



# 2023 ANNUAL REPORT





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# About 3C-REN

3C-REN (Tri-County Regional Energy Network) is a collaboration between the three counties of San Luis Obispo, Santa Barbara and Ventura, in the California Central Coast region. The tri-county region represents a diverse service area that is geographically isolated from utility hubs and has pockets of rural and disadvantaged communities as well as large, underserved Spanish-speaking populations. After several years of experience and cooperative administration of energy and sustainability programs, the tri-county local governments formed 3C-REN, led by the County of Ventura, to better leverage resources in the design and delivery of effective programs on a regional level.



## Executive Summary

3C-REN (Tri-County Regional Energy Network) is a partnership between the Counties of San Luis Obispo, Santa Barbara and Ventura established to deliver programs that reduce energy use, strengthen the Central Coast market for energy efficiency and support local efforts to achieve climate goals.

The tri-county region is characterized by geographic isolation from urban centers, dated building stock, temperate coastal communities contrasted with arid and hot inland communities, a large and underserved Spanish-speaking population, a large agricultural sector, and pockets of designated Disadvantaged Communities. The three counties also sit at the intersection of the end of Southern California Edison's (SCE), Southern California Gas' (SoCalGas), Pacific Gas and Electric's (PG&E) and multiple Community Choice Aggregator's (CCA) service territories, driving the need for unified regional energy programs.

As a regional energy network (REN), 3C-REN designs programs that are created by and for the tri-county region, responding to local needs and catalyzing an efficient energy future for the Central Coast. In alignment with the vision for regional energy networks across the state, 3C-REN fills gaps that investor-owned utility (IOU) programs do not serve; develops programs for hard-to-reach markets; and pilots new

approaches to programs that have the potential to scale and offer innovative avenues to energy savings.

For single family and multifamily homes, 3C-REN offers incentives for energy-saving upgrades, with an emphasis on hard-to-reach and underserved communities. For industry professionals, 3C-REN offers capacity-building services including workforce training and technical code support. In 2024, 3C-REN's portfolio of programs will expand to include services for the agricultural, commercial and public sectors.

In 2019, 3C-REN launched its first services, marking 5 years of service to the tri-county region at the conclusion of 2023. Building upon that initial workforce program that began in 2019, services have grown over the years to include energy code education and technical support, a residential direct install program that later transitioned to one of the state's few residential metered-energy savings programs, and an incentive program serving the multifamily sector. In 2023, existing programs hit their stride and new programs established their footings. A total of 161 events were held across 3C-REN's three programs. The following pages are a summary of key programmatic achievements in 2023 under 3C-REN's current portfolio of programs.

## Building Performance Training Summary (WE&T Sector)

The Building Performance Training (BPT) program is tailored for current and prospective building professionals—providing expert instruction on technical topics, soft skills development and certifications all focused on the latest energy efficiency methods and equipment.

In 2023, the program continued its core offering of workforce training events targeted to design and construction professionals, and expanded services for emerging professionals. A total of 94 training events and 7 outreach events were held, for a total of 101 events in 2023. An increased desire by some constituents for in-person training led to 40 in-person events—9 for professionals and 31 for students. 3C-REN's on-demand library also continued to grow with dozens of new videos added in 2023. Education focused on topics like Passive House design, ventilation, building envelope, heat and cooling systems, water heating systems, electrification, green building careers, and more. Total event attendance exceeded all prior years at 2,342, and 1,379 unique attendees. Special training events in 2023 included a series for real estate professionals on how to fund energy efficiency upgrades, two Passive House certification courses, and 3C-REN's own High Performance Fundamentals Certificate series. Design professionals looking to integrate efficient practices into their work and meet new Zero Net Carbon Design (ZNCD) license renewal learning requirements were offered a ZNCD series in partnership with local architectural associations. In addition to serving seasoned industry professionals, the program saw exponential growth in its reach to young people with 31 events at high schools, colleges and trade schools; and it expanded partnerships with several vocational programs key to engaging underserved students. Collaborations were key to success, partnering with over 100 organizations on workforce programming.

101

Events

40

In-person trainings

104

Partnerships

## Energy Code Connect Summary (C&S Sector)

The Energy Code Connect (ECC) program provides training, forums, and technical code support for Title 24 Energy and CalGreen building codes and standards, as well as reach codes.

In 2023, ECC offered four core services: training events, regional forums, the Energy Code Coach, and reach code support. Over the course of the year, ECC offered 29 trainings on topics including the 2022 Energy Code, HVAC design, recovery ventilators, acceptance testing and commissioning, and more. Total training attendees reached 673, and 350 unique attendees. Regional forums were scaled back in 2023, with a single forum focused on online permitting for electrification, with 28 attendees.

One of the feature offerings of the year was a 6-part series to get the region's building professionals up to speed on the 2022 energy code cycle. The series was requested by, and presented in partnership with, the Ventura and Central Coast International Code Council (ICC) Chapters, and 86 unique attendees participated. The Energy Code Coach service outperformed prior years in 2023 by providing Title 24 technical support to 127 residential and nonresidential projects.

30

Events

6-part

2022 energy code cycle series

127

Projects with Title 24 technical support

## Home Energy Savings Summary (Residential Sector)

The Home Energy Savings (HES) program provides incentives for energy efficiency upgrades to residents and property owners throughout San Luis Obispo, Santa Barbara, and Ventura Counties. Program design prioritizes Hard-to-Reach (HTR) customers, engagement with local contractors and decarbonization.

### Single Family Home Program

Home Energy Savings for single family homes is designed to pay incentives to enrolled contractors for the metered energy savings that their customers see following energy retrofits. Incentives are highest for projects completed for HTR customers. The flexible program design allows contractors to meet the needs of their clients in designing energy upgrade projects, as there are no prescriptive lists of measures; nearly any project that results in metered energy savings is eligible for incentives.

In 2023, the Single Family Home program served 319 households with energy upgrade projects. Twenty-eight enrolled contractors submitted projects into the program in 2023. Projects included HVAC heat pumps, HVAC retrofits, heat pump water heaters, pool pumps, lighting projects, and insulation projects. First year net kWh savings are 726,841 and first year net therm savings are 8,553 (these reflect fuel substitution by CEDARS, the CA Energy Data and Reporting System, on applicable electrification projects). Greenhouse gas savings were 185.23 TCO<sub>2e</sub>. The program served 15 HTR customers in 2023.

319

Households served

28

Active contractors

185.23

Avoided GHG (TCO<sub>2e</sub>)

## Multifamily Program

Home Energy Savings for Multifamily properties pays incentives to the owners of multifamily buildings with five or more units for energy upgrades at their properties. Incentives are based on meeting a minimum threshold of deemed greenhouse gas (GHG) reductions, and scope of work. The program emphasizes whole-building, comprehensive upgrades with enhanced incentives for HTR customers and high-performance measures with high GHG reductions.

In 2023, a total of 34 leads were generated and site assessments were conducted on 47 properties. The Multifamily program ended the year with 12 completed projects serving families in 219 units. Eight of the completed projects were HTR properties, 67% of the total. Net kWh and kW savings for claimed projects are 811,589 and 9 respectively and net therm savings are 1,380 (these reflect fuel substitution by CEDARS, the CA Energy Data and Reporting System, on applicable electrification projects). Greenhouse gas savings were 165.81 TCO<sub>2e</sub>. Projects commonly included mini split heat pumps, attic insulation and pipe insulation. Looking ahead, there were 32 projects in the pipeline at the end of 2023.

12

Projects

219

Units served

165.81

Avoided GHG (TCO<sub>2e</sub>)

# 2023 Energy Efficiency Programs Overview

## Building Performance Training

### Program Description

#### OVERVIEW

3C-REN's WE&T program, Building Performance Training (BPT), supports the region's energy and climate goals by fostering a thriving local workforce that possess the knowledge and skills to design, build, retrofit and sell high performance buildings (HPBs). The program delivers training events that enable the local workforce to develop the skills essential for creating and communicating about high performance buildings. Continuing education credits and certifications are offered to incentivize participation. Workers from diverse sectors are engaged, from design and construction to engineering and real estate. Prospective workers are also engaged, through events in partnership with local educational institutions.

#### WHAT THE PROGRAM DOES

Workers receive technical and soft skill training and certifications focused on energy efficiency and high performance building. Example training topics include creating an effective building envelope, ventilation basics, heat pump technology, Passive House, and sales skills to market energy efficiency. Typically three to five events are held per month, with most recorded and posted to 3C-REN's library of on-demand trainings.

#### WHO THE PROGRAM SERVES

The program targets local building professionals, such as contractors, HVAC technicians, electricians, plumbers, engineers, architects, certified energy managers, real estate professionals, and energy-intensive cannabis cultivators. Public sector building department staff engage in the BPT program as well but are more heavily engaged in 3C-REN's Codes and Standards program. Training is targeted to current and prospective professionals, to disadvantaged workers, and to workers in disadvantaged communities (DACs).

#### HOW THE PROGRAM WORKS

Trainings are delivered online and in-person by expert instructors, some based locally with expertise in the tri-county climate and building practices, and others bringing in expertise from outside the area to help cultivate knowledge within the tri-county region. Annual course planning assesses which training topics are in greatest demand, as well as forward-looking topics that deserve greater attention, even if not in high demand.



Integrated software platforms streamline the management of event schedules, registration, virtual event links, communication with attendees and post-event reporting. Events are marketed via weekly emails to 3C-REN's distribution list. A quarterly course calendar is distributed to key partners. Personal outreach emails to energy champions within various organizations also help to drive participation. In-person outreach supplements digital outreach, with outreach contractor Eklund Properties attending in-person conferences and networking events, and making office visits to local contractors on behalf of 3C-REN. Tabling events at local supply houses are another outreach strategy employed to target Spanish-speaking contractors.

The program leverages relationships with industry conveners to further ensure broad engagement.

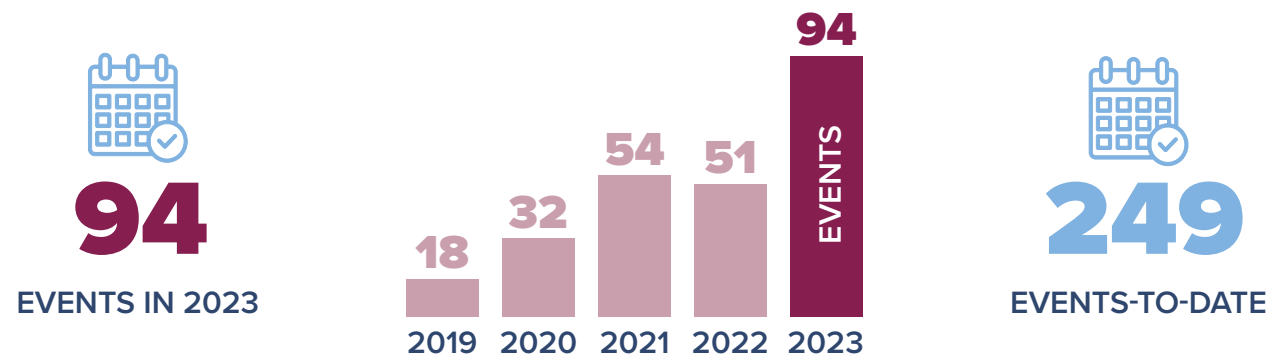
Architectural associations are a key partner, as well as contractor associations, supply houses, green building councils, trade schools, community colleges and high schools. Partners support 3C-REN's delivery of training in several ways: as trainers, guest speakers, co-hosts, advisors in course selection, and as marketing partners.

### Program Performance and Major Accomplishments

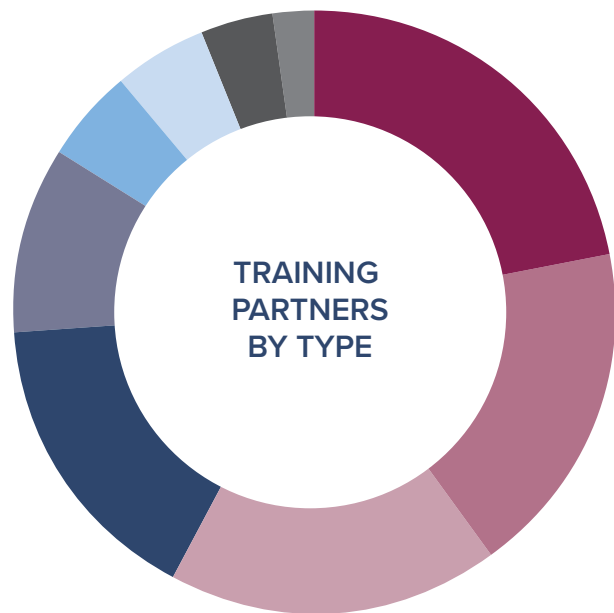
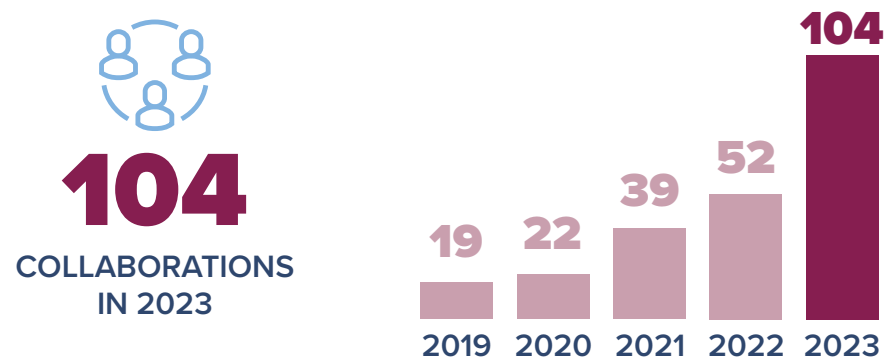
#### Summary of Performance and Accomplishments

In 2023, the program continued its core offering of workforce training events targeted to design and construction professionals, and expanded services for emerging professionals. A total of 94 training events and 7 outreach events were held, for a total of 101 events in 2023. An increased desire by some constituents for in-person training led to 40 in-person events—9 for professionals and 31 for students. 3C-REN's on-demand library also continued to grow with dozens of new videos added in 2023. Education focused on topics like Passive House design, ventilation, building envelope, heat and cooling systems, water heating systems, electrification, green building careers, and more. Total event attendance exceeded all prior years at 2,342, and 1,379 unique attendees. Special training events in 2023 included a series for real estate professionals on how to fund energy efficiency upgrades, two Passive House certification courses, and 3C-REN's own High Performance Fundamentals Certificate series. Design professionals looking to integrate efficient practices into their work and meet new Zero Net Carbon Design (ZNCD) license renewal learning requirements were offered a ZNCD series in partnership with local architectural associations. In addition to serving seasoned industry professionals, the program saw exponential growth in its reach to young people with 31 events at high schools, colleges and trade schools; and it expanded partnerships with several vocational programs key to engaging underserved students. Collaborations were key to success, partnering with over 100 organizations on workforce programming.

## Training Events

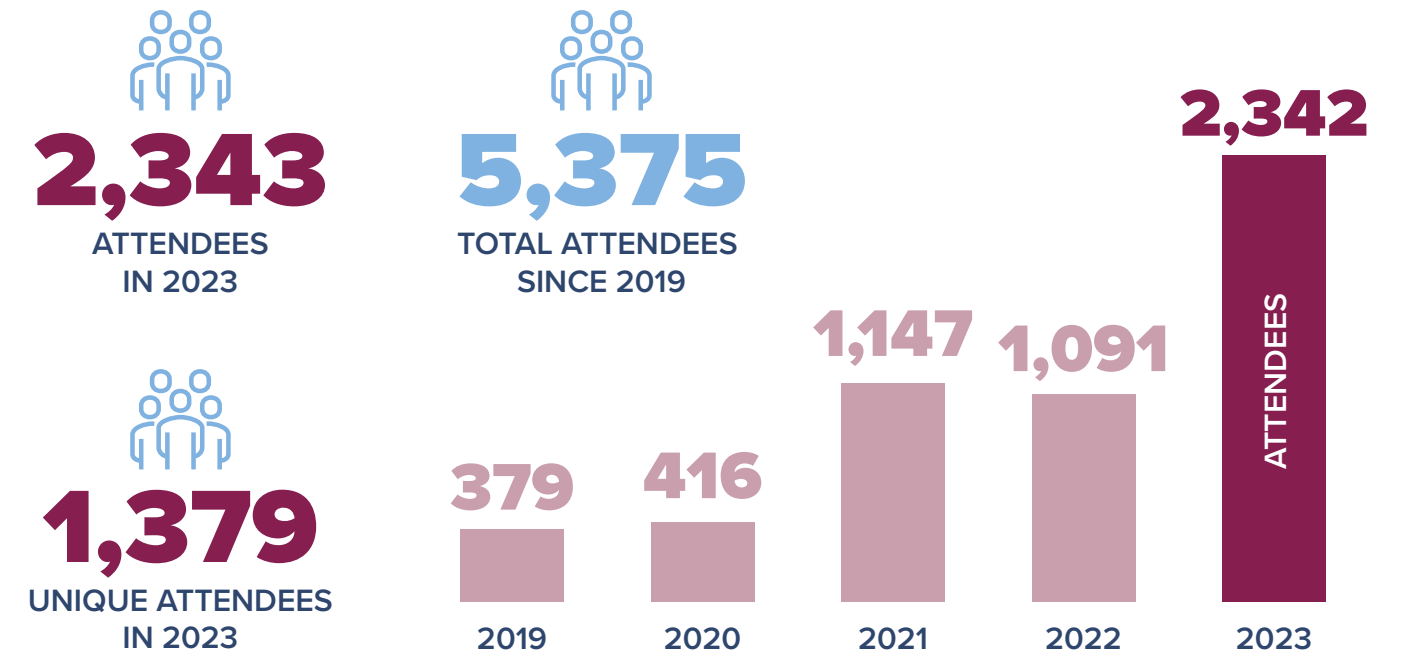


## Collaborations



- INSTRUCTOR
- CONTRACTOR
- ASSOCIATION
- SCHOOL
- SUPPLY HOUSE
- OTHER
- NON-PROFIT
- DESIGN/ENGINEER
- FINANCE

## Event Attendees



*“Please continue the training you’ve been providing. It’s very important that building professionals come up to speed on the latest technologies, methods, and regulations that will conserve energy and reduce the use of fossil fuels.”*

— 3C-REN Economic Value Survey Respondent

*“Great offering so far. Keep up the trend. Really benefit most from presentations that address the implementation rather than theory.”*

— 3C-REN Economic Value Survey Respondent

## Guest Speakers Series



**31**

GUEST SPEAKER  
EVENTS



**743**

GUEST SPEAKER  
ATTENDEES



**50%**

EVENTS AT SCHOOLS  
THAT SERVE DACS

## Certifications

**41**

NATIONAL ASSOCIATION OF  
REALTORS GREEN DESIGNATION

High Performance  
Fundamentals



**14**

ACCREDITED GREEN  
APPRAISER CERTIFICATION

**2**

SERIES HELD

**14**

PASSIVE HOUSE  
TRADESPERSON

**10**

CERTIFIED

**13**

PASSIVE HOUSE  
DESIGNER/CONSULTANT

## Spanish Speaker Outreach



**7**

SUPPLY HOUSE  
TABLING EVENTS



**251**

ESTIMATED  
IMPRESSIONS





## 2023 Highlights

Below are several key program accomplishments that occurred in 2023.

### Workforce Readiness: High Performance Fundamentals

Last spring, the Building Performance Training program launched the High Performance Fundamentals Certificate, a regional curriculum developed to address skilled worker shortages by teaching proven methods to reduce building emissions. These foundational classes offer valuable job skills while also tackling climate change, and they are ideal for people looking to enter the workforce as well as those who are early on in their careers as building practitioners.

The 6-part series was offered twice in 2023. To earn the certificate, an 80% (or better) quiz score is required at the close of each class. Quizzes were developed by each instructor to evaluate comprehension and effectiveness of the curriculum.

Ten participants successfully completed the entire series and received a High Performance Fundamentals certificate. They represent a diversity of professionals from contractors to architects to public sector staff.

Moving forward, 3C-REN will explore an on-demand High Performance Fundamentals Certificate to allow for more flexible scheduling.

## High Performance Fundamentals Class List

### CLASS 1:

High Performance Buildings and Careers

### CLASS 2:

The Role of Building Science in High Performance Buildings

### CLASS 3:

Enclosure Best Practices: Roofs, Walls and Floors

### CLASS 4:

Heat Pump Fundamentals: Space Conditioning & Water Heating

### CLASS 5:

Water Heating Distribution Best Practices

### CLASS 6:

Home Assessments for Decarbonization

## Partnering with Local Supply Houses to Engage Contractors and Disadvantaged Workers

Engaging the region's contractors and Spanish-speaking workforce with bilingual resources is a program priority that has been best achieved through tabling events at local supply houses. Serving disadvantaged workers requires proactive outreach and meeting this target audience where they are at in the community, which often means at supply houses rather than a virtual classroom.

Through this effort, the program is able to engage English and Spanish speaking tradespeople and introduce them to 3C-REN's comprehensive suite of services (workforce education, code support, and

incentives) that is available to them. These resources empower and support the local workforce as the industry shifts to focus on building electrification and stricter code requirements. A total of 7 tabling events were held in partnership with 6 supply houses in Ventura County, staffed by 3C-REN's Spanish-speaking team.

These events helped build 3C-REN's network of tradespeople and solidified relationships with supply houses that serve Spanish-speaking and low-income workers. As these relationships grow, 3C-REN is building a reputation as an irreplaceable partner. In 2024, the program plans to expand this effort to provide training, jointly, with many of these partners.



3C-REN staff Ian Logan (center) shares training information with contractors at Lowe's in Ventura County

## Zero Net Carbon Design Series in Partnership with Local AIA Chapters

This winter, 3C-REN partnered with In Balance Green Consulting to bring Zero Net Carbon Design (ZNCD), an in-person training series, to architects throughout the Central Coast. Through the program, architects from the American Institute of Architects (AIA) chapters along the Central Coast learned how to integrate ZNCD into their practices. The ZNCD series covers carbon in the building industry, energy performance and renewable energy, the water-energy nexus, embodied carbon, and regenerative design.

The series was developed to meet new California requirements, beginning in 2023, that all licensed architects must have 5 hours of ZNCD education as part of their license renewal. With a large knowledge gap surrounding embodied carbon and other ZNCD principles among design professionals, 3C-REN was able to fulfill this new learning requirement for local stakeholders.

The Building Performance Training Program hosted 4 in-person sessions, and a 5-part webinar series for those who could not attend the in-person sessions. Demand was high, with over 330 total attendees seeking out this ZNCD curriculum.



# 4

## IN-PERSON EVENTS



# 1

## WEBINAR SERIES



# 330

## TOTAL ATTENDEES



3C-REN partner Andy Pease from In Balance Green Consulting educates students about green buildings

### Guest Speaker Series: A Growing Focus on Our Future Workforce

In partnership with In Balance Green Consulting, the Building Performance Training program delivers green building education for students in high school, community college and vocational programs throughout the tri-county region with 3C-REN's Guest Speaker Program. Over the course of 2023, 31 classroom presentations were held with 743 total attendees. Content focused on two core "101" level green building lessons.

The first lesson, Green Building 101, introduces typical materials in construction, their sources, and relative impacts on the environment and carbon emissions. Curriculum explores solutions through efficient resource use and implementation of green building design strategies such as daylighting, natural ventilation and passive solar.

Second, the Green Careers 101 lesson helps students survey the broad range of jobs related to the construction industry, including various trades, planning, inspections, and maintenance. Students are encouraged to think about the skills needed for different career paths and work environments that appeal to them.

Interest in this program skyrocketed since launching late 2022, supporting local educators who want to weave an energy efficiency and a green building lens into their curriculum. Several schools are now requesting deeper engagement focused on career pathways.

This initiative will continue to be core to the Building Performance Training program in 2024, as 3C-REN builds trust among local school districts and focuses on schools that serve DACs and low-income communities.



3C-REN instructor Javier Saucedo demonstrates blower door testing

### Engaging Farmworkers with Career Opportunities in Energy Efficiency

Through the Guest Speaker Program, 3C-REN connected with the Center for Employment Training (CET) in Oxnard. CET's Green Building Construction Skills program provides agricultural workers and their dependents access to career development and pathways to meaningful work through their Association of Farmworker Opportunities Program. Agriculture is core to the tri-county region's economy, and this partnership allows 3C-REN to connect with farmworkers and their families who are looking to gain new skills.

In 2022, 3C-REN partnered to bring bilingual instructor, Javier Saucedo, into the school to train students on home performance and engage in hands-on learning opportunities by conducting a blower door test on the dwelling unit they constructed over the course of the 9-month program. Applying an air tightness and quality install focus, 3C-REN added an energy efficiency component to the school's construction curriculum. Originally a pilot, this collaboration became a regular engagement in 2023 with the Center for Employment Training at both their Oxnard and Santa Maria locations. As these instructors recognize the value in introducing students to new concepts and equipment related to decarbonization, 3C-REN has been able to expand the opportunities offered through this partnership.

## Opportunities in 2024 and Beyond

The 2023 program year was a year of growth and momentum for Building Performance Training; a year of establishing new services, growing 3C-REN's network of partners, and gaining lessons learned. In 2024, there is an opportunity to deepen engagement and strengthen those services and partnerships developed in 2023. 3C-REN will continue to prioritize disadvantaged workers, meeting the demand for in-person and hands-on education for students, designers, and tradespeople, supporting market adoption of heat pump technology, and continuing to build 3C-REN's on-demand training library.

The Guest Speaker program will evolve to incorporate new topics relevant to the stakeholders gained in 2023, including hands-on activities and potentially fieldtrips. Schools and vocational programs located in DACs and with DACs within their school districts or service territories will also be prioritized.

Collecting data to confirm participants meet equity criteria is challenging as

students at vocational schools are often reluctant to share personal information due to immigration status and other concerns. However, 3C-REN can continue to partner with schools that staff know to serve underserved students who come from low-income communities and predominantly Spanish-speaking communities. This logic also applies to the current workforce (i.e. non-students) and is a priority for workforce tabling efforts, to build awareness and generate interest in 3C-REN's educational resources and training opportunities.

On the Central Coast, installing heat pump water heaters is one of the largest opportunities for emissions reductions. As incentive dollars become available throughout the region, state, and federally, homeowners in the tri-county region are asking for water heater upgrades. 3C-REN has received first-hand feedback that it is a struggle to find a contractor with the knowledge to install a heat pump water heater. Addressing this workforce shortage is a priority for 2024 and will be reflected in workforce programing.

# Energy Code Connect

## Program Description

### OVERVIEW

Energy Code Connect (ECC) aims to establish the tri-county region as a leader in California Energy Code and Green Building Standards compliance and enforcement. Through education and technical support, professionals in both the public and private sectors are equipped with the knowledge and training to increase comprehension, compliance, and enforcement of California's energy and green building codes (Title 24 Part 6 and Part 11 respectively). ECC focuses on four services: Energy Code Coach, regional forums, training, and reach codes.

### WHAT THE PROGRAM DOES

ECC offers a comprehensive suite of services to simplify the energy code and help improve compliance.

**Energy Code Coach:** Helps building professionals navigate California's ever-changing and complex Energy Code. Energy code experts provide prompt and personalized support online, over the phone, or in the field. Coaches provide local professionals with code citations and other resources to support comprehension, compliance, and enforcement.

**Regional Forums:** Focused on energy and green building codes and related policies and technologies, forums convene professionals from both sides of the building counter, as well as other stakeholders. Events are educational, with subject matter experts speaking to the latest developments in the state's

energy efficiency landscape, and interactive, fostering networking for shared understanding as the industry works towards common goals.

**Training:** Educational events increase overall comprehension, leading to enhanced compliance and enforcement of codes and standards across the territory for both public and private sector building professionals. Content is curated to address needs and knowledge deficits identified by regional stakeholders, and curriculum is refreshed to reflect the most up-to-date information on California's energy codes and green building standards. Training topics include code cycle updates, compliance forms, modeling, permitting, deep dives into code sections, Home Energy Rating System (HERS) and more.

**Reach Codes:** As jurisdictions look to exceed state energy codes, the reach code program offers expert guidance throughout the reach code adoption process, such as: options modeling, education and outreach for staff and other key stakeholders, development and review of draft ordinance language and technical reports, and more.

### WHO THE PROGRAM SERVES

A hallmark of the ECC program is its focus on both public and private sector professionals—supporting enforcement on one side, compliance on the other, and overall comprehension across the board. While the ECC program caters more to the public sector, engaging the private sector is essential for the success of the program and overall compliance in the region.

Given the array of professions that touch the energy code in the design and construction of new and existing buildings, ECC offers services to: building officials, plan examiners, inspectors, architects, engineers, contractors from various trades, and more. Participants are encouraged to take advantage of all ECC services.

## HOW THE PROGRAM WORKS

**Energy Code Coach:** The Energy Code Coach is implemented by San Luis Obispo-based In Balance Green Consulting, with support from Central Coast Energy Compliance. Inquiries are submitted via an online form or by calling the Energy Code Coach hotline. Coaches respond within 24 hours by phone or email, or offer in-person support at the counter or in the field.

**Regional Forums:** Regional forums use keynotes, panelists, breakout discussions, and networking to share the latest information and best practices related to energy code and policy and their broader implications for the Central Coast community. Attendees leave with enhanced knowledge and new connections.

**Training:** Energy Code Connect training events generally follow the same processes as BPT events. Instructors with specialized code expertise teach for 3C-REN, virtually and in-person, as well as instructors with knowledge about how the State's code is applied locally.

**Reach Codes:** Reach Code support offers jurisdictions a full suite of technical and outreach support through all phases of adopting and implementing a reach code. TRC is contracted to support this service.




**Overall**



**256**


ORGANIZATIONS ENGAGED IN C&S ACTIVITIES

**Energy Code Coach**




**29%**

JURISDICTIONS USING CODE COACH



**127**


INQUIRIES IN 2023



**56**


ORGANIZATIONS USING CODE COACH

**Training Events**



**29**

EVENTS IN 2023




**91**

EVENTS TO-DATE




**673**

ATTENDEES IN 2023



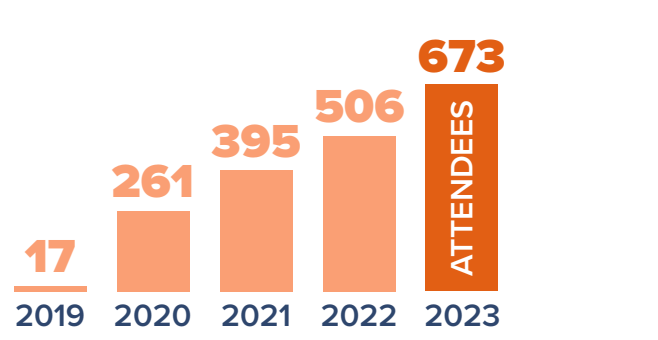
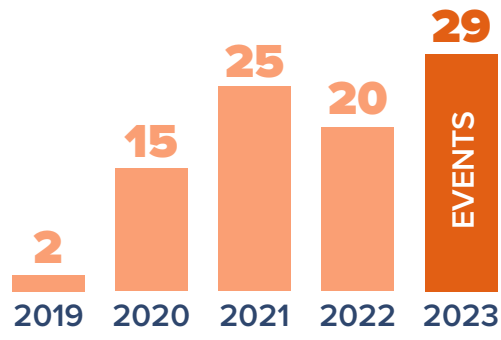
**350**

UNIQUE ATTENDEES IN 2023



**1,852**

ATTENDEES TO-DATE



**Regional Forum**



**1**

FORUM IN 2023



**28**

ATTENDEES IN 2023



**16**

ORGANIZATIONS REPRESENTED IN 2023



**25%**

JURISDICTIONS ATTENDING IN 2023

**Program Performance and Major Accomplishments**

**Summary of Performance and Accomplishments**

In 2023, ECC offered four core services: training events, regional forums, the Energy Code Coach, and reach code support. Over the course of the year, ECC offered 29 trainings on topics including the 2022 Energy Code, HVAC design, recovery ventilators, acceptance testing and commissioning, and more. Total training attendees reached 673, and 350 unique attendees. Regional forums were scaled back in 2023, with a single forum focused on online permitting for electrification, with 28 attendees. One of the feature offerings of the year was a 6-part series to get the region's building professionals up to speed on the 2022 energy code cycle. The series was requested by, and presented in partnership with, the Ventura and Central Coast International Code Council (ICC) Chapters, and 86 unique attendees participated. The Energy Code Coach service outperformed prior years in 2023 by providing Title 24 technical support to 127 residential and nonresidential projects.

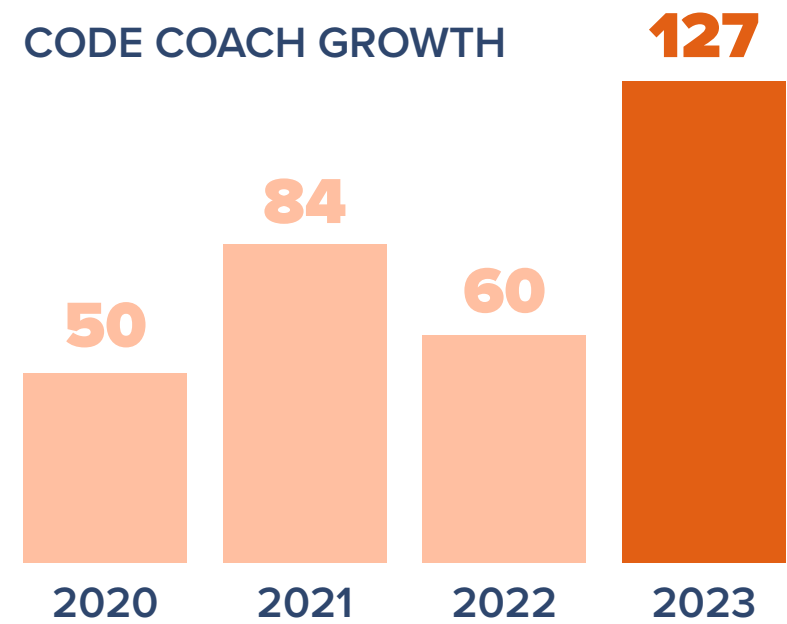
**2023 Highlights**

Below are several key program accomplishments that occurred in 2023.

**Energy Code Coach Achieves All-time High for Energy Code Support**

3C-REN partnered with In Balance Green Consulting, a local consulting firm in San Luis Obispo to implement the Energy Code Coach service and throughout the year, provided support to 127 projects, more than double the number of cases in the previous year. Staff also brought this program data directly into 3C-REN's database (rather than into the implementer's database), thereby streamlining internal review, cutting down response time, and improving data analysis to evaluate program strengths and areas for improvement. Energy Code Coaches initial responses to customers are sent via email within Salesforce, allowing the Program Manager to review and perform quality assurance on support provided in a timely manner. Streamlining the data and increasing outreach efforts to building departments and private firms resulted in the best year yet for the Energy Code Coach service.

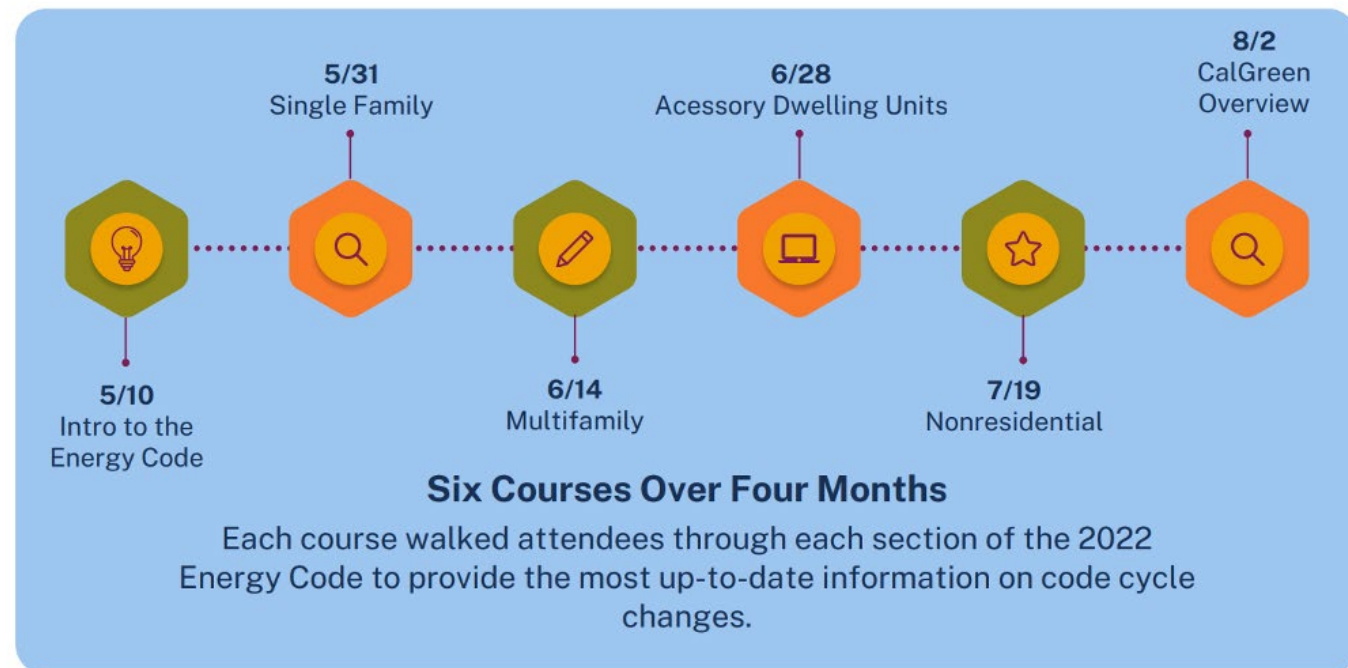
**CODE COACH GROWTH**



**Virtual Energy Code Series Prepares the Central Coast and Ventura ICC Chapters for 2022 Energy Code Compliance**

At the request of the Central Coast and Ventura International Code Council (ICC) Chapters, 3C-REN partnered with In Balance Green Consulting to develop and present an online series focused on complying with the 2022 Energy Code. This series consisted of 6, 1-hour Zoom sessions, each with a specific focus: introduction to the energy code, single family, multifamily, accessory dwelling units, nonresidential, and CalGreen overview.

This series was developed for ICC Chapter members but welcomed anyone with a building standards and safety background. Throughout the 6 sessions, a total of 86 unique attendees joined the series including a local chapter member who saw so much value in attending the entire series, that they joined one of the sessions while traveling in Germany. The tri-county region was represented with 33% attending from San Luis Obispo County, 22% attending from Santa Barbara County, and 16% attending from Ventura County.



*“Keeping all Building Departments aware of the changes and challenges is key.”*  
— 3C-REN Economic Value Survey Respondent

**Regional Forum on Energy Friendly Permitting**

In 2023 the Energy Code Connect program hosted a virtual regional forum to bring together building department staff to share best practices and strategies for streamlining energy efficiency and electrification permitting processes. In total, 28 stakeholders from across the region joined 3C-REN to identify obstacles, solutions and resources for our region through a facilitated discussion. This forum launched the concept of conducting a Building Decarbonization Permitting Study with 3C-REN consultant TRC to further gauge the needs of jurisdictions in the tri-county region, as they relate to permitting for electrification and energy efficiency project types. The study will help inform the type of support services offered by 3C-REN moving forward.

**Bringing the California Association of Building Energy Consultants (CABEC) Conference to the Tri-County Region**

The Energy Code Connect team worked with the California Association of Building Energy Consultants (CABEC) Board to bring their annual conference to the region in October 2023. This conference hosted hundreds of building and safety professionals and energy consultants in Cambria. Kicking off the conference as keynote speaker was Will Vicent, Deputy Director, Building Standards and Operations for the California Energy Commission and Bruce Gibson, San Luis Obispo County District Two Supervisor was the keynote speaker the following day. The conference’s six focused tracks included: decarbonization, technology, business development, HERS, programs and certifications, and energy code modeling. In addition to sessions, there was an exhibitor area and opportunities to network, allowing local Central Coast professionals to engage with statewide codes and standards stakeholders. The CABEC Conference brought building and safety, energy, and mechanical professionals from around the state to the tri-county community, showcasing the possible pathways to decarbonization at the local and state level.

**BREAKING BARRIERS**  
**ENERGY FRIENDLY PERMITTING**  
A Virtual Forum Exploring Electrification Permitting Best Practices and Considerations for ePermitting

**Wednesday, Aug 9th**  
2:00 – 4:00 PM

[3C-REN.ORG/EVENTS](https://3c-ren.org/events)

Is permitting different for electrification projects?  
Can permitting advance energy efficiency?  
How do we move to ePermitting?  
What are some best practices?

**MEET THE PANELISTS**

**IAN LIVINGSTON** Chief Building Official  
City of Pismo Beach  
Ian has been involved in the construction industry for most of his life. He has received 11 residential and commercial inspection/plan review and CASp certifications. He serves on the California Building Officials Board of Directors.

**SYLVIA ALDANA** Building Division Supervisor  
County of San Luis Obispo  
Sylvia has worked in most sections within the County Planning & Building department, from GIS to staff reports. She enjoys helping customers through the permitting process and code requirements in addition to community benefit projects.

**TIMOTHY FISKE** Building Division Supervisor  
City of Ventura  
Tim is an experienced building safety professional with field and project management experience. He serves on the ICC Ventura Regional Board of Directors.

**AGENDA**

2:00	Intro & Opening Questions
2:20	Electrification Context Setting
2:30	Panel Discussion
3:15	Best Practices Case Study
3:30	Breakout Rooms: Research & Feedback
3:50	Closing Remarks
4:00	Close

www.3c-ren.org/event  
Questions: info@3c-ren.org

*“... I’ve used the Energy Code Coach service and it was GREAT! Thanks!”*  
— 3C-REN Economic Value Survey Respondent

## Opportunities in 2024 and Beyond

In 2024, the Energy Code Connect program will consider the value of creating an Energy Compliance for Plans Examiners Certificate for local jurisdictions. Based off a needs assessment performed by TRC, all jurisdictions interviewed stated they would be interested in this type of certification as it can be difficult to keep pace with regular changes to the energy code. One interviewee also noted that typical plan review only confirms that the energy code compliance forms are completed, and people often lack the knowledge to confirm that the inputs and results are accurate from the compliance software.

The program will evaluate the online course catalog to ensure offerings are relevant and appropriate to the needs of the building community within the region and will develop new offerings as appropriate or requested. The team will continue to work with instructors to consider new opportunities and build upon those relationships. The program will also plan to offer two regional forums in 2024, one virtual and one in-person to focus on current or emerging policy issues where people can interact and have meaningful conversations in the same location.

The program will evaluate the Home Energy Rating System (HERS) Rating Training program that provides no cost HERS training to qualified candidates in the tri-county region. Given the hard-to-reach nature of the region, it is important to train more local HERS Raters who can conduct field exams locally. Staff will work with HERS Providers to develop a training that benefits the local community by increasing awareness while seeking opportunities to bring the hands-on field training to the region.

Finally, the demand for qualified energy consultants is ever growing as existing buildings need to be retrofitted and new buildings are constructed to meet population growth. In 2024, the Energy Code Connect program will partner with the California Association of Building Energy Consultants (CABEC) to offer the 2022 Certified Energy Analyst (CEA) Residential exams in the tri-county region. Typically, these exams are offered in the Los Angeles or San Francisco Bay areas and given the long traveling distance to either location from the Central Coast, bringing this exam closer to home will encourage more building professionals to become CEAs.



# Home Energy Savings

## Program Description

### OVERVIEW

The Home Energy Savings (HES) program helps residents and multifamily property owners in the tri-county region save money and make their homes or properties healthier and more comfortable with energy efficiency upgrades. From installation of heating and cooling systems to insulation and water heating upgrades, incentives enable deeper energy and cost savings. Enhanced incentives are available for hard-to-reach (HTR) customers who may need additional support to realize home energy upgrades.

### WHAT THE PROGRAM DOES

Home Energy Savings provides incentives for energy efficiency upgrades for single family homes and multifamily properties.

**HES for Single Family Homes:** For single family homes with one to four units located in the tri-county region, the program offers contractor incentives for projects that save energy, currently using a population normalized metered energy consumption (NMEC) program design. Nearly any project that results in metered energy savings is eligible for incentives, with enhanced incentives for electrification projects and HTR customers.

**HES for Multifamily Properties:** For multifamily properties with five or more units located in the tri-county region, the program offers technical assistance to identify energy-saving opportunities. The program pays incentives to the property owners for implemented energy upgrades

that reduce energy usage and greenhouse gas emissions. The program emphasizes comprehensive, whole-building upgrades and electrification measures for HTR properties.

### WHO THE PROGRAM SERVES

Both programs target HTR and underserved customers, who are eligible for enhanced incentives. In accordance with recent guidance from the Commission in D.23-06-055, non-equity target customers “should not be barred from participation” and may also be served;<sup>1</sup> while these customers may not be the primary audience for this program, HES often fills a gap for customers who have a harder time accessing utility programs due to geographic isolation or program designs that do not meet their needs.

**HES for Single Family Homes:** Hard-to-Reach criteria includes geographic location, which includes all of the geographically isolated Santa Barbara and San Luis Obispo Counties, and Designated Disadvantaged Communities (DACs) in Ventura and Santa Barbara Counties, a language other than English primarily spoken in the home, income that qualifies for utility assistance programs (CARE and FERA), and housing type (mobile homes).

**HES for Multifamily Properties:** For the multifamily program, HTR criteria is the same as for HES for Single Family Homes, plus multifamily properties for housing type. 3C-REN had developed its own definition of underserved for its multifamily program in 2021 during the program design phase, nearly two years prior to the Commission’s formal adoption of an underserved definition in D.23-06-055. In addition to the CPUC’s criteria of being an SB 535 disadvantaged, or AB 1550 low-income community, 3C-REN’s definition of underserved includes properties with fewer than 100 units, and deed restricted or naturally occurring affordable housing.

<sup>1</sup> D.23-06-055 at 47.

### HOW THE PROGRAM WORKS

**HES for Single Family Homes:** Residents are engaged in the program through contractors, 3C-REN email outreach, community events, and energy-saving information publicized on 3C-REN and partner websites. Customers work with enrolled contractors to scope and implement their energy-saving projects. There is no prescriptive measure list, but there must be an approved work paper for the installed measures. Example projects include water heaters, heating and cooling systems, insulation and pool pumps. Customers may view a list of enrolled contractors on 3C-REN’s website or complete an interest form to be connected directly to contractors that offer the services they need. Customers are also encouraged to share program materials with contractors who they would like to work with but are not yet enrolled in the program.

Contractors estimate energy-savings associated with projects and submit this information to the program implementer; they may do this independently or by working with an aggregator who submits projects on their behalf. Projects are submitted for preapproval to reserve incentives and then for final enrollment following installation. Incentives are paid directly to contractors. Half of the forecasted incentive total is paid upfront to the contractor and in 2023 it became a program rule that the upfront payment was required to be passed on to the customer. The balance of the forecasted incentive total is paid to the contractor over the course of a year. The program is designed for the incentive balance to be performance-based, with payments based on actual metered energy savings of the project. Since the program launched in early 2022, 3C-REN has been in discussions with the IOUs in its service territory to obtain the participant and non-participant data required to check eligibility and avoid duplicate payments; target interventions to drive cost effectiveness impacts; and accurately assess performance.<sup>2</sup> However, in 2023 the program still did not have the required utility data to follow this protocol. Therefore, projects that reached their one-year installation anniversary in 2023 were paid the balance of the incentive payments based on the estimated energy savings rather than the metered savings.

The HES Single Family Home program is implemented by Recurve using its FLEXmarket platform, with support from Frontier Energy and Community Environmental Council.

<sup>2</sup> R.13-11-005 Motion of County of Ventura Regarding Data Access. June 3, 2022.





**HES for Multifamily Properties:** Multifamily property owners and managers, and associated stakeholders, are engaged through direct outreach in the form of physical mailers, calls and emails. Customers enter the program by completing an interest form on 3C-REN's website, and then have an initial intake call with a technical assistant to discuss the property in more detail. Next an initial site assessment is conducted to confirm site conditions and identify energy efficiency opportunities. Technical assistance may include energy bill analysis, support developing a project scope, and identifying other incentive programs a project may qualify for to help make a project even more affordable.

Project scopes must include at least three measures, and meet a minimum threshold of greenhouse gas (GHG) savings equivalent to 0.25 MT CO<sub>2</sub>e per unit. In 2023, the program opened an alternative pathway for participation to allow for partial building upgrades. Under this pathway, an incentive would be determined based on the equivalent number of units of overall GHG savings.

There is not a prescriptive list of measures to choose from. Any upgrades that achieve GHG savings (and have an approved work paper) qualify for the program, and upgrades can be made in both common areas and in-unit. Enhanced incentives are available for high-performance measures with high GHG reductions. Once a scope is finalized, the incentive is reserved and installation begins. Contractors are not required to be enrolled with 3C-REN. After installation is complete, a post-installation site visit is conducted to verify the work done. Finally, the payment is sent directly to the property owner.

The multifamily program is implemented by the Association for Energy Affordability (AEA), with support from Frontier Energy and Community Environmental Council.



*“I’m trying to remodel my house and if I can get something for free that helps the environment at the same time, that’s great! I love the heat pump water heater.”*

— Program participant who stacked 3C-REN and State TECH incentives

## Home Energy Savings for Single Family Homes

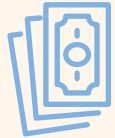
### Summary



**1.7**  
YEARS SINCE  
LAUNCH (MAY 2022)



**319**  
PROJECTS  
COMPLETED



**\$682,682**  
PROJECT INCENTIVES PAID



**28**  
ACTIVE CONTRACTORS/  
AGGREGATORS

### Projects by County



**63%**  
VENTURA

**27%**  
SANTA BARBARA

**10%**  
SAN LUIS OBISPO

### Types of projects completed



INSULATION



HVAC  
RETROFIT



HEAT PUMP  
RETROFIT



HEAT PUMP  
WATER HEATER



PUMPS/  
MOTORS/  
DRIVES



LIGHTING

### Hard-to-Reach Customer Projects



**15**  
HTR  
CUSTOMERS

**5%**  
HTR  
CUSTOMERS

**3.13X**  
HIGHER INCENTIVE  
PAYMENTS FOR HTR

## Home Energy Savings for Single Family Homes

### Energy & Green House Gas Savings\*



**726,841** kWh  
**8,553** Therm  
FIRST YEAR NET

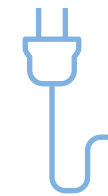
**168,983** kWh  
SAVED BY  
NON-ELECTRIFICATION  
PROJECTS



**166**  
GHG (TCO<sub>2</sub>e)

*\*HES-SF savings claimed in 2023. These reflect fuel substitution conversion by CEDARS on applicable electrification projects. Starting in 2024, CEDARS will no longer convert fuel substitution savings.*

### Electrification



**136**  
ELECTRIFICATION  
PROJECTS

**43%**  
OF TOTAL  
PROJECTS

### Stacking TECH & 3C-REN Incentives

**24%**  
HVAC HEAT PUMP  
PROJECTS THAT STACKED

**64%**  
HVAC WATER HEATER  
PROJECTS THAT STACKED

### Resilient Central Coast

**638** TRI-COUNTY HOUSEHOLDS  
THAT JOINED RESILIENT  
CENTRAL COAST IN 2023

### Residential Events



**30**  
EVENTS



**263**  
WEBINAR  
ATTENDEES

**954** TOTAL TRI-COUNTY  
HOUSEHOLDS ENROLLED  
AS OF DECEMBER 31, 2023

## Home Energy Savings for Multi-Family Homes

### Summary



**2.25**  
YEARS SINCE  
LAUNCH (OCT 2021)



**34**  
NEW  
LEADS

**47**  
SITE ASSESSMENTS  
COMPLETED

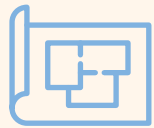


**12**  
PROJECTS  
COMPLETED

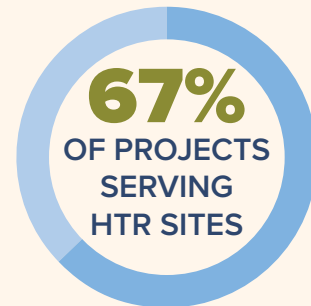


**8**  
(OUT OF 12)  
HTR PROJECTS

**32**  
PROJECTS IN  
THE PIPELINE



**219**  
UNITS FOR  
COMPLETED  
PROJECTS



## Home Energy Savings for Multi-Family Homes

### Types of projects completed



Windows, Ductless Heat Pump Mini Splits, Attic Insulation, Showerheads, Central Heat Pump Water Heaters, In-Unit Heat Pump Water Heaters, Variable Speed Recirculation Pumps, Pipe Insulation, Common Area LED Lighting, Heat Pump Pool Heaters, Heat Pump Laundry Water Heaters, Variable Speed Pool Pumps, Induction Stoves, In-Unit LED Lighting

### Projects by County



**4**  
VENTURA

**4**  
SANTA BARBARA

**4**  
SAN LUIS OBISPO

### Rebates



**12**  
REBATES CLAIMED  
IN 2023



**\$411,887**  
VALUE OF REBATES CLAIMED



**26**  
REBATES RESERVED  
IN 2023



**\$1,827,921**  
VALUE OF REBATES RESERVED

### Energy & Green House Gas Savings\*



**811,589** net kWh

**9** net kW

**1,380** net Therm



**165.81**  
GHG (TCO<sub>2e</sub>)

*\*HES-SF savings claimed in 2023. These reflect fuel substitution conversion by CEDARS on applicable electrification projects. Starting in 2024, CEDARS will no longer convert fuel substitution savings.*

## Program Performance and Major Accomplishments

### Summary of Performance and Accomplishments

#### HES for Single Family Homes

In 2023, the Single Family Home program served 319 households with energy upgrade projects. Twenty-eight enrolled contractors submitted projects into the program in 2023. Projects included HVAC heat pumps, HVAC retrofits, heat pump water heaters, pool pumps, lighting projects, and insulation projects. First year net kWh savings are 726,841 and first year net therm savings are 8,553 (these reflect fuel substitution by CEDARS, the CA Energy Data and Reporting System, on applicable electrification projects). Greenhouse gas savings were 185.23 TCO<sub>2</sub>e. The program served 15 HTR customers in 2023.

#### HES for Multifamily Properties

In 2023, a total of 34 leads were generated and site assessments were conducted on 47 properties. The Multifamily program ended the year with 12 completed projects serving families in 219 units. Eight of the completed projects were HTR properties, 67% of the total. Net kWh and kW savings for claimed projects are 811,589 and 9 respectively and net therm savings are 1,380 (these reflect fuel substitution by CEDARS, the CA Energy Data and Reporting System, on applicable electrification projects). Greenhouse gas savings were 165.81 TCO<sub>2</sub>e. Projects commonly included mini split heat pumps, attic insulation and pipe insulation. Looking ahead, there were 32 projects in the pipeline at the end of 2023.



## 2023 Highlights

Below are several key program accomplishments that occurred in 2023.

### HES for Single Family Homes: Single Family Home Program Gains Traction with Contractors

In 2023, the number of participating contractors grew from eight enrolled contractors at the start of the year to 28 actively participating contractors and aggregators. Key to this expansion was engagement from aggregators in the

market. One aggregator in particular, Sealed, submitted projects working with 15 contractors in 2023—86% of these contractors were local to the region. Sealed's role in getting contractors interested in the program, supporting them in submitting projects and advancing payments to the contractors has been key in the success of the program; 119 of the 319 projects in 2023 were submitted by Sealed.

## CONTRACTOR DIRECTORY

These 3C-REN enrolled contractors can access incentives for you.




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Services

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Languages

San Luis Obispo County | ...



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**Targeting Hard-to-Reach Customers through Program Design and Outreach**

Hard-to-Reach customers are targeted for this program with incentives that are three times higher than for market rate customers. In addition to bringing down customer prices, the elevated performance payments associated with these projects are designed to drive contractors to work with HTR customers. Contractors receive higher payments for the energy savings associated with HTR projects in the year following installation.

The program also supports contractor engagement with HTR customers by recruiting Spanish-speaking contractors, supported by supply house tabling events, as highlighted in the Building Performance

Training section of this report. The program offers Spanish language flyers for customers that can be co-branded with contractor information. With the region's large Spanish-speaking population, Spanish-speaking contractors will help 3C-REN reach this target audience.

Program staff have also held informational sessions at mobile home parks and community meetings where contractors are invited to answer technical questions and connect with customers. The program team also works with community-based organizations, such as the San Luis Obispo Diversity Coalition, that serve HTR customers to deliver appropriate messaging to target customers.



3C-REN staff Lori La Riva with 3C-REN partner Juan Lares from the Community Environmental Council

**Helping Homeowners Stack Incentive Programs for Maximum Savings**

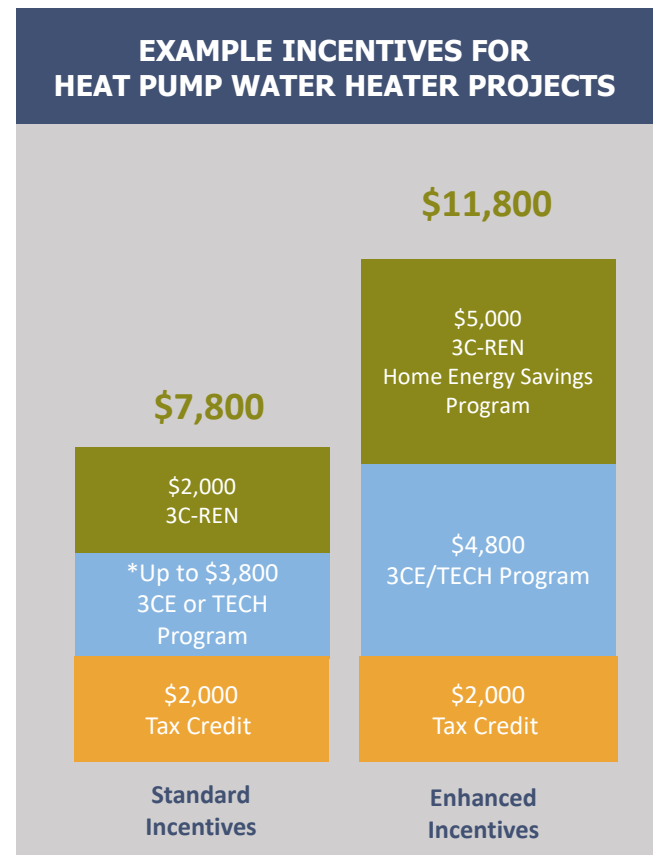
In 2023, 3C-REN launched two initiatives to support potential customers in identifying and stacking as many programs as possible to bring down the prices of home energy upgrades. 3C-REN launched a bilingual concierge service for residents to call or email for personalized assistance in navigating programs, and an online incentive finder tool for residents to input basic data and identify relevant incentive programs. These services are key to serving HTR audiences because the ability to stack programs often results in low or no-cost projects for HTR customers.

Heat pumps specifically have major potential for stacking incentives. For instance, 3C-REN's water heater incentives vary, but average about \$1,500 for market rate customers and over \$3,000 for HTR customers. In 2023 the state's TECH program offered heat pump water heater incentives starting at \$3,100 and equity incentives starting at \$4,185. When 3C-REN incentives are combined with the state's TECH program, HTR participants can often access no-cost projects.

3C-REN created a case study featuring Lompoc resident Ariel Colon and his new heat pump water heater, which he received at no cost thanks to layered incentives. Find the full case study at: [www.3c-ren.org/resource-library](http://www.3c-ren.org/resource-library).

To support stacking 3C-REN incentives with TECH (and local CCA incentive program, Central Coast Clean Energy's Electrify Your Home), the program has included TECH information in all outreach and marketing efforts. These efforts have been focused on both customer education and contractor engagement; the program team does not discuss its incentives without mentioning the stacking capacity with TECH. The team also meets regularly with the TECH implementation team to identify methods to support stacking and contractor enrollment in both programs.

In 2023, 19% of HVAC heat pump projects stacked both 3C-REN and TECH incentives, and 69% of heat pump water heater projects stacked incentives from both programs.



### Program Changes to Improve the Customer Experience

In 2023, the program implemented several key programmatic changes aimed at improving the experience for single family home customers. A requirement was added for contractors to pass 50% of forecasted incentives to customers, a preapproval process was implemented, and a water heater loaner service was created to support the transition to heat pump water heater technology.

A key goal of the program in 2023 was to ensure that incentives resulted in lower customer prices. The program implemented the requirement that contractors pass on 50% of the estimated savings to the customer to this end. Prior to this decision, incentives were paid to contractors or aggregators based on the metered energy saving associated with the project in the year following implementation. Following the program change, 50% of forecasted incentives are paid to contractors upfront (within six weeks of final project submission), with a requirement that all of the upfront payment is passed to the customer. In addition to the requirement that the upfront payment be passed to the customer, the program also created a preapproval process to provide an accurate incentive value to customers before they implement their projects. The preapproval process now allows contractors to submit the details of their projects before project completion in order to provide the customer with a program guaranteed upfront incentive amount and to reserve the incentive in the program budget.

Another initiative designed to improve customer experience was the launch of the water heater loaner program. The loaner program aims to get more heat pumps installed in gas water heater burn out scenarios. 3C-REN's Gas Water Heater Loaner Program pays participating contractors \$1,000 per project for time, labor and materials to use a loaner natural gas water heater while helping customers upgrade to a heat pump water heater. The loaner payments are specifically available to participants in 3C-REN's Home Energy Savings program.

### Making Energy Upgrades Accessible via "DIY" Toolkits and Induction Cooktops

Major home upgrades are not an option for all of 3C-REN's constituents. 3C-REN's rentable "DIY" Toolkits and Induction Cooktop cater to residents that are able to make small changes in their homes without working with a contractor. 3C-REN's DIY Toolkits are available at all local libraries for residents to borrow. They include items for people to keep, such as lightbulbs and weather stripping, and tools to help measure energy use. In 2023, 3C-REN hosted 7 toolkit presentations for library patrons. There are 57 Toolkits and 36 induction cooktops available for loan across all local libraries.

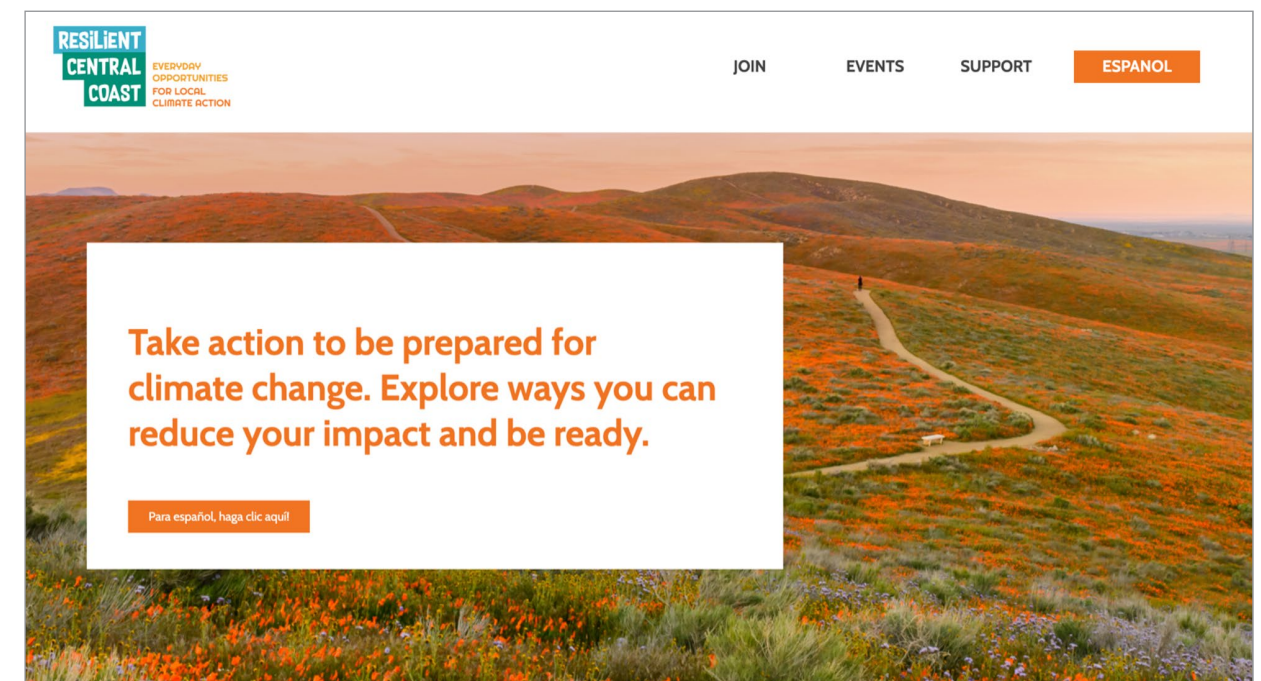


### Resilient Central Coast Platform

To drive participation in the HES program, 3C-REN supported the establishment of Resilient Central Coast, a collaborative campaign across the six central coast counties from Santa Cruz to Ventura. The online platform helps residents implement recommended actions that reduce their GHG emissions, and then track those reductions and compete across communities and teams. By ensuring that the platform has a comprehensive collection of local resources, 3C-REN and partner organizations are creating a "one-stop shop" for residents who are looking to make climate friendly decisions. For instance, in the energy section, residents can connect with the 3C-REN Single Family Home program as well as learn about TECH Clean CA and the benefits of heat pumps. In 2023, Resilient Central Coast offered six online community workshops for a total of 125 residents, participated in in-person outreach events such as Earth Day festivals, grew enrollment to 954 tri-county households on the platform, and increased activity by tri-county residents to 858 actions (completed or committed) resulting in estimated savings of 129 tons of CO<sub>2</sub>e, 14,415 kWh, and 1,814 therms.

*"There is a real information gap of where we can find accurate information about current rebate programs and also I don't know what I'm looking for necessarily so to have a space where I can get ideas and find those types of resources is of huge benefit."*

– Resilient Central Coast user





40 Prado Homeless Services Center in San Luis Obispo County

### HES for Multifamily Homes:

#### 3C-REN Helps “Homeless Services Center” Save Big

In 2023, Home Energy Savings helped a San Luis Obispo multi-unit housing and services center save more than \$40,000 annually by implementing energy efficiency and solar upgrades. The 40 Prado Homeless Services Center operates 365 days a year, empowering San Luis Obispo’s unhoused residents to achieve economic self-sufficiency. The Center is owned and operated by the Community Action Partnership of San Luis Obispo County (CAPSLO).

CAPSLO’s goal in this project was to reduce operating costs in order to redirect funds to new or improved services. 3C-REN provided technical support to finalize the project scope and maximize cost savings.

3C-REN also helped CAPSLO access incentives from multiple programs at the federal, state, and local level that resulted in over \$600,000 in direct project rebates, and only \$48,000 in out-of-pocket costs.

To reduce the building’s natural gas use, CAPSLO replaced the existing gas-powered water heaters with a highly efficient electric heat pump water heater system, based on 3C-REN’s expert advice to determine the best system and size. To offset the increased electrical use and further reduce operating costs, CAPSLO installed a solar & battery backup system onsite through a complementary program. The upgrades have resulted in significant energy and cost savings such as a whopping 91% energy reduction including the solar energy production, a 1.5 year simple payback, and 86.5 metric tons of CO<sub>2</sub>e emissions saved annually—the equivalent of taking 19.3 cars off the road.

### 3C-REN Awarded Funding to Install Electric Vehicle Chargers at Six Multifamily Properties

3C-REN was a partner in the successful application for Reliable, Equitable, and Accessible Charging for Multifamily Housing 2.0 (REACH 2.0) funding from the California Energy Commission to install 379 electric vehicle charging stations at 67 locations throughout the tri-county region. The Equitable Charging Access for Renters in the 805 Region (E-CAR 805) project was selected by the California Energy Commission as one of 11 awardees out of 33 applications.

Six of the locations throughout the tri-county region will be 3C-REN multifamily program properties. A total of 22 charging stations, and 28 ports will be installed on the affordable housing properties over the next two years. Other project partners included the University of California, Santa Barbara, the City of Santa Barbara, County of Ventura, Community Environmental Council, City of Ventura, City of San Luis Obispo, San Luis Obispo Air Pollution Control District and five affordable housing providers, the Housing Authority for the Cities of San Buenaventura, Santa Barbara, and San Luis Obispo, People’s Self Help Housing, and El Camino Homeless Organization (ECHO).

This award expands the impact of 3C-REN funding by bringing in electric vehicle charging infrastructure funding that is complementary to 3C-REN’s energy efficiency and electrification services, thereby providing more holistic energy services to multifamily properties and their tenants. This holistic approach dovetails with 3C-REN’s plans to provide technical assistance for projects combining energy efficiency and distributed energy resources through the new integrated demand side management (IDSM) pathway created by the Commission in D.23-06-055.<sup>3</sup>

<sup>3</sup> D.23-06-055 at 77-80.



### Multifamily Program Wins Buildings UP Prize to Pilot Electric Vehicle Car Share Program

3C-REN, in partnership with BayREN, won \$400,000 in Phase 1 prize funds through the U.S. Department of Energy’s Buildings Upgrade Prize. The collaborative team was one of 45 teams selected to move onto Phase 2 out of more than 300 applicants.

The concept project proposed to expand multifamily program services to include technical and financial assistance for electric vehicle (EV) charging infrastructure at low-income or affordable housing properties that are also doing building energy efficiency and electrification upgrades. This funding will also allow the program to pilot an electric vehicle car share program at an affordable housing property. The goal is to provide even more comprehensive upgrade services, while also providing accessibility to cleaner transportation options to underserved residents.

As with the REACH 2.0 funding, this award leverages 3C-REN funding to further amplify impact and meet the needs of multifamily building tenants.



3C-REN partner David Segan from the Association for Energy Affordability at a multifamily property.

### Multifamily Program Has First Three-Peat Customer

One of the program's early adopters is about to complete energy efficiency and electrification upgrades on their third property! A small, HTR multifamily property owner in the City of Santa Barbara started with a 10-unit building in downtown Santa Barbara. With an interest in doing what is good for the climate, providing a healthy living space for his tenants, and taking advantage of the great rebates that are available, he fully electrified the property and received \$41,300 in rebates from

3C-REN. On top of that, both tenants and the property owner are projected to save hundreds in utility bills because of the upgrades that were implemented.

Since that first project, the property owner has submitted two more, also in the City of Santa Barbara. Both projects included mini split heat pumps and induction ranges which will improve indoor air quality and comfort for tenants. Overall, this HTR property owner has earned \$132,400 in rebates from 3C-REN, and 32 families are living in more comfortable, efficient, cleaner homes.

## Opportunities in 2024 and Beyond

### HES for Single Family Homes

In 2024 the Single Family Home program will increase efforts to bring services to HTR households. For instance, the program has planned work with "promotores" networks that are comprised of Spanish speaking community members that regularly conduct health and other public benefit outreach work. In Q1 2024 the Single Family Home program will launch a partnership with Santa Barbara County Promotores to identify barriers to Spanish speaking customer participation in the program. The program will also work with enrolled contractors to identify outreach opportunities with HTR populations with a special focus on mobile home communities. The program continues to expand outreach opportunities with local jurisdictions, community groups, and other agencies that serve HTR populations.

The program expects to have full access to the required utility data to implement the program according to the program manual in 2024. Gaining utility data access will allow the program to assess actual energy savings, and compare these savings to predicted savings. As this analysis is conducted the program may modify incentive structure or other programmatic elements to improve performance and cost effectiveness.

### HES for Multifamily Properties

Looking ahead to 2024, the Multifamily program will build on the momentum gained in 2023. The program will focus on expanding its outreach and communications strategy to maintain a

solid pipeline of projects, keep existing property owners engaged, and continue to bring in new participants. This strategy will include quarterly communications to existing contacts, targeted, high-touch outreach to affordable housing providers, and a property owner mixer event aimed at building a network of property owners who can share knowledge and experience around program participation, and electrification in particular. Lack of familiarity with heat pump technology and concerns around maintenance costs and requirements have been a sticking point with a number of property owners. By building a space for peer-to-peer learning, the program hopes to alleviate those concerns and help decision makers feel more comfortable and excited to make energy-saving upgrades.

Additionally, the program will continue to seek out opportunities to access complementary funding to bring down the cost of a project even more, or fund additional upgrades that enable a more holistic, well-rounded project, such as rooftop solar or electric vehicle charging stations. Receiving both REACH 2.0 and U.S. DOE Buildings UP prize funding, the program will begin to work with selected properties to plan for, and install electric vehicle charging stations, and pilot an electric vehicle car share program in the upcoming year. These innovative approaches also align with 3C-REN's plans for IDSM technical assistance for multifamily properties, with the HES Multifamily program as an operational hub for comprehensive project support.



# Energy Savings

In 2023, 3C-REN administered two resource programs with savings, Home Energy Savings for Single Family Homes and Home Energy Savings for Multifamily Homes. These programs delivered the following energy savings.

**Table 1: Net Energy Savings**

Electric and Gas Savings and Demand Reduction	Annual kWh Savings	Lifecycle kWh Savings	Peak Demand kW Savings	Annual Therms Savings	Lifecycle Therms Savings
Home Energy Savings	1,538,430.15	19,411,493.26	9.27	9,932.66	126,313.37
<b>Total Portfolio Savings</b>	<b>1,538,430.15</b>	<b>19,411,493.26</b>	<b>9.27</b>	<b>9,932.66</b>	<b>126,313.37</b>

# Savings by End-Use

3C-REN's HES Single Family and Multifamily Homes programs delivered the following savings by end-use in 2023.

**Table 2: Savings by End-Use**

End-Use Category	kWh	% of Total	kW	% of Total	Therms	% of Total
Appliance or Plug Load	2,269.46	0.15%	0	0.00%	0	0.00%
Building Envelope	6,927.84	0.45%	0	0.00%	960.32	9.67%
HVAC	813,911.85	52.91%	0	0.00%	7,185.76	72.34%
Lighting	5,303.12	0.34%	0	0.00%	45.18	0.45%
Process Heat	85,514.40	5.56%	0	0.00%	168.30	1.69%
Recreation	10,861.05	0.71%	0.16	1.76%	0	0.00%
Service and Domestic Hot Water	613,642.43	39.89%	9.11	98.24%	1,573.10	15.84%
<b>Annual Portfolio Savings</b>	<b>1,538,430.15</b>	<b>100%</b>	<b>9.27</b>	<b>100%</b>	<b>9,932.66</b>	<b>100%</b>

# Environmental Impacts

Environmental impacts for the HES Single Family and Multifamily Homes programs are shown below. These results are generated by the Commission-approved Cost Effectiveness Tool (CET). The CET is designed to calculate energy efficiency program cost-effectiveness.

**Table 3: 3C-REN 2022 Environmental Impacts**

Annual CO2 avoided (tons)	Lifecycle CO2 avoided (tons)	Annual NOx avoided (tons)	Lifecycle Nox avoided (tons)	Annual PM10 avoided (tons)	Lifecycle PM10 avoided (tons)
313.66	3,686.89	0.27	3.52	(0.01)	(0.09)

# Expenditures

**Table 4: 3C-REN 2023 Budget**

Program	2023 Budget
Residential	\$8,380,010
Codes and Standards	\$1,884,021
WE&T	\$1,910,021
<b>Program Subtotal</b>	<b>\$12,174,052</b>
EM&V (3C-REN only)	\$139,494.00
<b>Total 3C-REN 2022 Budget</b>	<b>\$12,313,546</b>

**Table 5: 2023 Actuals**

Programs	Admin	Direct Implementation	Incentives & Rebates	Marketing & Outreach	Total
Single Family NMEC	\$29,248.51	\$1,434,022.47	\$794,315.07	\$26,193.50	\$2,283,779.55
Multifamily Home Energy Savings	\$29,281.84	\$1,140,644.60	\$280,850.00	\$22,014.05	\$1,472,790.49
C&S	\$64,797.69	\$979,001.19	\$0.00	\$41,863.64	\$1,085,662.52
WE&T	\$50,866.69	\$1,176,351.74	\$0.00	\$34,308.42	\$1,261,526.85
<b>Program Subtotal</b>	<b>\$174,194.73</b>	<b>\$4,730,020.00</b>	<b>\$1,075,165.07</b>	<b>\$124,379.61</b>	<b>\$6,103,759.41</b>
EM&V (3C-REN only)				\$23,500.17	\$23,500.17
<b>Total 3C-REN Expenditures</b>	<b>\$174,194.73</b>	<b>\$4,730,020.00</b>	<b>\$1,075,165.07</b>	<b>\$124,379.61</b>	<b>\$6,127,259.58</b>

## Cost-Effectiveness

While the RENs are subject to limitations on the programs that can be offered, (i.e. programs that the IOUs do not plan to offer or programs that fill in the gaps of IOU services, and serving hard-to-reach markets), RENs are not subject to the same cost-effectiveness test as IOUs. However, 3C-REN still works toward delivering cost-effective programs.

# Metrics D.18-05-041

### Value Metrics

3C-REN submitted proposed value metrics in its 2021 Annual Budget Advice Letter as required in D.19-12-021. Current value metrics and 2023 achievements are as follows:

- Number of tri-county member jurisdictions receiving annual 3C-REN data that informs member jurisdictions achievements toward climate action plans GHG emission reduction goals (equity sector): 28
- Percentage of event 3C-REN attendees considered hard-to-reach (C&S sector): 15.75%
- Percentage of event 3C-REN attendees considered hard-to-reach (Market Support sector): 15.90%
- Number of jobs and economic value, inclusive of job creation at counties (Market Support sector): 78%\*

\*Reported as percentage of surveyed participants who responded that economic value was received from attending 3C-REN BPT or ECC training events.

### Equity Sector: Home Energy Savings

For energy savings and environmental impacts metrics see referenced tables:

- Table 1: Net Energy Savings
- Table 2: Savings by End-Use
- Table 3: 3C-REN 2022 Environmental Impacts

### Market Support Sector—Workforce Education & Training: Building Performance Training

**3C-REN continued to provide workforce training opportunities in 2023. The following required metrics were tracked for the BPT (WE&T) program:**

- Number of collaborations: 104
- Number of participants: 2,342
- Percent of participation relative to eligible target population: 1,379
- Percent of participants that meet the definition of disadvantaged worker: 7%

\* Total eligible population for tri-county region estimated to be 12,771 workers. This estimate is based on 321,000 energy efficiency jobs for the state of California cited in a report from the Advanced Energy Economy Institute (AEEI), and the percentage of California’s population that is accounted for in the tri-county region. The unique BPT attendee count for 2023 was 1379.

## Codes & Standards Sector: Energy Code Connect

3C-REN continued to provide energy code support in 2023. The following required metrics were tracked for the ECC (C&S) program:

### Participation in Energy Policy Forums

3C-REN held one\* energy policy forum in 2023:

- Number of jurisdictions with staff participation in an energy policy forum: 7
- Percent of jurisdictions with staff participation in an energy policy forum: 25%
- Number of organizations with staff participating in energy policy forum: 18
- Number of attendees participating in energy policy forum: 28

\*Achievements are lower in 2023 due to only one forum being held. The program typically holds three forums, but decided to reevaluate its forum strategy in 2023 and scale back the number of these events.

### Energy Policy Technical Assistance

3C-REN launched the Energy Code Coach service for the tri-county region in 2020 and began its third year of program delivery in 2023:

- Number of jurisdictions with staff receiving energy policy technical assistance: 8
- Percent of jurisdictions with staff receiving energy policy technical assistance: 28.57%
- Number of buildings receiving enhanced code compliance support: 127

### Training Events

While 3C-REN does not report on statewide training metrics, 3C-REN did compile performance information for training events held under the Energy Code Connect program:

- Number of codes and standards training events: 29
- Number of participants attending codes and standards training events: 673
- Number of unique participants attending codes and standards training events: 350

### Codes and Standards Activities

3C-REN's Codes and Standards activities include energy code training events, energy policy forums, and technical assistance through the Energy Code Coach. The indicator below represents the combined achievements of these activities:

- Number of organizations directly engaged in codes and standards activities: 256
- Number of jurisdictions directly engaged in codes and standards activities: 16
- Percentage of jurisdictions directly engaged in codes and standards activities: 57%

### Reach Code Support Activities

3C-REN's Reach Code Support service was launched in 2022. While 3C-REN does not report on statewide reach code metrics, 3C-REN did compile performance information for the new service:

- Number of local government reach codes implemented (in 3C-REN territory): 1\*

\*City of San Luis Obispo passed an updated reach code with 3C-REN support.

# Commitments

Commitments made in the past year (2023) with expected implementation by December 2024. 3C-REN has \$3,211,677.92 in commitments to carry into future years from 2023. These are commitments for projects that came into the Single Family and Multi Family Home Energy Savings Program pipeline in 2023 and will be installed in 2024.





**TRI-COUNTY REGIONAL ENERGY NETWORK**

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