Similar to the Project Delivery Program, SoCalREN's Pathway to Zero Program provides no-cost unbiased support on DER and sustainable energy strategies. The program analyzes energy efficiency opportunities at agency facilities, then goes beyond energy efficiency with a customized high-level review of DERs and other sustainability options. Pathway to Zero gives agencies the comprehensive information they need to make the right energy choices for their facilities.

Barrier 2: Lack of DER knowledge. Other rate-payer funded energy efficiency programs do not provide assistance for synergistic technologies and energy self-reliance strategies. As a result, public agencies either have to navigate these projects on their own or pay for services, both of which deter project completion. Even trying to understand all the DER options is enough to make some agencies give up. Pathway to Zero addresses this barrier by providing relevant information on DER technologies and helping agencies understand the DER strategies that might make sense for their unique needs.

Best Practices

The Pathway to Zero Program has identified several best practices and lessons learned and incorporated them into its program design. Public agencies need a baseline knowledge of DER strategies to understand the DER landscape. The Pathway to Zero Program provides this information through educational materials and resources on DER strategies. Second, the CPUC's DER Action Plan⁶ highlights the importance of completed energy efficiency projects in conjunction with DERs to avoid unnecessary and costly grid infrastructure upgrades. The Pathway to Zero Program works alongside SoCalREN's other energy efficiency programs to support combined DER and energy efficiency efforts. Third, in order to address differences in public agencies' expertise with DER projects, the Program offers customized support for each project. In addition, the program:

- Gathers and vets information on resources and programs to support ongoing project performance and savings persistence.
- Coordinates with IOU customer representatives to communicate the benefits of non-energy efficiency IOU programs.
- Creates and leverages tools and templates to streamline the program and improve service efficiency.
- Leads training and development workshops for public agencies to learn about DER topics and build expertise for energy efficiency and DER projects.

Case Study: Santa Paula City-Wide DER Assessment

SoCalREN partnered with Santa Paula to investigate the potential for energy efficiency measures and DERs through a city-wide assessment. First, during the desktop review, SoCalREN analyzed 107 of the city's electricity meters to identify solar photovoltaic (PV), battery energy storage system (BESS), and electric vehicle (EV) charger opportunities. The high level analysis provided the city with a list of the top ten sites with the greatest savings opportunities, along with detailed information on solar and storage sizing and potential challenges. The city selected three sites for a more detailed analysis. The proposed measures included solar PV at four locations (water reclamation facility, police department/city hall, pumping building and activity room, community center), a BESS at two locations (police department/city hall, community center), and public and private EV charging stations. The proposed DER measures have the potential to generate 1,139,000 kWh annually, with \$122,550 annual cost savings for a reduction of 807 MT CO₂e. SoCalREN not only helped identify measures, but also helped identify the best financing and incentives options to finance the project. The City's staff stressed how valuable SoCalREN's support was to help the city to reach their energy goals. The City Council recommended moving forward with a detailed financial review of the measures.

Overcoming Up Front Cost Barriers: Revolving Savings Fund

Overview

Funding has historically been one of the biggest barriers to energy retrofits. Public agencies often do not have the funding to complete projects or do not have the expertise to successfully submit financing applications. To overcome this barrier, SoCalREN's approach provides specialized information and objective, transparent expert analysis. SoCalREN offers customized financial advisory services to ensure projects are bundled appropriately and all available funding sources are considered. SoCalREN assists with completing and monitoring financing applications to ensure the maximum amount of funding is secured for the agency. This approach involves a coordinated effort with utilities and ongoing implementation of best practices and lessons learned.

Using (non-ratepayer) American Recovery and Reinvestment Act (ARRA) funds, SoCalREN offers a Revolving Savings Fund (RSF) to provide construction period financing to public agencies. This fund helps overcome the limitation of on-bill financing (OBF) programs that do not disburse any funds to the agency until after the project is certified as complete by the investor-owned utility. This can be a major impediment to OBF utilization by public agencies.

The SoCalREN Revolving Savings Fund (RSF) Program is a financing cross-cutting program that supports energy upgrades to buildings and facilities via loans that accelerate project implementation. With the Revolving Savings Fund, funds are distributed before construction to allow agencies to cover upfront costs. The loans can also be used as stand alone financing for a repayment term of up to five years, as bridge financing until other financing sources become available, or for approved but not-yet-budgeted projects that would otherwise be delayed pending budget allocation.

Los Angeles County (LAC or County), SoCalREN's program administrator, provided \$2.2 million in seed capital for the exclusive use of SoCalREN-enrolled agencies. Los Angeles County is using American Reinvestment and Recovery Act (ARRA) funds already granted by the California Energy Commission (CEC) for the seed capital and no utility rate-payer funds will be used for the loans.

The Revolving Savings Fund is designed to meet the following objectives:

1. Stimulate SoCalREN public agency enrollment.
2. Accelerate project development and increase public agency participation in energy efficiency programs.
3. Assist public agencies in overcoming capital-related barriers to energy projects.
4. Provide an innovative and low-cost solution for short-term energy project financing for public agencies.

Barriers Addressed

Barrier 1: Required upfront capital. Many energy efficiency funding and financing resources, such as utility incentives, OBF, and CEC loans, are only paid several months after project completion. This can be more than a year from the initial project development and approval stages, so agencies must separately secure 100% of the funds needed for an energy efficiency project before construction can commence. Given the difficulty of securing capital improvement funds for deferred maintenance projects, let alone installing new energy efficiency measures, it is not surprising that a 100% upfront capitalization requirement can be a significant hindrance to energy projects. The Revolving Savings Fund overcomes this barrier by providing funds that cover 100% of the project construction costs up front.

Barrier 2: Utility on-bill financing restrictions. Utility on-bill financing has long been an essential tool for public agencies, allowing them to cover the cost of energy efficiency projects with minimal impact to their operating budgets. However, this resource is usually restricted to utility program participants. As of 2022, 60% or more of the IOU energy efficiency program portfolio will be implemented by a third party,¹¹ so OBF resources will not be available to all energy efficiency projects. While not on-bill, the Revolving Savings Fund follows a similar structure to OBF programs by providing agencies with low to no interest rate and energy savings-based repayment.

Case Study: City of Pomona and the Revolving Savings Fund

In 2019, the City of Pomona and SoCalREN identified extensive energy efficiency opportunities at the Pomona Library and the Palomares Park, including lighting, mechanical and retrocommissioning measures. As shown in Table 2, with these capital improvements and the significant project cost of over \$438,000, the City determined that the project would only be feasible with SCE's on-bill financing.¹² Collaborating with SCE and SoCalREN, the City applied

¹¹ California Public Utilities Commission (CPUC) Decision 16-08-019 (Energy Efficiency Rolling Portfolio) mandates a minimum of 60% of energy efficiency programs must be proposed, designed, and implemented by a third-party by 2022. It remains unclear if all utilities will provide OBF for third-party implemented programs.

¹² Interest-free financing for energy efficiency projects with repayment through customers' SCE bill. (SCE 2019).

for preliminary project approval through the SCE Performance Based Retrofit Program (PBRP), an NMEC program that awards incentives for savings at the meter (the program has since expired). Through PBRP, the City is on track to secure nearly \$29,000 in incentives for energy savings and over \$307,000 in OBF.

Table 2: Pomona case study project costs and financing

Pomona case study project costs and financing	
Gross project cost	\$438,031
Available RSF financing	\$438,031
Estimated OBF	\$307,058
Performance incentive	\$28,748.08
Net project cost	\$102,225

Even with incentives and OBF, Pomona still faced two challenges: the remaining out-of-pocket cost after incentives and OBF, and the timing of those two funding/financing sources. First, through PBRP, the City could receive an estimated maximum of approximately \$29,000 in incentives (based on actual performance), and through OBF the City capped out at an OBF loan amount of just over \$300,000 due to program limits on individual service accounts. As shown in Table 2, even after incentives and OBF, the City would have to find \$100,000 in additional funding.

SCE's PBRP pays out incentives based on energy savings, which means agencies can receive incentives for energy savings even if they are below code. Since PBRP is based on actual energy savings at the meter, the incentive payout is distributed after verifying energy savings at three performance period checkpoints: three months, 12 months and 24 months. SCE's on-bill financing program also does not distribute loan funds until after they review and approve the installation report. Because of these policies, Pomona would be required to have funds on hand to cover project costs before, during and after project completion. Then, months after construction is complete and the installation report is approved, SCE would distribute the OBF funds. In addition, the City would have to wait 24 months after project completion before they would receive one hundred percent of the project incentive.

Pomona notified SoCalREN that the City could not move forward with the project with these financial barriers. So, SoCalREN suggested the Revolving Savings Fund (RSF) program. The program offers a 0% interest rate with a 1% administration fee, which was temporarily reduced to 0% at the time of Pomona's project development. Through the Revolving Savings Fund, Pomona has received \$1,539,211 in 0% interest upfront capital to cover construction costs, which they will pay back using energy cost savings, the SCE PBRP program incentives, the SCE on-bill financing loan funds, and some additional agency funds.

After learning about the Revolving Savings Fund, Pomona decided to use this resource to move forward with energy efficiency improvements at Pomona Library and Palomares Park. Currently, the City expects to complete their energy project this year, with the help of SCE PBRP, SCE OBF, and SoCalREN's Revolving Savings Fund.

Other Innovations

Cooperative Procurement

Procurement is a significant barrier for public agencies when implementing energy efficiency projects. SoCalREN offers an unbiased perspective to help educate agencies on procurement options, including formal bidding processes, cooperative procurement, self-installation, job order contracting, sole source procurement, informal bidding, and California uniform construction cost accounting code. SoCalREN presents these options to agencies through the lens of five important criteria for public agencies: risk, quality, staff intensity, costs, and time to completion. In SoCalREN's experience, the public sector prefers proven procurement methods, which is not always ideal for energy efficiency work. Therefore, the public sector needs a better solution for energy efficiency project procurement.

In accordance with Government Code 6502 et seq., within the Joint Exercise of Power Act, any two or more public agencies can create a legal entity called a Joint Powers Authority (JPA) that allows all members to jointly exercise each other's powers. This code is designed to help public agencies come together to solve common problems, such as cooperative purchasing. JPAs can award indefinite quantity contracts¹³ on behalf of all of their members via a formal competitive process. By joining a JPA, agencies gain access to those contracts, avoid the need for their own competitive bidding process, and benefit from economies of scale on these contracts. SoCalREN's partnership with Sourcewell helps agencies access this form of procurement.

Sourcewell is a public agency with legal authority to serve as a contracting agency for other public agencies in all states, including California (Section 6500 et. seq. of the California Government Code). Sourcewell has conducted a transparent, competitive bidding process in accordance with the California Government Code for electrical and mechanical energy efficiency contractors to work on SoCalREN projects. As part of their process, Sourcewell partnered with SoCalREN to develop a construction task catalog with detailed construction tasks and pre-set unit prices and specifications for mechanical and lighting services in the Southern California market, including local labor, material, and equipment costs. Contractors can then bid a mark-up that is applied to all of the tasks in the construction task catalog. The contractors that met the minimum qualifications and bid the lowest mark-ups have been awarded contracts. Cooperative procurement is a popular option for SoCalREN agencies, as shown in Figure 4¹⁴.

¹³Requirements are estimated in the solicitation with no specific purchase commitment. Pricing is often a factor of the confidence of bidders in the estimates.

¹⁴ SoCalREN procurement data as of October 2020.

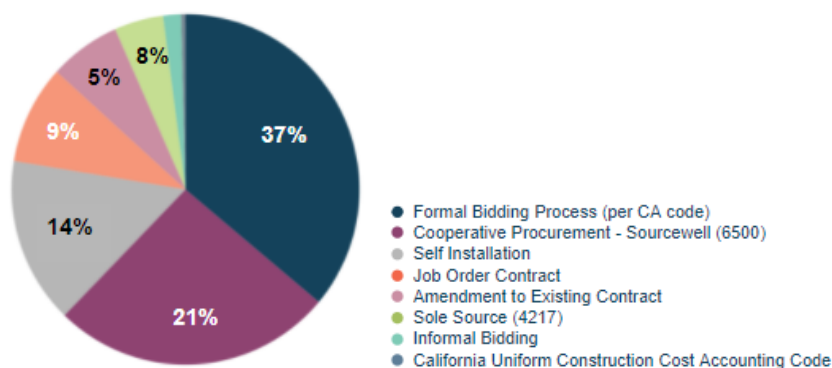


Figure 4: SoCalREN public agency procurement selection.

Conclusion

Given the limitations of ratepayer-funded EE programs and extensive public agency barriers to implementing EE projects, programs will need to continue to adapt, innovate, and develop new services to realize state climate goals. As demonstrated by the programs analyzed, there are multiple approaches to address these limitations and barriers. First, programs can and may need to leverage non-ratepayer funds to address recurring challenges, such as access to upfront capital, and to unlock cost-saving and climate benefits of energy projects beyond just EE. Second, programs must respond to legislative changes to overcome new challenges and to innovate program services, such as an expansion of “stranded” savings support. As demonstrated by the SoCalREN suite of programs, leveraging these innovative and adaptive strategies increases public agency adoption of EE projects and benefits.

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