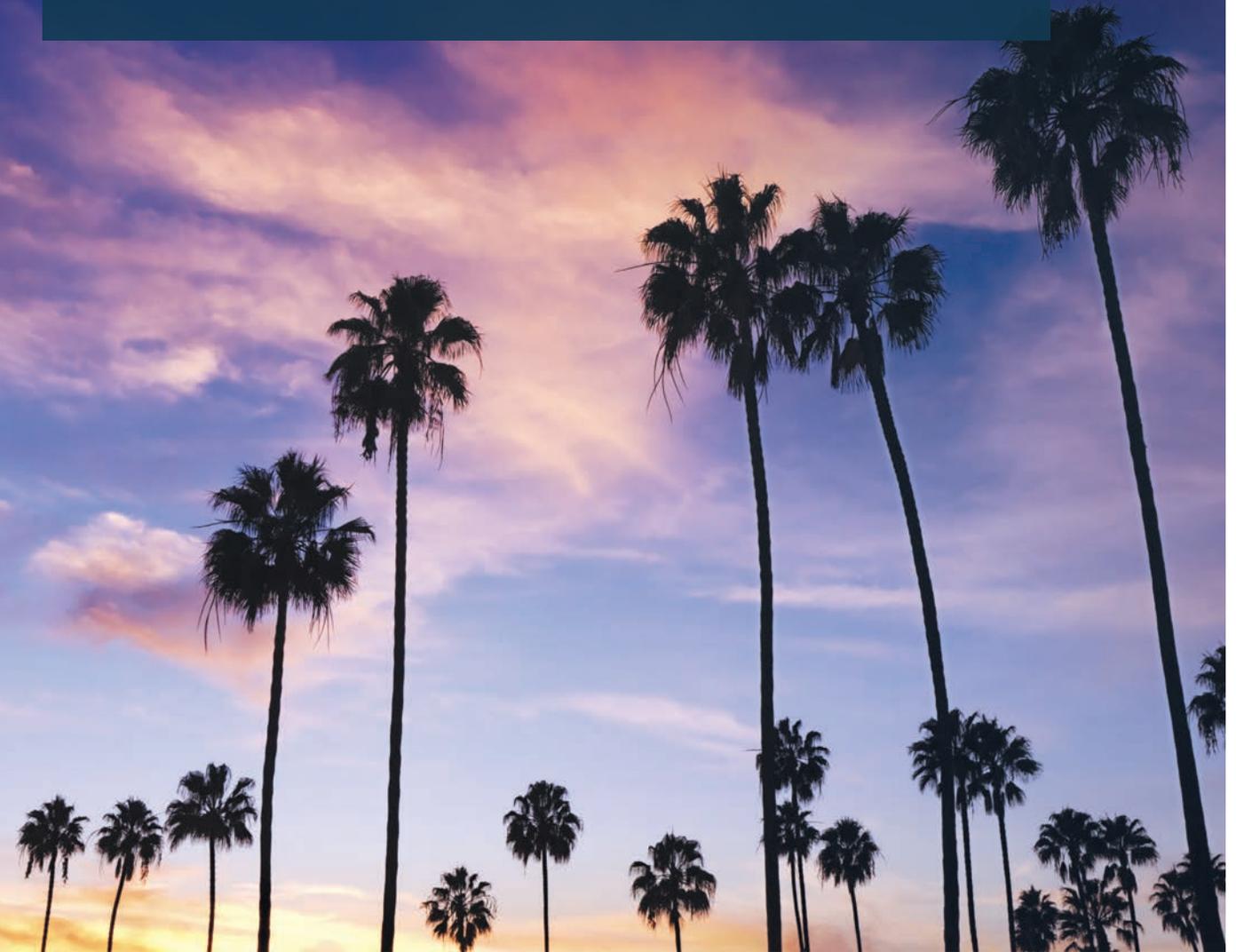




Southern California
REGIONAL ENERGY NETWORK 

Portfolio of ENERGY EFFICIENCY PROGRAMS



County of Los Angeles
Southern California Regional Energy Network

2019



Southern California REGIONAL ENERGY NETWORK



Agencies Enrolled in the SoCalREN

COUNTIES: County of Los Angeles • County of Orange • County of San Bernardino • County of Santa Barbara • County of Ventura

CITIES: City of Adelanto • City of Alhambra • City of Arcadia • City of Avalon • City of Barstow • City of Beaumont • City of Beverly Hills • City of Brea • City of Buena Park • City of California City • City of Camarillo • City of Carpinteria • City of Carson • City of Chino Hills • City of Claremont • City of Corona • City of Costa Mesa • City of Covina • City of Culver City • City of Diamond Bar • City of Downey • City of Duarte • City of El Monte • City of Farmersville • City of Fontana • City of Fullerton • City of Garden Grove • City of Hemet • City of Hesperia • City of Highland • City of Huntington Beach • City of Irvine • City of La Habra • City of La Palma • City of La Puente • City of La Verne • City of Laguna Niguel • City of Laguna Woods • City of Lakewood • City of Lancaster • City of Lindsay • City of Long Beach • City of Los Angeles • City of Lynwood • City of Malibu • City of Maywood • City of Mission Viejo • City of Monrovia • City of Montclair • City of Monterey Park • City of Moreno Valley • City of Murrieta • City of Newport Beach • City of Norwalk • City of Orange • City of Oxnard • City of Palmdale • City of Paramount • City of Perris • City of Placentia • City of Pomona • City of Rancho Cucamonga • City of Rancho Mirage • City of Rancho Santa Margarita • City of Redlands • City of Rialto • City of San Bernardino • City of San Dimas • City of Santa Ana • City of Santa Barbara • City of Santa Clarita • City of Santa Monica • City of Santa Paula • City of Signal Hill • City of Simi Valley • City of South El Monte • City of South Pasadena • City of Stanton • City of Temecula • City of Temple City • City of Thousand Oaks • City of Tulare • City of Tustin • City of Ventura • City of Victorville • City of Visalia • City of Walnut • City of West Covina • City of West Hollywood • City of Westminster • City of Whittier • City of Woodlake • City of Yorba Linda

WATER AGENCIES: Carpinteria Sanitary District • City of Los Angeles Bureau of Sanitation • Coachella Valley Water District • Cucamonga Valley Water District • Eastern Municipal Water District • Foothill Municipal Water District • Goleta Sanitary District • Idyllwild Water District • Inland Empire Utilities Agency • Jurupa Community Services District • Lake Arrowhead Community Services District • Las Virgenes Municipal Water District • Ojai Valley Sanitary District • Orange County Sanitation District • Pleasant Valley County Water District • Running Springs Water District • South Orange County Wastewater Authority • Tulare Irrigation District • United Water Conservation District • Western Municipal Water District • Western Riverside County Regional Wastewater Authority • Yucaipa Valley Water District

SCHOOL DISTRICTS: Alhambra Unified School District • Antelope Valley Union High School District • Baldwin Park Unified School District • Beverly Hills Unified School District • Bridges Charter School • Conejo Valley School District • El Monte Union High School District • Fontana Unified School District • Moorpark Unified School District • Newport-Mesa Unified School District • Ocean View School District • Orange Unified School District • Oxnard Union High School District • Pleasant Valley School District • Rio Unified School District • San Bernardino City Unified School District • Santa Ana Unified School District • Santa Monica Malibu Unified School District • Ventura Unified School District

OTHER AGENCIES: Channel Islands Beach Community Services District • Conejo Recreation and Parks District • Metrolink • North Net Training Center • The Port of Hueneme, Oxnard Harbor District





WELCOME

The Southern California Regional Energy Network (SoCalREN) is a program administrator (PA) that provides energy efficiency (EE) programs and services to residents, businesses, and public agencies. Led by Los Angeles County, SoCalREN serves customers located in the areas that receive electricity and gas from Southern California Edison (SCE) and SoCalGas®, encompassing 12 counties and a population of more than 20 million.

SoCalREN's 2019 energy efficiency portfolio is a continuation of the commitment to fulfilling the California Public Utilities Commission's directives to the RENs:

1. Provide services that complement and supplement investor-owned utility (IOU) programs and/or fill gaps in the market to maximize opportunities for residents, businesses, and public agencies.
2. Provide programs and services to hard-to-reach markets that the IOUs are not serving.
3. Pilot new, innovative approaches to programs that can potentially scale and offer an avenue to greater energy savings.

Since its inception, SoCalREN's portfolio has delivered strategies motivating customers to adopt more comprehensive energy efficiency approaches, characterized by deeper, longer lasting savings. These energy efficiency strategies have, over time, provided a meaningful suite of benefits to the market sectors the SoCalREN serves. In 2019, SoCalREN continued implementation of several successful programs and also launched several new programs to address customers' needs. SoCalREN's customer-centric approach, paired with ongoing program modifications for continuous improvement, is key to achieving meaningful results and satisfaction across SoCalREN's energy efficiency portfolio.

TABLE OF CONTENTS

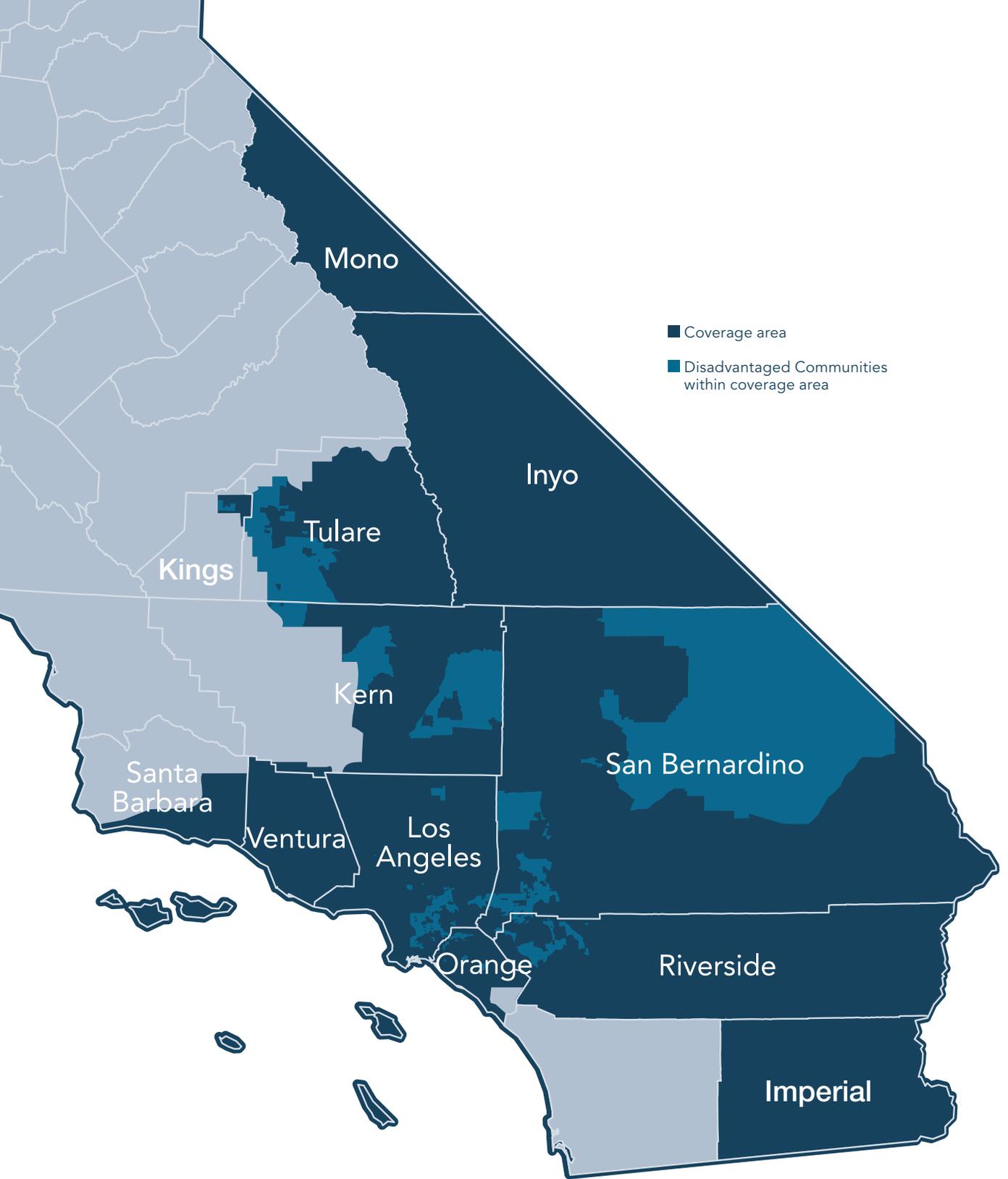
Welcome	1
SoCalREN Coverage Area	4
EXECUTIVE SUMMARY	6
Summary of Portfolio Performance	8
Portfolio Optimization and 2020 Outlook	16
Addressing Impacts of COVID-19	17
SOCALREN PORTFOLIO OF PROGRAMS	20
SoCalREN Project Locations	22
Residential Programs	24

Public Sector Programs	30
Financing Programs	36
Workforce Education and Training Program	40
APPENDICES	46
2019 EE Annual Report Technical Appendices	48
Credits	52

SoCalREN COVERAGE AREA

The Southern California Regional Energy Network (SoCalREN) serves residents, businesses, and public agencies throughout the areas served by Southern California Edison (SCE) and/or SoCalGas®.





EXECUTIVE SUMMARY





EXECUTIVE SUMMARY

Summary of Portfolio Performance

In 2019, SoCalREN's energy efficiency resource programs collectively achieved 6,920,487 kilowatt-hours (kWh) and 492,655 therms of energy savings. SoCalREN's programs continue to help customers save money, save energy, and live more comfortably. Over the past year, these gas and electric energy savings have reduced CO₂ by approximately 7,500 metric tons—the equivalent of removing approximately 1,620 cars from the road in support of the State's goal of reducing greenhouse gas (GHG) emissions.

Total Energy Savings Achieved and Supported* by 2019 SoCalREN Programs



24,612,907
kWh Savings



507,858
Therms Savings

Environmental Equivalency Impacts



20,089 Metric Tons CO₂ Avoided.



GHG emissions from **4,341 cars** driven for one year and avoiding **2,557 metric tons** of CO₂.



Carbon sequestered by **332,182 trees** grown for 10 years.

*Includes 6,920,487 kWh and 492,655 therms achieved through SoCalREN's Residential (Resource) Programs and 17,692,420 kWh and 15,203 therms supported through the Public Sector (Non-Resource) Programs. Non-Resource savings are attributed to and claimed by SCE and SoCalGas but are tracked as SoCalREN supported.



The California Public Utilities Commission (CPUC) has recognized that it is not realistic to expect Regional Energy Network (REN) programs to be cost-effective within the traditional Investor-Owned Utility (IOU) definition, and the RENs are not subject to the same cost-effectiveness test as the IOUs. However, Los Angeles County and SoCalREN believe it is important to be as cost-efficient as possible in the use of ratepayer funds. In 2019, SoCalREN achieved its highest level of cost-effectiveness since inception, at .42 Total Resource Cost (TRC)—a 62% increase from the previous year—and .57 Program Administrator Cost (PAC). SoCalREN continues to enhance

its portfolio offerings by identifying opportunities to make it easier for customers to engage and participate in energy efficiency programs, maintaining focus on breaking down barriers for hard-to-reach (HTR) customers and disadvantaged communities (DACs).

This *2019 Portfolio of Energy Efficiency Programs* describes the full set of programs delivering deep energy savings that allow Los Angeles County and SoCalREN to help California meet its ambitious energy efficiency and carbon reduction goals. Following are highlights of the accomplishments of SoCalREN's active energy efficiency portfolio during 2019.



Residential Programs

SoCalREN has delivered the Multifamily Program since 2013. The Program aims to cost-effectively improve the efficiency of multifamily buildings through custom comprehensive retrofits and to provide a turnkey solution with financial incentives, so property owners can adopt new and more efficient technologies. In 2019, SoCalREN's Multifamily Program delivered its highest level of cost-effectiveness since inception by delivering 5.7 GWh (Net) and 351,418 therms (Net) in energy savings at a TRC of 0.71.

SoCalREN's Multifamily Program primarily targets HTR and DAC multifamily properties. In 2019, SoCalREN completed a total of 62 projects in Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County. Of the projects completed, 53% were in DACs across the SoCalREN territory. SoCalREN will continue to focus on serving HTR markets and DACs to help multifamily customers save energy, improve tenant comfort, and reduce ongoing maintenance costs.

The SoCalREN Residential Community Coordinator (RCC) Program was launched in Q4 of 2019 as a companion offering to the Multifamily Program. This program aims to overcome the primary language market barrier commonly found with HTR customers. The RCC is a community-based engagement effort (excluding corporate owners and service contractors) in DACs.

In Q4 2019, the RCC Program interacted with nearly 748 customers by participating in 13 community events and seminars. These outreach events targeted Hispanic and Chinese audiences and were successful at increasing Program awareness in these communities.

SoCalREN's RCC Program will continue to provide in-language support to HTR customers and provide opportunities for these customers to save money and add value to their multifamily properties.

Public Sector Programs

The SoCalREN Energy Efficiency Project Delivery Program (EE PDP) was launched by the County of Los Angeles in September 2013. In 2019, SoCalREN continued to support the advancement of the public sector portfolio by designing and launching three new programs: Public Agency Normalized Metered Energy Consumption Program (known as the Metered Savings Program), Distributed Energy Resources for Disadvantaged Communities (DER DAC) Project Delivery Program (known as Pathway to Zero), and SoCalREN's Revolving Loan Fund (RLF).

The Metered Savings Program, Pathway to Zero, and RLF aim to overcome significant market barriers and harness the collective actions of Southern California public agencies to save energy. These programs work together seamlessly as companion programs and have expanded services available to agencies to drive deeper energy efficiency savings and create more sustainable communities.

SoCalREN helped public agencies overcome unique challenges and barriers in 2019. Collectively, the network of agencies achieved 17,692,420 annual kWh and 15,203 annual therm savings (gross) on 79 construction completed projects, while working on a 22,418,161 kWh and

161,577 therms pipeline for future years. The program prioritizes support to DACs, and in 2019, 48% of completed projects were at facilities in ZIP codes classified as DACs. All energy savings are attributed to and claimed by SCE and SoCalGas because the EE PDP is a non-resource program that funnels projects through utility core and third-party programs. The IOUs track these projects as SoCalREN supported. In 2019, SoCalREN public sector programs contributed to 43% of SCE's 2019 public sector portfolio claimed savings.¹



¹ This value is based on SCE's final confirmed dashboard for the 2019 Annual Report, Public Sector value of 29,278,773 kWh gross savings value and SoCalREN's savings attribution of 13,800,000 kWh based on IR submitted projects flagged SoCalREN.

In 2019, Pathway to Zero delivered 12 comprehensive DER reports as appendices to the Project Proposal and developed nine projects. As of April 2020, two of these reports have been delivered, with seven additional reports on track for delivery in 2020. The program also provided energy efficiency audits, developed future pipeline, and provided agencies with benchmarking support services.

The Metered Savings Program focused on developing a strong project pipeline and the tools and templates needed to seamlessly deliver projects in 2020 and beyond. Customer feedback from initial presentations on program services has been incorporated into processes

and marketing materials to improve the participant experience, communicate value, and remove barriers to customer participation.

SoCalREN implemented a comprehensive yet customizable approach for a variety of public facilities and assets. These include agency sites such as schools, libraries, streetlights, water and wastewater facilities, parks and recreational facilities, data centers, police departments, city halls, and community centers. SoCalREN works collaboratively with engineering firms, contractors, Local Government Partnerships (LGPs), SCE, and SoCalGas to ensure seamless, streamlined, "one-stop" services to customers.



Financing Programs

In 2019, SoCalREN developed the Residential Loan Loss Reserve (LLR). The LLR broadens access to finance for more multifamily property owners/contractors for energy efficiency upgrades by allowing a financial institution partner to modify its underwriting criteria and accept more risk than it would otherwise on qualified projects. The program design incorporates a credit enhancement that reduces the rate for the borrower; the design incorporates features that make the program process easy for the borrowers, financial institutions, contractors, and the administrator, therefore encouraging investments in energy efficiency. This program addresses the funding market barrier, thus promoting more long-term energy benefits for multifamily housing through funding the implementation of comprehensive energy efficiency upgrade measures.

The program aims to:

1. Assist property owners and property managers with making informed decisions about the cashflow associated with energy efficiency improvements.
2. Offer credit enhancements to decrease market-based interest rates.
3. Facilitate additional whole-building energy efficiency measure installations, further encouraging investments and market participation in energy efficiency.

SoCalREN plans to launch the LLR in Q2 2020 to help address the market barriers preventing multifamily property owners/contractors, including HTR and DAC customers, from participating.

In 2019, SoCalREN designed and launched the Revolving Loan Fund (RLF) with the aim to accelerate the implementation of energy projects that would otherwise be delayed pending budget allocation by providing the funds for approved but not-yet-budgeted projects. The RLF is a cross-cutting financing program designed to support energy upgrades to facilities owned by enrolled public agencies via loans that accelerate project implementation. It offers a unique form of short-term and up-front construction financing for small to midsize projects at 0% interest to bridge the gap left by utility On-Bill Financing (OBF) or other funds made available after project completion. The RLF is a catalyst for agency enrollment and project development that prioritizes serving DACs.

After launching in mid-2019, the Revolving Loan Fund program developed four pipeline projects expected to leverage the fund in future years. Throughout 2019, the program also focused on outreach and developing internal tools and templates to optimize program performance. Specifically, an internal program manual was created to support SoCalREN project managers on RLF outreach.

Workforce Education and Training Program

SoCalREN's Workforce Education and Training (WET) Program provides training, tools, and opportunities for minority participants in DACs to pursue careers in energy and water efficiency. In 2019, SoCalREN's WET program initiatives included:

- How to do Business with SoCalREN: E-Contractor Academy Training Workshop Series
- E-Contractor Academy
- One-On-One Technical Assistance for Small, Minority, Disadvantaged Contractors
- Architecture, Construction, and Engineering Students (ACES) Pathway Program

The "How to do Business with SoCalREN: E-Contractor Academy Training Workshop Series" allowed small and diverse businesses to learn about opportunities with SoCalREN programs or agencies. Through the workshop series, SoCalREN prepared 137 diverse contractors to compete for energy efficiency projects and increase their capacity.

The E-Contractor Academy prepared small and diverse contractors to compete for and perform energy efficiency projects for the County of Los Angeles and other entities throughout Southern California. Through the E-Contractor Academy, contractors can access bonding and capital resources and an introduction to sustainability, public contracting requirements, and how to bid on energy efficiency projects. Small, minority, and disadvantaged contractors who enroll in the E-Contractor Academy receive personal technical assistance to become prequalified with Los Angeles County to compete for energy efficiency projects. The County awards projects using a procurement strategy that promotes local, small contractor participation and an integrated workforce development strategy that stimulates the creation of quality career jobs. In 2019, SoCalREN helped 11 contractors become prequalified with Los Angeles County to compete for energy efficiency projects.



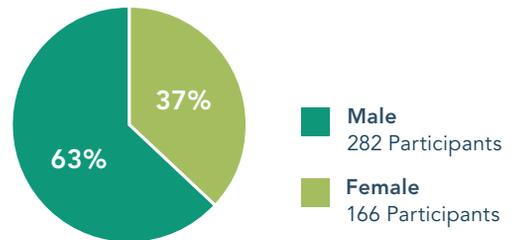


The ACES Pathway Program provides education and career pathways for economically disadvantaged youth. The program improves educational achievement and removes barriers to higher education by co-enrolling high school students in community college courses in science, technology, engineering, art and math (STEAM) fields. The credits students earn are transferable to campuses within the California State University and University of California systems. In 2019, SoCalREN enrolled 67 high school students in community college courses in STEAM fields.

ACES participation also offers students paid summer internships. In 2019, 29 students were offered paid summer internships through SoCalREN, where students received hands-on work experience alongside industry professionals. With ACES, SoCalREN helps pave the way for students to secure employment in high-paying careers.

SoCalREN's WET Program continually pursues new ways to provide greater employment opportunity to under-represented individuals performing energy efficiency project work.

ACES Gender Demographics



ACES School Partners

- 49%** STEAM High School
219 Participants
- 12%** New Open World Academy
54 Participants
- 11%** Mendez High School
49 Participants
- 11%** Alhambra Unified
48 Participants
- 11%** Bernstein STEM Academy
48 Participants
- 6%** Boyle Heights Technology YouthSource Center
30 Participants



Portfolio Optimization and 2020 Outlook

SoCalREN's eight-year Rolling Portfolio reflects a long-term plan to merge and balance innovation with performance, and to make energy efficiency programs and the administration of those programs nimbler and more cost-effective. To continue providing long-term value in 2020 and beyond, SoCalREN will leverage its non-resource strategies to direct further savings to its partner IOUs and will continue to identify gaps throughout its respective covered territory. SoCalREN will also seek to identify new resource approaches that will lead to a more cost-efficient portfolio. The comprehensive set of both non-resource and resource

strategies will help to ensure that SoCalREN is on a continued course to provide ratepayers significant and substantial long-term value in energy efficiency.

In addition, SoCalREN will incorporate strategies to improve coordination between programs and their partner IOU portfolios. SoCalREN will also look to implement evaluation, measurement, and verification studies that will seek to identify program process improvements and market assessments so that strategies can be modified to more accurate targeted tactics.

Addressing Impacts of COVID-19

On March 4, 2020, the Governor of California, Gavin Newsom, proclaimed a State of Emergency to exist in California as a result of the threat of COVID-19. In a short period of time, COVID-19 has rapidly spread throughout the State. To protect public health, all individuals living in the State of California were ordered to stay home or at their place of residence except as needed to maintain continuity of operations of the federal critical infrastructure.

SoCalREN is learning to adapt and follow the guidance of Governor Newsom's Stay at Home Order, while continuing to provide energy efficiency programs and services to residents, businesses, and public agencies. The health and safety of the communities we serve and the employees helping us implement our programs is of utmost priority. We are committed to ensuring our customers and employees stay safe and healthy. SoCalREN has developed guidelines for implementation of EE programs through this unprecedented time, so we can continue to fulfill CPUC directives to the RENs.

1. Provide services that complement and supplement IOU programs and/or fill gaps in the market to maximize opportunities for residents, businesses, and public agencies.
2. Provide programs and services to hard-to-reach markets that the investor-owned utilities (IOUs) are not serving.

3. Pilot new, innovative approaches to programs that can potentially scale and offer an avenue to greater energy savings.

COVID-19 will have severe short- and long-term impacts on the well-being of all of our customers. SoCalREN is still taking stock of the impact of COVID-19 on the energy landscape and what it means for future development and implementation of EE programs and services. For 2020 and beyond, SoCalREN has taken a range of actions to mitigate the impact of COVID-19.

These strategies include:

- Developing and implementing program safety protocols based on Occupational Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) guidance as well as Federal, State, and Local Guidelines.
- Exploring opportunities to employ virtual assessments of public agency buildings and multifamily buildings.
- Providing frequent communications to public agencies and multifamily property owners/contractors to continue engagement and upward momentum into energy efficiency investments.

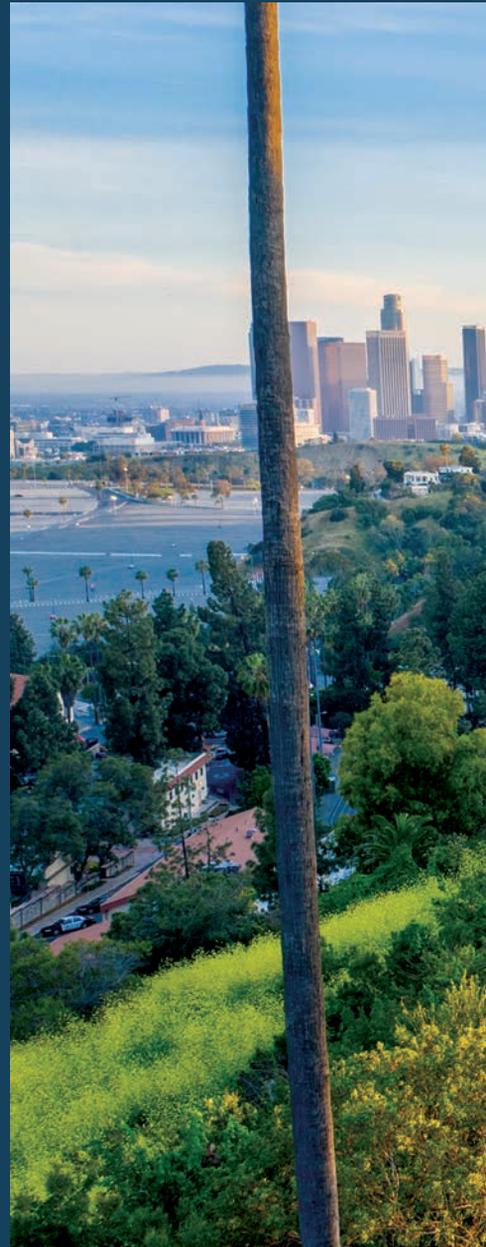
- Hosting webinars to inform and educate stakeholders on available energy efficiency opportunities to continue building the pipeline across SoCalREN's energy efficiency programs and to discuss best practices and highlight regional needs as public agencies and multifamily property owners/contractors navigate the post-COVID-19 world.
- Working closely with Public Agency Regional Partners to develop innovative pilot programs that can address specific gaps in their localities and help support the needs of hard-to-reach markets and disadvantaged communities who were already struggling pre-COVID-19.
- Providing alternative delivery solutions through the launch of pilot programs that can be delivered remotely with the potential to scale.
- Engaging directly with the communities we serve through the launch and implementation of pilot programs to provide energy efficiency measures that can be easily self-installed.





In 2019, 53% of completed projects in SoCalREN's Multifamily Program were in disadvantaged communities, combining for a total annual savings of \$647,000.

SoCalREN PORTFOLIO OF PROGRAMS





SoCalREN PROJECT LOCATIONS



**Workforce
Development**



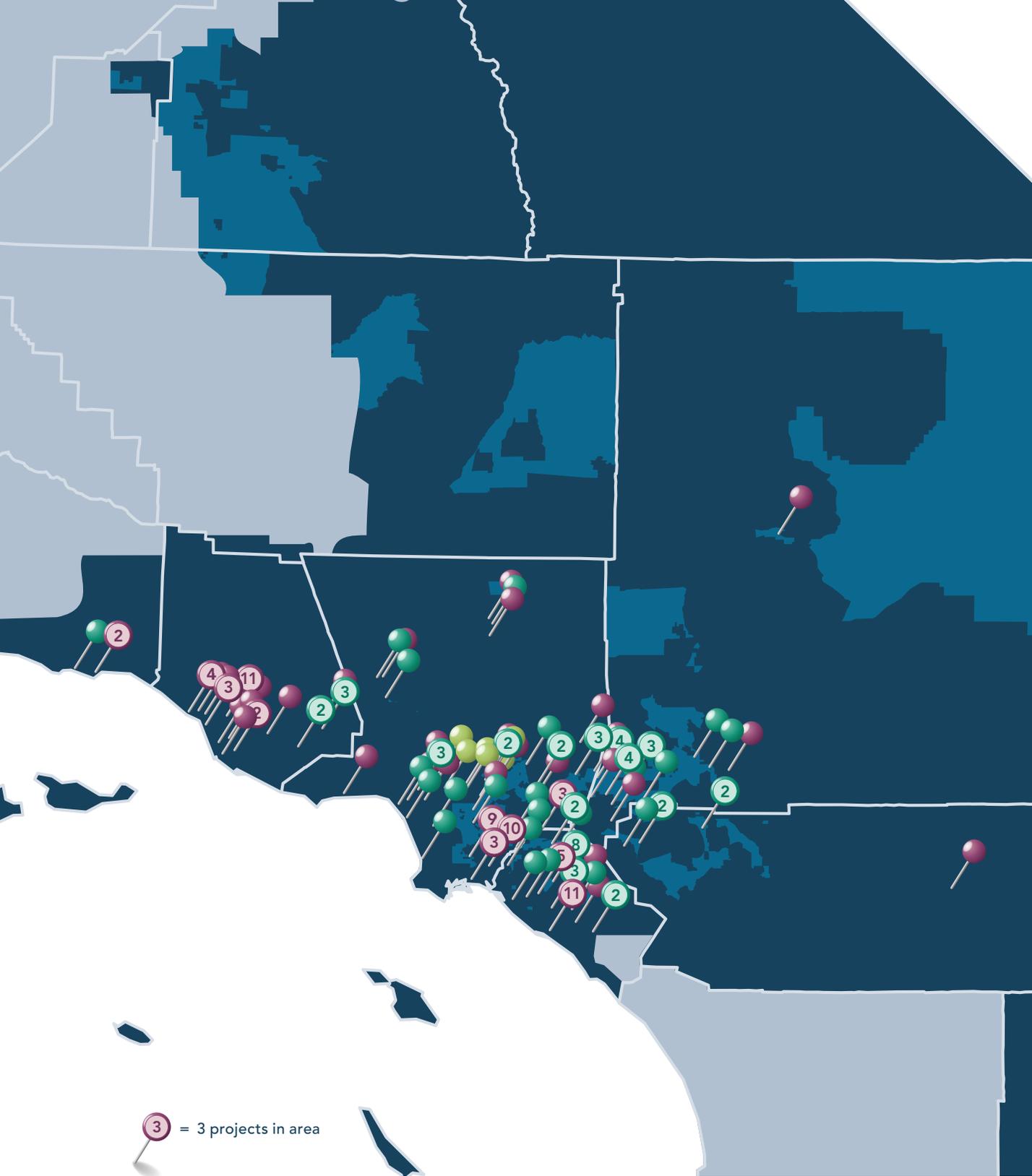
Public Agencies

Includes:
City Halls/Civic Centers
Parks
Public Services
Schools/Libraries
Street Lighting
Water/Wastewater
Other



Multifamily





 = 3 projects in area

-  Coverage area
-  Disadvantaged Communities within coverage area



RESIDENTIAL PROGRAMS



62
Projects
Completed

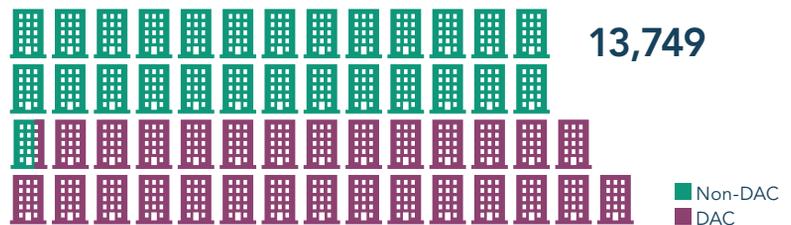


53%
Located in
Disadvantaged
Communities



180
Construction
Jobs Created

Tenant Units Improved



Total Incentives Paid to Multifamily Properties



Environmental Equivalency Impacts



Carbon sequestered
by **118,498 trees**
grown for 10 years.



GHG emissions from
17,782,510 miles
driven by an average
passenger vehicle.



Removing **1,620 cars** from California roads and
avoiding **2,557 metric tons** of CO₂.



6,920,487

Annual kWh Savings



430

Annual kW Savings



429,655

Annual Therms Savings

SoCalREN’s Residential Programs focus on the multifamily sector, delivering energy savings to the maximum number of Southern Californians as cost-effectively as possible. Through a focused approach working with property owners, property management companies, and area contractors, SoCalREN is helping drive the adoption of whole-building retrofit practices among multifamily communities. A strong emphasis on Disadvantaged Communities and Hard-to-Reach customers helps bring the benefits of energy upgrades—reduced utility costs, increased comfort, and a safer living environment—to individuals and families traditionally excluded from energy efficiency programs. In 2019, 62 properties encompassing nearly 14,000 residential dwelling units were impacted through SoCalREN Residential Program efforts.

The SoCalREN Residential Sector Programs helped multifamily property owners and residents achieve significant energy savings in 2019. Collectively, more than 60 properties completed comprehensive retrofit projects that achieved more than 64 GWh and 4 million therms in net lifecycle energy savings and built a pipeline of 14 properties heading into 2020.

The Program’s holistic approach that brings both electric and gas solutions to customers has proven valuable. SoCalREN helps customers identify and prioritize project opportunities to achieve a percentage savings above baseline usage, regardless of utility. This allows customers to make informed facility improvement decisions rather

than evaluating standalone offerings and examining offerings to decide which one provides the best incentive.

Another area of success for the Residential Sector involved results achieved in ZIP codes classified as disadvantaged communities (DACs). In 2019, 53 percent of the projects completed were in DAC ZIP codes. These projects achieved 3,597,973 kWh gross (3,058,277 GWh net) and 194,514 therms gross (165,337 therms net). These DAC projects occurred in Los Angeles, Orange, Riverside, and San Bernardino counties. More than 50 percent of the program’s kW and kWh savings were achieved from DAC properties. Therm savings were about equal between the two property types.

Multifamily Program

The goal of the SoCalREN Multifamily Program is to deliver reportable energy savings by identifying and implementing comprehensive and cost-effective energy efficiency projects while filling gaps in services provided by the Investor Owned Utilities (IOUs).

The Program is designed to advance the multifamily market on a path to greater energy efficiency by systematically addressing and overcoming barriers that have prevented significant adoption of comprehensive energy efficiency. In 2019, eligible properties included three or more units and property owners were required to install no fewer than three energy efficiency measures and achieve a minimum 10 percent improvement over existing conditions to receive program incentives. The Program offers a tiered incentive structure that encourages higher levels of energy savings with the highest tier for projects that save 30 percent or more of baseline usage.

SoCalREN provides a variety of services to both properties and contractors engaged with the Multifamily program. Ongoing technical, project management, communications, and tenant education support help bring the large-scale projects associated with whole-building retrofits to completion.

Environmental and Economic Impacts

The energy savings generated by the Multifamily Program in 2019 will result in a 7,166 metric ton greenhouse gas emissions reduction, equivalent to taking more than 1,600 cars off the road for one year. Through the accelerated replacement of older, inefficient equipment, multifamily properties receive additional benefits beyond reduced energy costs, including lower maintenance costs, improved ambiance, and increased tenant comfort and safety. Projects completed in 2019 provided the following revenue to local contractors and financial savings to multifamily properties:

- **\$1.24 MM** (\$647,000 in DACs)²
Annual utility bill savings (\$) for all properties (and DACs).
- **\$16,598,762**
Total value of projects completed through local contractors.
- **\$7,161,042**
Total value of projects completed through local contractors.

SoCalREN also strives to support construction jobs. This Program goal is measured by completed projects' gross construction costs. The 2019 gross construction costs of \$16.6 M translate to 180 local construction jobs supported.

² Based on U.S. Energy Information Administration average California utility costs of \$0.1797 per kWh.

Residential Community Coordinator Program

The Residential Community Coordinator Program (RCC) is a community-based engagement effort targeted toward multifamily customers (excluding corporate owners and service contractors). The RCC is designed to overcome the spoken language market barrier in targeting Hard-to-Reach customers and Disadvantaged Communities (DACs), including independent multifamily property owners and tenants. The RCC provides a single point of contact to help property owners develop and complete energy efficiency projects through education, training, and general support in completing the SoCalREN Multifamily Program application and participation process.

The RCC provides multilingual support to property owners who speak Spanish, Vietnamese, Mandarin, Cantonese, and Korean. Support for additional languages can be provided as needed. The RCC also assists in the design and

development of alternative language marketing pieces produced by the SoCalREN team.

There are 124 ZIP codes in the SoCalREN territory that are classified as DAC. The RCC works in partnership with HTR and DAC building owners and managers, as a trusted advisor, to help them develop project scope, work with contractors, close out projects, and provide support materials and resources that will educate building operators how to maintain energy-efficient practices at their property.

The RCC also participates in community events to reach small property owners and educate multifamily tenants about energy efficiency. After the RCC Program's launch in November 2019, the Program participated more than a dozen community events, engaging nearly 750 tenants and property owners.



The RCC participates in community events to reach small property owners and educate multifamily tenants about energy efficiency.

Multifamily Financing Program

The Residential Loan Loss Reserve Program, or Multifamily Financing Program (MFF Program or Program) broadens access to financing for more multifamily property owners/contractors for energy efficiency upgrades by allowing a financial institution partner to modify its underwriting criteria and accept more risk than it would otherwise on qualified projects. The Program design incorporates a credit enhancement that will reduce the borrowing rate for the borrower and the design incorporates features that make the program process easy for the borrowers, financial institutions, contractors, and the administrator, therefore, encouraging investments in energy efficiency.

This Program addresses the funding market barrier, thus promoting more long-term energy benefits for multifamily housing through funding the implementation of comprehensive energy efficiency upgrade measures.

The Program aims to:

- 1. Assist property owners and property managers** with making informed decisions about the cashflow associated with energy efficiency improvements.
- 2. Offer credit enhancements** to decrease market-based interest rates.
- 3. Facilitate additional whole-building energy efficiency measure installations**, further encouraging investments and market participation in energy efficiency.

The Program provides a credit enhancement for loans to fund the installation of a set of energy efficiency measures recommended through an energy assessment conducted by the Multifamily Program staff and property owner's contractor. The credit enhancement absorbs any losses before the lending partner does and funds revolve as loans amortize.



“ Since we made upgrades through SoCalREN’s Multifamily Program, we’ve had fewer maintenance issues and lower utility bills each month. We’ve heard nothing but positive feedback from residents.”

*Lora Grijalva, Property Manager
Rancho Vista Apartments*





Santa Ana Police Department

PUBLIC SECTOR PROGRAMS



144
Participating
Agencies



37
Completed Projects
in Disadvantaged
Communities



260
Jobs Created

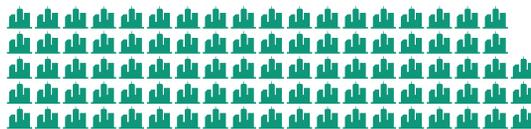
Participating Agencies:

Counties



5

Cities



93

Water Agencies



22

School Districts



19

Other Agencies



5



\$4.1 Million

Annual Energy Cost Savings



\$35.2 Million

Financing Obtained for Energy Efficiency Projects

The SoCalREN Public Agency Programs believe in the power of public agencies to lead their communities towards a safe, secure, resilient, affordable, and sustainable clean energy future. SoCalREN takes a comprehensive approach to help agencies complete energy efficiency projects. From energy benchmarking to project completion, our team offers a suite of services to help identify energy-saving measures and works alongside agency staff—all at no cost.

SoCalREN offers customized technical support services to public agencies to help them implement thorough yet cost-effective energy upgrades and energy management practices. By supporting public agency energy efficiency projects, offering educational opportunities, and creating connections between agencies for peer-to-peer learning, SoCalREN is building the capacity of the public sector to drive their communities toward a sustainable energy future.

Annual satisfaction survey statistics demonstrate agencies found value in our services. Overall, survey respondents reported a 94% satisfaction rate with SoCalREN's services, maintaining the high customer satisfaction that is a signature of the SoCalREN Public Agency Programs experience.

Based on feedback from enrolled public agencies, SoCalREN expanded its program offerings in 2019, building upon the **Energy Efficiency Project Delivery Program** with three new programs: the **Metered Savings Program, Pathway to Zero** and **Revolving Loan Fund**.

In addition to expanding its program offerings in 2019, SoCalREN also grew the network with 19 new enrollments. SoCalREN has also helped to grow our network's capacity and expertise by offering 24 outreach activities (workshops, webinars, etc.) and 43 unique education/outreach materials (newsletters, case studies, etc.) to our network. Overall, SoCalREN's efforts through the Public Agency Programs have created nearly 1,000 jobs throughout Southern California.





17+ Million
Annual kWh Savings



707
Annual kW Savings

Project Delivery Program

SoCalREN's flagship Energy Efficiency Project Delivery Program's services include portfolio energy benchmarking, high-level technical assistance, objective third-party expertise, access to financing and project staffing support for all stages of energy efficiency projects at no cost.

In 2019, the Project Delivery Program helped to achieve incredible energy savings and environmental benefits. The Program helped agencies to complete 79 energy projects, 39% of which were completed in facilities that serve disadvantaged communities. These projects will result in 17M+ kWh (39% DAC), 707 kW (47% DAC), and 15,203 therms (100% DAC) of annual energy savings. These energy savings will result in a 13,338-ton greenhouse gas emissions reduction, equivalent to taking nearly 3,000 cars off the road.

Reducing energy use reduces costs for public agencies, freeing up scarce public resources for services like public safety, firefighting, and libraries. Projects completed in 2019 will save agencies \$4.1M in annual energy bill savings (44% for projects in facilities serving DACs). Furthermore, SoCalREN helped enrolled agencies secure \$6.5 in incentives and \$2.3 in zero percent on-bill financing.

SoCalREN offers a myriad of services to support public agencies with energy efficiency projects. These services include engineering support through the conducting of energy assessments to identify potential energy efficiency projects, tailored procurement support to help move projects forward, and utility incentive support to ensure all requirements and documentation are satisfied at project completion.

SoCalREN's Public Sector Programs helped participating agencies save \$4.1 million in annual utility costs, while helping them secure an additional \$6.5 million in incentives.





15,203

Annual Therms Savings



22+ Million

Gallons of Water Saved

Metered Savings Program

California has an ambitious goal of doubling energy efficiency savings by 2030. At the same time, public agencies need resources to improve their aging buildings and infrastructure and contribute to statewide efficiency goals. Existing energy efficiency programs require bringing facilities above Title 24 standards, which can deter public agencies from acting due to financial constraints - leaving below-code facilities with the largest energy efficiency opportunities “stranded.” SoCalREN’s Metered Savings Program offers a new way to unlock “stranded” savings and access project delivery support services. It uses normalized metered energy consumption (NMEC) to measure energy savings at the meter, unlocking new project opportunities to go beyond utility incentive eligible measures. This comprehensive approach reduces the complexity of multi-measure projects, allowing for deeper savings with speedier project completion.

Pathway to Zero

Pathway to Zero was created to maximize energy efficiency opportunities while driving the integration of Distributed Energy Resources (DERs). The program supports public agencies on a path toward zero net energy (ZNE), which means producing all the energy needed on-site. Offered in conjunction with the services of SoCalREN’s energy efficiency programs, Pathway to Zero provides a comprehensive view of energy opportunities for facilities in disadvantaged communities, including a customized high-level review of Distributed Energy Resource (DER) options. It gives agencies the information needed to get started choosing the DERs that are right for their facilities. Through the program, SoCalREN also offers project management support throughout the process, including support with incentive applications, assessing and applying for financing support, and obtaining the technical assistance agencies need to complete projects.

Revolving Loan Fund

The SoCalREN Revolving Loan Fund (RLF) supports energy efficiency upgrades of public agency facilities by providing the financing agencies need to make energy efficiency projects happen. Loans can provide short-term up-front construction financing for small to midsize projects at 0% interest to bridge the delay between construction and receipt of On-Bill Financing (OBF) reimbursement from the utility after project completion or during agency budget allocation. By choosing the Revolving Loan Fund, agencies can participate in a virtuous cycle with fellow public agencies enrolled in SoCalREN, paying it forward to the next agency seeking to improve their community by saving energy.



Contact your SoCalREN Project Manager to determine if your project qualifies for RLF and receive preliminary approval.

Submit your RLF application with SoCalREN support to receive formal approval.

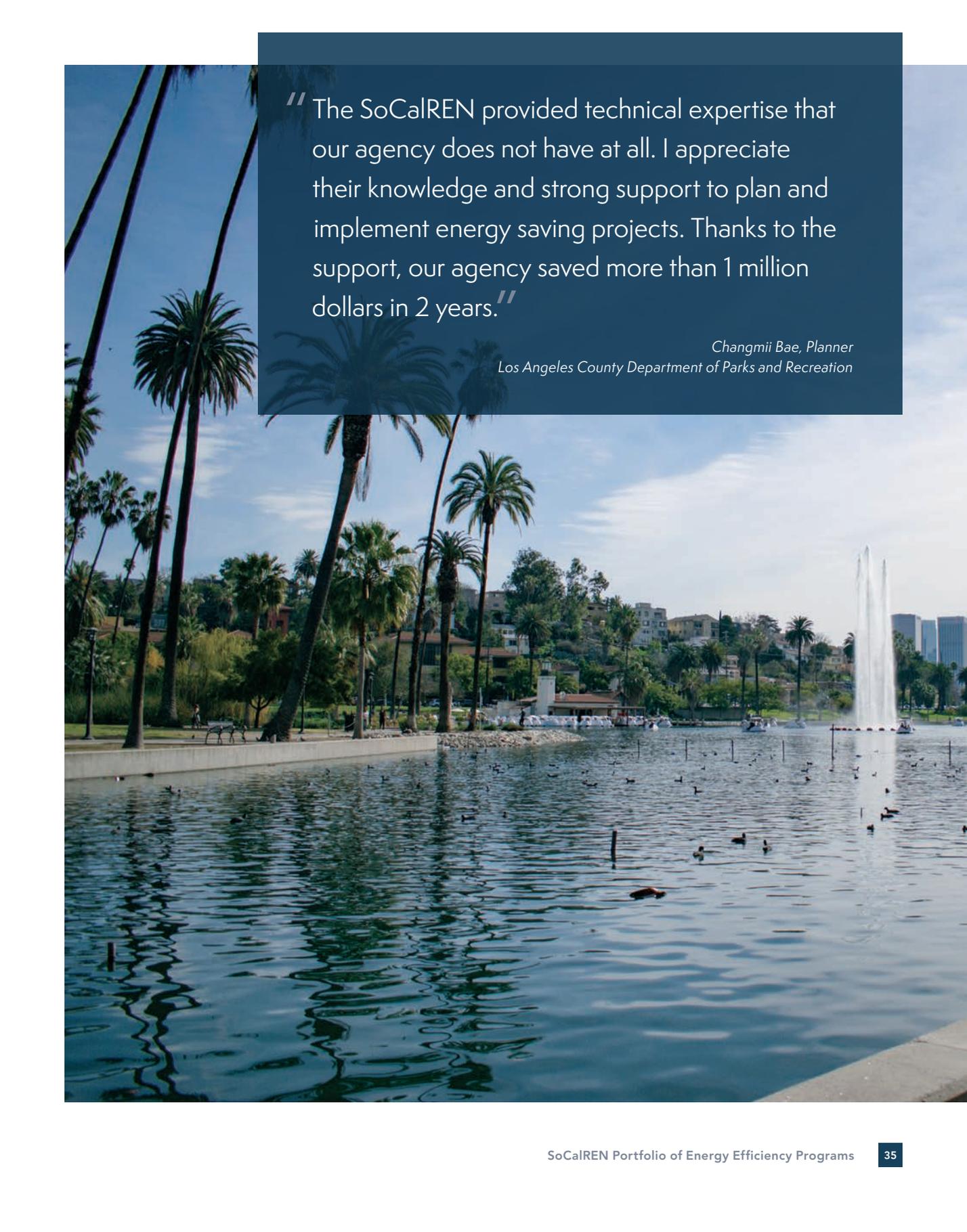
Receive an offer-to-finance letter and obtain governing board approval.

Receive funding following governing board approval and signing of loan agreement.

Install your energy efficiency project.

Obtain utility rebates/incentives, On-Bill Financing (OBF), or other permanent funding.

Repay loan with one-time service fee so the cycle can continue!

A scenic view of a park with a large body of water, palm trees, and a fountain in the background. The water is calm with some ripples, and the sky is blue with light clouds. In the distance, there are buildings and more palm trees. A fountain with two tall jets of water is visible on the right side of the image.

“ The SoCalREN provided technical expertise that our agency does not have at all. I appreciate their knowledge and strong support to plan and implement energy saving projects. Thanks to the support, our agency saved more than 1 million dollars in 2 years.”

*Changmii Bae, Planner
Los Angeles County Department of Parks and Recreation*



FINANCING PROGRAMS

Attributable Pipeline Energy Savings



1,526,441
Annual kWh Savings

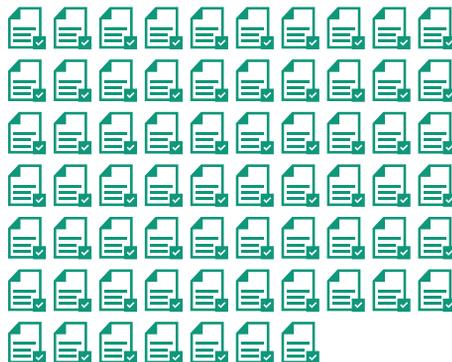


206
Annual kW Savings



1,403
Annual Therms Savings

Revolving Loan Fund Project Proposals



67



\$1,472,870

Revolving Loan Fund Project
Pipeline Developed

During 2019, SoCalREN worked to develop Finance offerings to serve both the Public and Residential sectors. The Public Sector Revolving Loan Fund provides a mechanism to accelerate the completion of energy efficiency projects at facilities owned by SoCalREN enrolled public agencies. Similarly, the Residential Loan Loss Reserve is designed to help address the market barriers preventing multifamily property owners/contractors, including HTR and DAC customers, from completing comprehensive energy retrofits. Both offerings are described below.

Public Agency Revolving Loan Fund

The goal of the SoCalREN Multifamily Program is to deliver reportable energy savings by identifying and implementing comprehensive and cost-effective energy efficiency projects while filling gaps in services provided by the Investor Owned Utilities (IOUs).

The Revolving Loan Fund (RLF) is a cross-cutting financing program designed to support energy upgrades to facilities owned by enrolled public agencies via loans that accelerate project implementation. The Revolving Loan Fund offers a unique form of short-term and up-front construction financing for small to midsize projects at 0% interest to bridge the gap left by utility On-Bill Financing (OBF) or other funds made available after project completion.

The RLF aims to accelerate the implementation of energy projects that would otherwise be delayed pending budget allocation by providing the funds for approved but not-yet-budgeted projects. Loans are financed with a \$2.2 million, non-ratepayer initial seed

capital account secured from the California Energy Commission (CEC). CPUC ratepayer funds support program management and marketing.

The RLF is a catalyst for agency enrollment and project development that prioritizes serving disadvantaged communities.



Residential Loan Loss Reserve

The Residential Loan Loss Reserve Program, or Multifamily Financing Program, broadens access to finance for more multifamily property owners/contractors for energy efficiency upgrades by allowing a financial institution partner to modify its underwriting criteria and accept more risk than it would otherwise on qualified projects.

The Program design incorporates a credit enhancement that will reduce the borrowing rate for the borrower and the design incorporates features that make the program process easy for the borrowers, financial institutions, contractors, and the administrator, therefore, encouraging investments in energy efficiency.

This Program addresses the funding market barrier, thus promoting more long-term energy benefits for multifamily housing through funding the implementation of comprehensive energy efficiency upgrade measures.

The Program aims to:

- 1. Assist property owners and property managers** with making informed decisions about the cashflow associated with energy efficiency improvements.
- 2. Offer credit enhancements** to decrease market-based interest rates
- 3. Facilitate additional whole-building energy efficiency measure installations**, further encouraging investments and market participation in energy efficiency.

The Program provides a credit enhancement for loans to fund the installation of a set of energy efficiency measures recommended through an energy assessment conducted by the Multifamily Program staff and property owner's contractor. The credit enhancement absorbs any losses before the lending partner does and funds revolve as loans amortize.

Development of this program began in late 2019, and the program is set to launch in June of 2020.

SoCalREN's Financing Programs helped cause an attributable annual Therms savings of 1,403, equivalent to the amount of greenhouse gas emissions from 1.6 passenger cars driven for one year.





WORKFORCE EDUCATION AND TRAINING PROGRAM

Contractor Participation



34

Firms Enrolled



178

Hours of Coaching and Assessment



76%

Certified Local and/or Diverse Business Enterprises

ACES Students Enrolled



448

63% Male

37% Female

Participating Schools

STEAM High School	219
New Open World Academy	54
Mendez High School	49
Alhambra Unified	48
Bernstein STEM Academy	48
Boyle Heights Technology YouthSource Center. . .	30

ACES Community Partnerships



28



\$117,956 Earned by Students through ACES Internships

SoCalREN's Workforce Education and Training (WE&T) program was initially launched as a sub-program offering under its flagship Public Sector program. In 2018, under the newly adopted Rolling Portfolio Business plans, the SoCalREN program was fully developed and implemented as a stand-alone program with a vision to provide a reliable, diverse, and highly skilled workforce.

The SoCalREN WE&T Program strives to build a local workforce that is able to deliver high-quality EE services to all segments of the Southern California ratepayer community as a result of a comprehensive regional and effective workforce education and training infrastructure for local high school students and diverse contractors. SoCalREN facilitates the participation of underrepresented individuals and businesses in the energy efficiency sector through workforce and business development and capacity building.

These efforts build upon the workforce development infrastructure and alignment created to support a pathway from pre-apprenticeship training to apprenticeship and the support services required to eliminate barriers to participation. In addition, the Program offers continued capacity building support for diverse Small Business/ Disabled Veteran Business Enterprise (SB/DVBE) contractors through the E-Contractor Academy Program.

The skilled labor demands of the energy sector, specifically skills wanted for entry-level positions, are largely unmet. This is due to the increased levels of technology incorporated into building systems and facilities that

require a combination of aptitudes and technical skills. The current market demand for skilled labor in public work and commercial development also challenges the availability of a skilled workforce for the energy sector.

The SoCalREN WE&T Program serves as a response to that unmet demand by building a supply of well skilled workers through aggressive youth workforce education and training, and small business training regarding current EE Programs and local public agency opportunities.



WE&T Program Objectives

1

Develop regional workforce and training infrastructure/partnerships, comprising community-based training organizations, K–12 and higher educational institutions, apprenticeship programs, and workforce investment boards.

2

Increase the quantity and skills of entry-level and incumbent workers in all levels of the demand-side management (DSM) and EE industry.

3

Bolster entry-level skills training and job opportunities for disadvantaged workers.

4

Foster a regional energy management training program to increase the operational efficiencies of energy efficiency retrofit projects.

5

Standardize local contracting policies and protocols into public bid/solicitation documents across the SoCalREN region to increase capacity and the participation of Women-, Minority-, Disabled Veteran-Owned Business Enterprises (WMDVBE) businesses in EE work.



FEEDER
HIGH SCHOOL

COMMUNITY
COLLEGE

INDUSTRY
PARTNERS

STEAM
CAREER

Disadvantaged Youth Career Technical Education

The ACES Pathway Program provides disadvantaged youth with the opportunity to build a pathway to a brighter future with a career in a STEAM (Science, Technology, Engineering, Art, Math) field. Participation in ACES improves educational achievement and removes barriers to higher education by co-enrolling high school students in community college courses in STEAM fields. The credits they earn are transferable to campuses within the California State University and University of California systems.

In addition, ACES participation offers students paid summer internships that pave the way for secure employment in well-paid careers by providing hands-on work experience alongside industry professionals in the engineering, construction, and municipal sectors. During 2019, the SoCalREN WE&T Program established 20 new partnerships and provided 29 paid internships to ACES participants.

Contractor Training and Support

SoCalREN offers standardized and customized training support services to help existing small businesses identify and participate in EE project and program opportunities. In 2019, the SoCalREN program hosted three in-person workshops educating local contractors about working with Los Angeles County and with specific SoCalREN programs under the Public and Residential Sectors.

These courses offered a detailed look at how each program works, how programs can help contractors grow their business, and next steps to participate. Of training attendees, nearly 60% subsequently enrolled in a SoCalREN program.

Demographics in STEAM Fields

Across the nation, **gender and racial gaps continue to widen in STEAM fields.**

U.S. News reports, “the 2015 STEAM Index shows that while employment and degrees granted in STEAM fields have improved since 2000, gaps between men and women and between whites and minorities in STEAM remain deeply entrenched.”



Females in high school reported being less interested in STEAM fields than their male peers.



3% of girls showed an interest in engineering, compared to **31%** of boys.



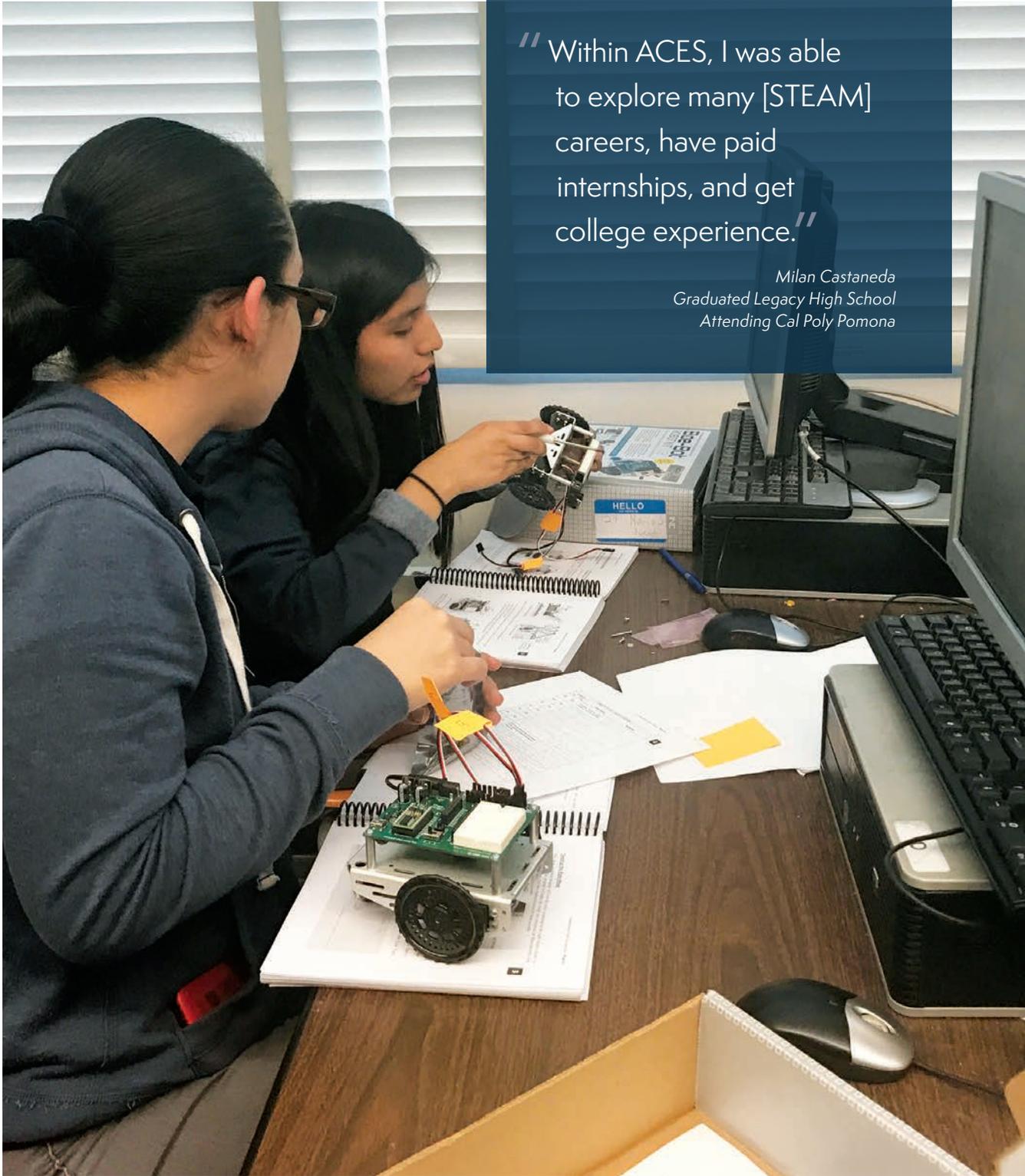
2% of girls showed an interest in technology, compared to **15%** of boys.



In 2014, women were granted fewer degrees in STEAM fields than men.



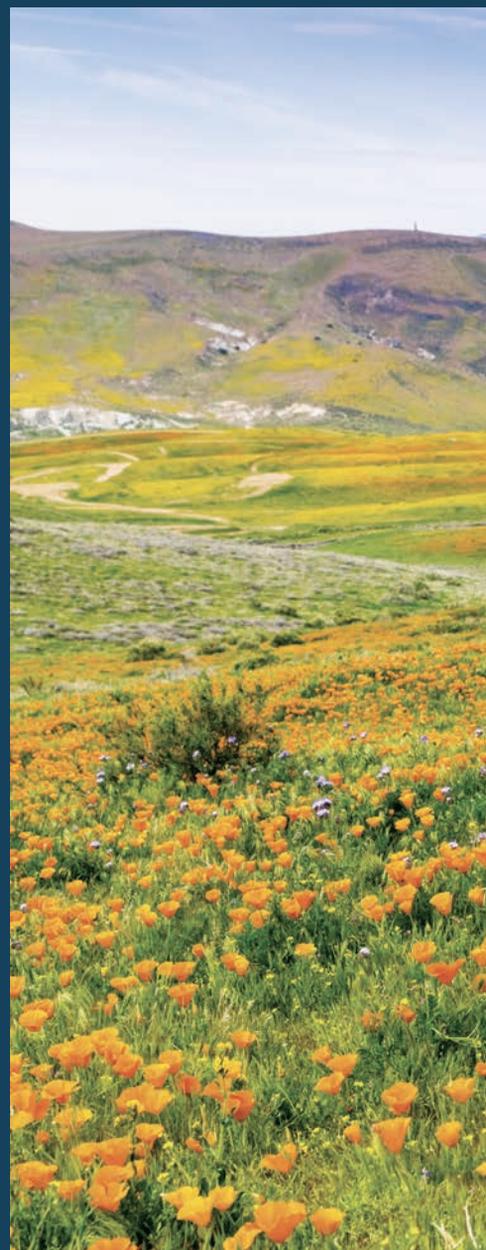
6% of associate degrees and **13%** of bachelor degrees granted to women were in STEAM fields, compared to **20%** and **28%**, respectively for men.



“ Within ACES, I was able to explore many [STEAM] careers, have paid internships, and get college experience.”

*Milan Castaneda
Graduated Legacy High School
Attending Cal Poly Pomona*

APPENDICES





2019 EE ANNUAL REPORT

TECHNICAL APPENDICES

A		B	C	D
Table 1.				
<i>Electricity and Natural Gas Savings and Demand Reduction (Net)</i>				
Annual Results		2019 Installed Saving	CPUC 2019 Adopted Goals (D.15-10-028) [3]	% of Goals (2019)
2019 Energy Savings (GWh) – Annual		5.73006	5.474356	105%
	SoCalREN	5.73006	5.474356	105%
TOTAL Energy Savings (GWh) - Annual		5.73006	5.474356	105%
2019 Energy Savings (GWh) – Lifecycle [2]		69.01690	n/a	n/a
	SoCalREN	69.01690	n/a	n/a
TOTAL Energy Savings (GWh) – Lifecycle		69.01690	n/a	n/a
2019 Natural Gas Savings (MMth) – Annual		0.351418	0.154741	227%
	SoCalREN	0.351418	0.154741	227%
TOTAL Natural Gas Savings (MMth) – Annual		0.351418	0.154741	227%
2019 Natural Gas Savings (MMth) – Lifecycle [2]		4.58799	n/a	n/a
	SoCalREN	4.58799	n/a	n/a
TOTAL Natural Gas Savings (MMth) – Lifecycle		4.587994	n/a	n/a
2019 Peak Demand savings (MW) [4]		0.36200	n/a	49%
	SoCalREN	0.36200	0.735000	49%
TOTAL Peak Demand savings (MW)		0.36200	0.735000	49%

[1] Installed savings are from SoCalREN Multifamily Program, the only SoCalREN resource program.

[2] Lifecycle goals not given in D.15-10-028.

[3] CPUC approved goals for the 2019 Annual Budget Advice Letter Submission.

[4] Peak Demand Savings Goal is not provided because 2019 ABAL Peak kW goal was calculated based on EnergyPro Average kW baseline outputs, but 2019 Savings are based on CPUC Peak kW definition.

Table 2						
<i>Environmental Impacts (Net)</i>						
Annual Results	Annual tons of CO2 avoided	Lifecycle tons of CO2 avoided	Annual tons of NOx avoided	Lifecycle tons of NOx avoided	Annual tons of PM10 avoided	Lifecycle tons of PM10 avoided
2019 Portfolio Targets [1]	378	n/a	n/a	n/a	n/a	n/a
SoCalREN	2,557	32,724	781	9,401	385	4,633
2019 Total	2,557	32,724	781	9,401	385	4,633

[1] Goals do not reflect public sector non-resource programs in 2019.

Table 4
Cost Effectiveness (Net)

Annual Results	Total Cost to Billpayers (TRC)	Total Savings to Billpayers (TRC/PAC)	Net Benefits to Billpayers (TRC)	TRC Ratio	Total PAC Cost	PAC Ratio	PAC Cost per kW Saved (\$/kW)	PAC Cost per kWh Saved (\$/kWh)	PAC Cost per therm Saved (\$/therm)
SoCalREN 2019	\$ 29,431,631.69	\$ 12,447,723.24	\$ (16,983,908.45)	0.42	\$ 21,928,040.42	0.57	\$ 64,323.97	\$ 4.07	\$ 66.46
SoCalREN TOTAL	\$ 29,431,631.69	\$ 12,447,723.24	\$ (16,983,908.45)	0.42	\$ 21,928,040.42	0.57	\$ 64,323.97	\$ 4.07	\$ 66.46

Table 6. Annual Savings By End-Use 2019 Only (1) (2)

Use Category	GWH	% of Total	MW	% of Total	MMTh	% of Total
Commercial Refrigeration						
Codes & Standards						
Food Service						
HVAC						
Irrigation						
Lighting						
Non-Savings Measure						
Process Distribution						
Process Drying						
Process Heat						
Process Refrigeration						
Recreation						
Service						
Service and Domestic Hot Water						
Whole Building	5.73006	105%	0.362	49%	0.351418	227%

Table 7

Commitments

Commitments Made in the Past with Expected Implementation after December 2010-2012

	Committed Funds ¹	Expected Energy Savings		
2010-2012 ¹	\$	GWH	MW	MMth
Resource	0	0	0	0
Non-Resource				
Codes & Standards				
SoCalREN Total	\$ 0	0.0	0.0	0.00

Commitments Made in the Past Year with Expected Implementation after December 2015

	Committed Funds ²	Expected Energy Savings		
2013-2015 ²	\$	GWH	MW	MMth
Resource	0	0	0	0
Non-Resource				
Codes & Standards				
SoCalREN Total	\$ 0	0.0	0.0	0.00

Commitments Made in the Past Year with Expected Implementation after December 2017

	Committed Funds ³	Expected Energy Savings		
2017 ³	\$	GWH	MW	MMth
Resource	0	0	0	0
Non-Resource				
Codes & Standards				
SoCalREN Total	0.00	0.00	0.00	0.00

Commitments Made in the Past Year with Expected Implementation after December 2018

	Committed Funds ³	Expected Energy Savings		
2018 ³	\$	GWH	MW	MMth
Resource	2,183,556	0.995	0.063	0.082
Non-Resource				
Codes & Standards				
SoCalREN Total	2,183,556	0.99	0.06	0.08

Commitments Made and in the Past Year with Expected Implementation after December 2019

	Committed Funds ⁴	Expected Energy Savings		
2019 ⁴	\$	GWH	MW	MMth
Resource	3,775,415	3.332	0.170	0.283
Non-Resource				
Codes & Standards				
SoCalREN Total	3,775,415	3.33	0.17	0.28

¹ Note: Committed funds are associated with the 2010-2012 program cycle. These funds are reserved or encumbered for future work permitted per Ordering Paragraph 13 and Conclusion of Law 12 of D.12-11-015.

² Note: Committed funds are associated with the 2013-2015 program cycle. These funds are reserved or encumbered for future work permitted per the EESTATS CPUC Guidance Document and EE decision (D.15-10-025).

³ Note: Committed funds are associated with the 2018 program year. These funds are reserved or encumbered for future work permitted per the EESTATS CPUC Guidance Document and EE decision (D.15-10-025).

⁴ Note: Committed funds are associated with the 2019 program year. These funds are reserved or encumbered for completed work paid after December 2019, or for future work permitted per the EESTATS CPUC Guidance Document and EE Decision (D.15-10-025)

CREDITS

The Southern California Regional Energy Network (SoCalREN) is administered by the County of Los Angeles and funded by California utility ratepayers under the auspices of the California Public Utilities Commission.

This Report was developed by County of Los Angeles Energy and Environmental Service (EES). EES coordinates energy efficiency, conservation, and sustainability programs to increase utilization and maximize the efficient use of natural resources.

County of Los Angeles—Office of Energy + Environment

Minh Le, EES General Manager
Lujuana Medina, Environmental Initiatives Manager
Fernanda Craig, Program Manager
Julie Tan, Program Manager

ICF—SoCalREN Program Administrator

Paul Kylo Jessie Mancilla
Courtney Shea Owen Dan Tyler
Becca Rodgers

The Energy Coalition—Public Agency Program Implementer

Laurel Rothschild Rebecca Hausheer
Meaghan Laverty Taylor Chamberlain

Emerald Cities Collaborative—Workforce Education and Training Program Implementer

Denise Fairchild Wendy Angel

Custom photography by Sherri Johnson Photography

To enrich lives through effective and caring service.



Southern California
REGIONAL ENERGY NETWORK 

