



2024 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 bring ratepayer dollars back to the community and better leverage those funds for the design and delivery of effective programs on a regional level.

Executive Summary

Launching shortly before the COVID-19 pandemic in 2019, 3C-REN entered its 6th year in 2024, emerging from its early development phase and the pandemic’s aftermath to achieve strong growth.



2024 Accomplishments

3C-REN’s incentive program for single family homes saw a 62% increase in projects and its multifamily program increased the number of apartment units served by 430%, both between 2023 and 2024.

Workforce and code training programs continued to be a major focus for 3C-REN, hosting more than 140 educational events in 2024. A significant percentage of participants were repeat attendees in 2024, 25% of workforce education attendees and 31% of codes and standards attendees, signaling strong satisfaction with 3C-REN’s services by coming back for more training.



Heat Pump Water Heater Adoption

As they were designed to do, 3C-REN’s complementary programs work synergistically to develop the market for energy efficiency on the Central Coast, and this was especially true for the nascent heat pump water heater market (HPWH) in 2024.

Taking advantage of the ability to stack 3C-REN’s residential incentives with TECH Clean California’s incentives, 3C-REN actively promoted HPWH adoption to contractors and residents. It paid off, with HPWH installs jumping more than 660% from 2023 to 2024 for single family homes.

Throughout the year, 8 dedicated HPWH training sessions were held in-person for plumbers across the region to get hands-on experience with the equipment. A new workforce partnership was forged with Sunwork Renewable Energy Projects to provide paid training to contractors learning to install HPWHs, while participating in on-site installations.



Cost and Affordability Challenges

There is still more work to do, with an average HPWH project cost of \$11,000 in Ventura County—one of the highest in the state—according to the TECH Clean CA data visualization map.¹ These high costs underline the need for continued contractor education, as well as incentives to lower costs in a region that already struggles with affordability.

Most counties across California face affordability challenges, but the problem is particularly acute in the tri-county region where the National Association of Realtors recently ranked Ventura County as the second least affordable major metropolitan area in the nation.² In neighboring Santa Barbara and San Luis Obispo Counties, poverty is among the highest in the state at 16.9% and 13.5% respectively, according to the California Poverty Measure (CPM).³



Commitment to Decarbonization and Energy Efficiency

Despite these challenges, 3C-REN remains committed to advancing critical decarbonization goals by making energy efficiency upgrades more accessible and cost-effective while equipping the workforce with the skills needed to deliver high-quality, affordable projects that lower customer utility costs.



Growth and Collaboration

Ready for expansion as a maturing organization, 3C-REN launched three new programs in 2024: Energy Assurance Services for critical facilities, Agriculture Energy Solutions for farmers, and Commercial Energy Savings for businesses and municipalities.

As 3C-REN continues to grow, it remains focused on delivering unique programs that fill gaps rather than duplicate existing efforts. 3C-REN actively coordinates with other program administrators to cross-promote educational opportunities, streamline referrals, and maximize benefits for customers.

With strong momentum and a growing suite of programs, 3C-REN is poised to make an even greater impact in 2025—expanding access to services that customers in the geographically isolated Central Coast may not otherwise receive.

Read on for the top accomplishments from each 3C-REN program in 2024.

¹ techcleanca.com/heat-pump-data/heat-pump-data-visuals

² kclu.org/local-news/2025-02-21/prolonged-weakness-new-forecast-paints-rough-picture-for-ventura-countys-economic-outlook

³ The California Poverty Measure (CPM) is a joint research effort between the [Public Policy Institute of California](#) and the [Stanford Center on Poverty and Inequality](#) that, unlike the official poverty measure, takes into account the cost of living and resources from social safety net programs. See the [interactive map](#) of the CPM for County-specific statistics.

Program Summaries



HOME ENERGY SAVINGS (FOR SINGLE FAMILY HOMES)

A total of 516 projects were completed, with electrification projects accounting for 67%. HPWH projects increased by 665% at 130, up from the 17 installed in 2023. The program served 35 Hard-to-Reach (HTR) customers and 210 Equity Target customers. Net kWh savings for claimed projects are -1,047,444 and net therm savings are 134,744, with negative numbers reflecting fuel substitution in electrification projects. Greenhouse gas savings were 360 TCO₂e.

Equity Target Customer projects include projects in census tracts that meet the definitions of CPUC Underserved, Hard-to-Reach and Disadvantaged Communities.

HOME ENERGY SAVINGS (FOR MULTIFAMILY PROPERTIES)

A total of 13 projects were completed serving families in 1,319 dwelling units—a fivefold increase in units served from the previous year. Six projects were HTR properties, 46% of the total, and eleven were Equity Target properties, 85% of the total. Net kWh and kW savings for claimed projects are -277,306.64 and 12.79 respectively and net therm savings are 69,719.97, with negative numbers reflecting fuel substitution in electrification projects. Greenhouse gas savings were 296.59 TCO₂e.

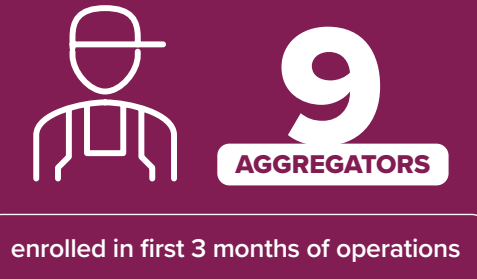
Equity Target Customer projects include projects in census tracts that meet the definitions of CPUC Underserved, Hard-to-Reach and Disadvantaged Communities.



COMMERCIAL ENERGY SAVINGS

The program soft-launched in October 2024. That was followed by a full launch in December of 2024, once all required data sharing protocols were established with the three investor-owned utilities that operate in the tri-county region. The program contracted with an implementation partner, as well as four local Green Business Programs for outreach. In its 3 months of operation, 9 aggregators enrolled with more to follow in 2025.

HEAT PUMP WATER HEATERS INSTALLED



ENERGY CODE CONNECT

More than 25 specialized training sessions were delivered, attracting 347 attendees including building department staff, HERS rates and others. Topics covered included the 2022 Energy Code, CALGreen, HERS Measures and more. The Energy Code Coach had its most impactful year yet, offering technical assistance for 142 cases. The program hosted two forums—an interactive webinar and a dynamic in-person event.



BUILDING PERFORMANCE TRAINING

A total of 115 training events were held in 2024, educating 2,091 workers and students on topics like high performance enclosures, electrification and more. The program certified both designers and tradespeople in Passive House and offered realtors the National Realtor's Association Green Designation. Students had the opportunity to learn about green careers in 27 educational sessions. In-person events gave professionals the chance to engage hands-on with equipment like heat pump water heaters.



ENERGY ASSURANCE SERVICES

In alignment with its focus on facilities serving critical community needs, the program enrolled its first two participants in 2024—a police station and a church. 3C-REN also teamed up with the Community Environmental Council, a local non-profit already engaged in efforts to identify “Resilience Hubs” in the region.



AGRICULTURE ENERGY SOLUTIONS

In 2024, program design was finalized, and a technical partner was contracted to support three defined program offerings: utility bill review, site assessments, and benchmarking. The program was publicly launched in late 2024, followed by targeted outreach to local farmers.



25
TRAINING
EVENTS



347
ATTENDEES



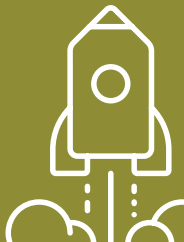
115
TRAINING
EVENTS



2,091
ATTENDEES



SITES ENROLLED



PROGRAM DESIGNED AND
PUBLICLY LAUNCHED

2024 Energy Efficiency Programs Overview



Reuben Veek, Operations Director at SunWork Renewable Energy Projects teaches an attendee how to install a heat pump water heater at a 3C-REN Earn While You Learn event

Home Energy Savings For Single Family Homes

Program Description

OVERVIEW

The Home Energy Savings (HES) program helps residents in the tri-county region save money and make their homes 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 residential incentives for energy efficiency upgrades. 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.

WHO THE PROGRAM SERVES

The program targets 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;¹ 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.

HTR 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).

HOW THE PROGRAM WORKS

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. In spring of 2024, the program stopped allowing new gas equipment to be submitted into the program for incentive payments.

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. The first step of project submission is preapproval, where Recurve reserves incentives for the project. The total incentives reserved for a project are based on the projected energy savings estimates submitted by the aggregator, HTR characteristics of the customer, and whether a project is replacing gas equipment with electric equipment (projects for HTR customers have incentives reserved that are roughly three times higher than for market rate customers). Following pre-approval, the project is submitted for final enrollment and incentives are paid directly to contractors. Half of the forecasted incentive total is paid upfront to the aggregator and is required to be passed on to the customer.

The balance of the forecasted incentive total is paid to the contractor quarterly over the course of a year based on actual metered energy savings. The program refers to these payments as “performance payments”. In 2024, the Program received the utility data necessary to make performance payments based on metered energy savings. Prior to having the data, performance payments were made based on estimated energy savings rather than metered energy savings. All projects completed after July 1st, 2023 were paid based on metered energy savings in 2024, or followed the “non-routine event” protocols to estimate actual energy savings for meters that were disqualified from measurement.

Services for single family homes are implemented by Recurve using its FLEXmarket platform, with support from Frontier Energy.



Program Performance and Major Accomplishments

Summary of Performance and Accomplishments

In 2024, there were 516 projects submitted into the program, a 62% increase from 2023. Sixty seven percent (67%) of 2024 projects were electrification projects, totaling 345 projects. Heat pump water heater projects increased by 665%, up to 130 from the 17 heat pump water heaters installed in 2023. The program served 35 HTR customers, 210 Equity Target customers and 45 customers identified as “Priority Ventura County Customers” (PVCC).¹ Combined, HTR and PVCC participants accounted for 15% of total program participants and received incentives that were about three times higher than market rate participants. To support future growth of HTR customer participation, a majority of the program budget will be set aside for HTR and PVCC customers in 2025. Net kWh savings for claimed projects are -1,047,444 and net therm savings are 134,744, with negative numbers reflecting fuel substitution in electrification projects. Greenhouse gas savings were 360 TCO₂e.

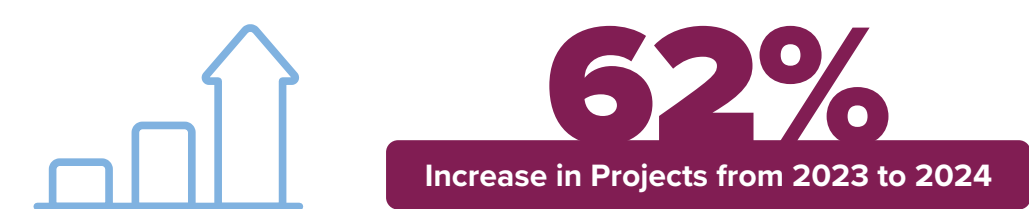
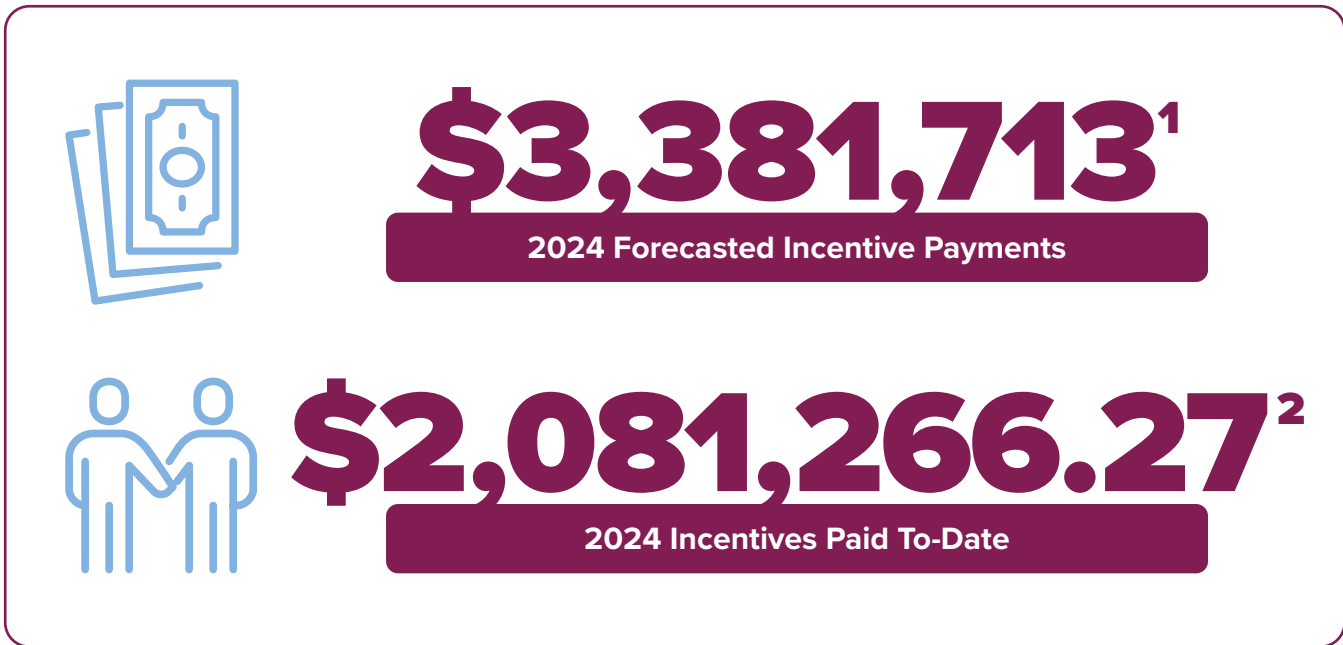
A significant advancement in 2024 was access to IOU utility data to pay incentives based on metered energy consumption in alignment with the program design. The utility data confirmed that aggregators have been highly accurate in their energy savings estimates—with a Total System Benefit realization rate of 92.8%.

Incentive stacking remained a priority in 2024, ensuring coordination with other programs and keeping contractors informed on complimentary programs. Heat pump water heater incentives presented the greatest stacking opportunities, with 49% of water heater projects leveraging TECH and/or Central Coast Community Energy incentives along with 3C-REN incentives. Additionally, 22% of HVAC heat pumps accessed stacked incentives. However, it is important to note that TECH incentives were not always available in 2024, and Central Coast Community Energy incentives are not available throughout the entire 3C-REN territory.

¹ PVCC customers meet two non-geography HTR criteria. Equity Target Customer projects include projects in census tracts that meet the definitions of CPUC Underserved, Hard-to-Reach and Disadvantaged Communities.

Home Energy Savings For Single Family Homes

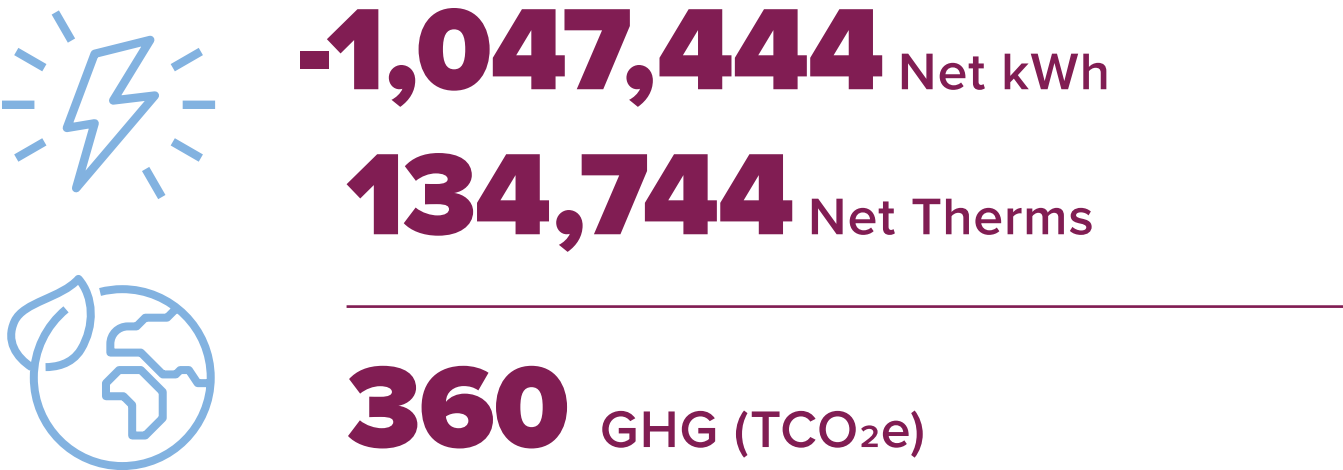
Summary



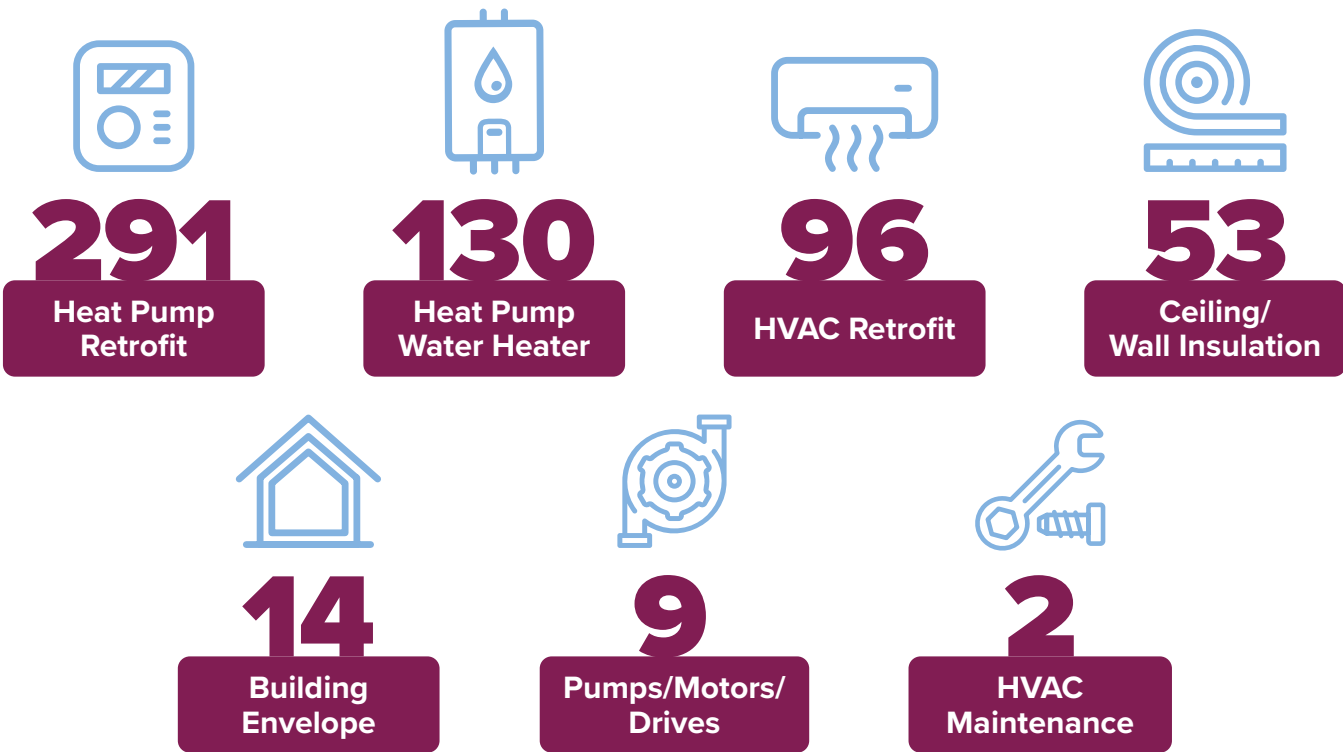
¹ Total incentives to be paid if all projects realize 100% of anticipated energy savings.
² Incentives paid in 2024 for projects installed in 2024. The value represents the upfront incentive payment that is passed on to customers.

Home Energy Savings For Single Family Homes

Energy & Greenhouse Gas Savings



Types of Upgrades Completed in 2024

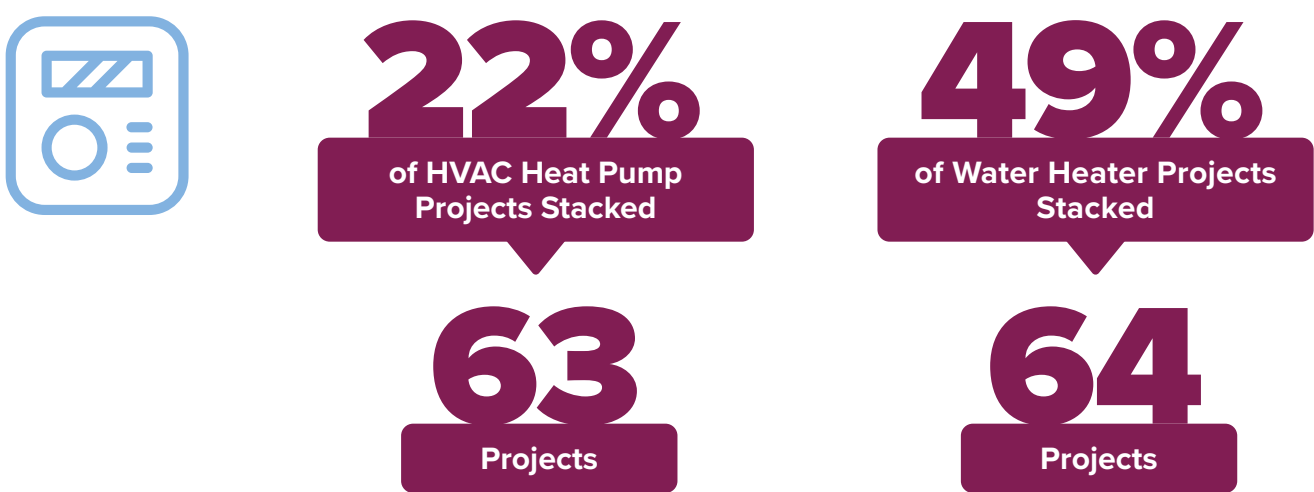


Home Energy Savings For Single Family Homes

Electrification



Stacking TECH & 3C-REN Incentives

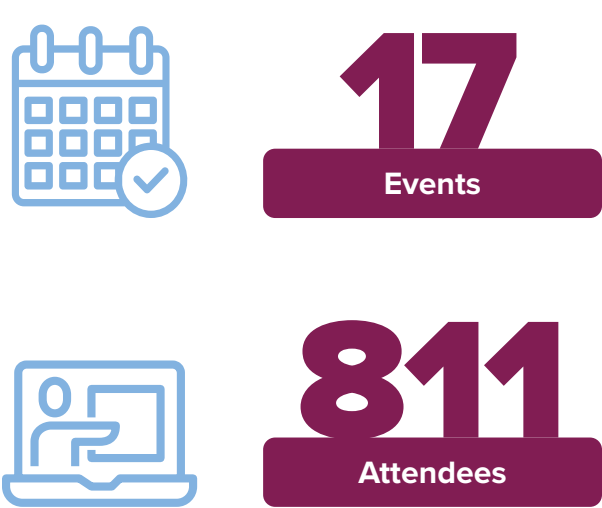


Aggregators and Contractors

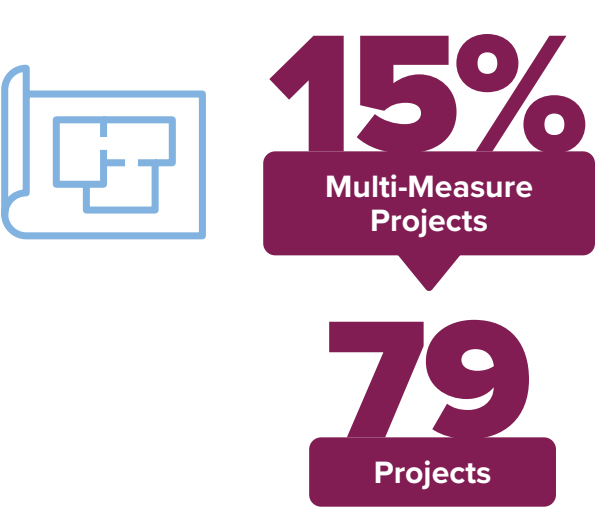


Home Energy Savings For Single Family Homes

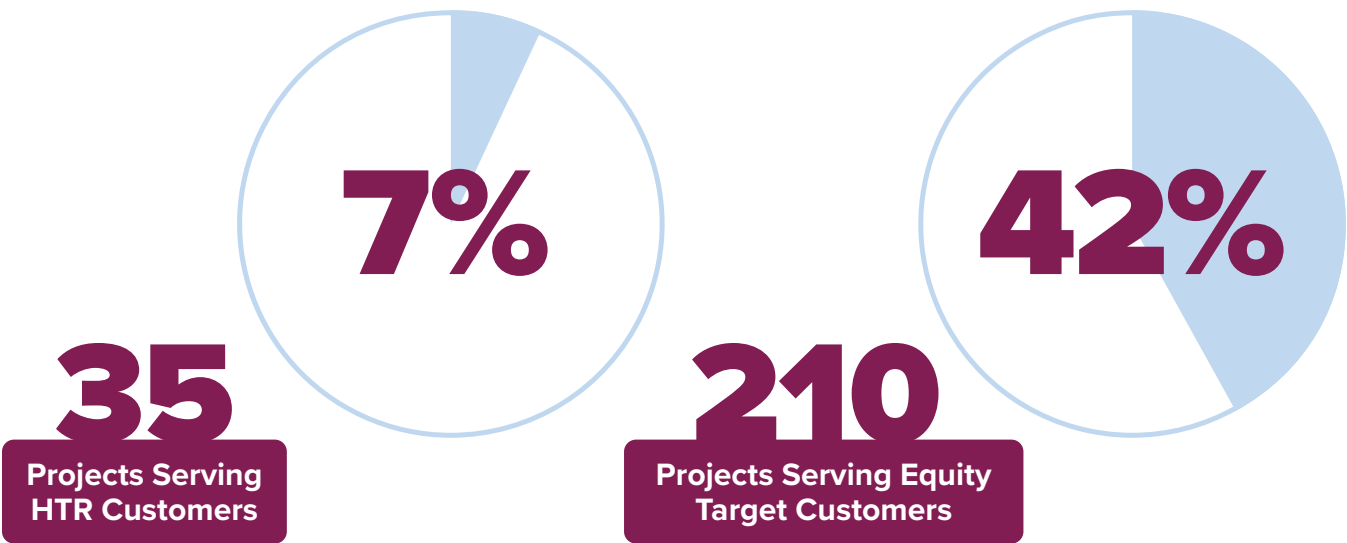
Residential Events



Projects with Multiple Measures



Equity Customer Projects



Equity Target Customer projects include projects in census tracts that meet the definitions of CPUC Underserved, Hard-to-Reach and Disadvantaged Communities

2024 HIGHLIGHTS

Below are several key program accomplishments that occurred in 2024.

Program Conducts Actual Metered Energy Savings

The program reached a significant milestone in 2024 when it received comprehensive meter data from the three investor-owned utilities in October. These datasets enabled the program to conduct performance measurements for projects submitted to-date and to accurately pay incentives based on metered energy savings. The data also provides a clearer picture of the program’s effectiveness from when the first projects were submitted (November 2022) through the end of 2024.

One key insight from the utility data has been the number of meters (electricity and gas) from which Recurve is able to measure savings. In 2024, Recurve measured savings on at least one type of meter for 396 projects (77% of total projects); 309 gas meters and 205 electricity meters. In other words, 77% of projects are being paid incentives based on measurements of at least one meter and 40% of projects are being paid incentives based on measurements of both gas and electricity data. The remaining 23% of projects have no metered savings and are “assigned” savings based on program rules. Meters cannot be measured for several reasons, including unusual usage patterns (solar and EV customers are examples).

Another performance metric that is now calculable is the **realization rate** across the portfolio of projects. A realization rate compares actual energy savings achieved

to the predicted/estimated savings (typically expressed as a percentage: Realization Rate = Actual Energy Savings / Predicted Energy Savings). The program’s performance is particularly noteworthy as it is currently achieving realization rates above 81% across all categories. Using realization rates as a proxy for performance relative to predictions, the program shows strong results across three main categories for projects that are either actively tracking or fully complete through the end of 2024.

Realization Rates for:

97%

Electric Savings (kWh)

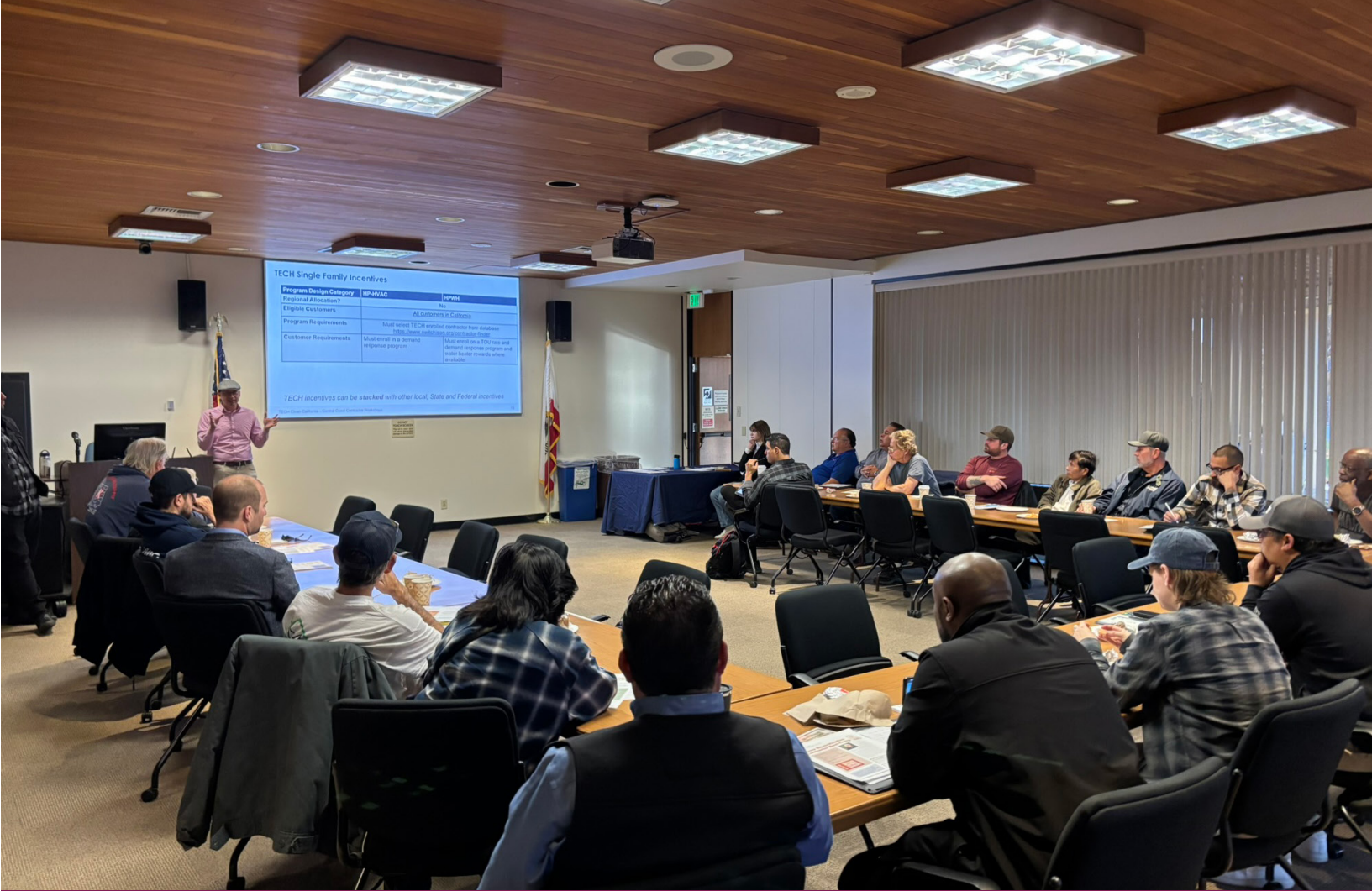
81.2%

Gas Savings (therms)

92.8%

Total System Benefit (\$)

These figures demonstrate that aggregators are submitting energy savings estimates that very closely match measured energy performance. A crucial development given that, prior to the availability of energy data, the program was paying incentives based solely on estimated savings. High realization rates show that program dollars were being distributed fairly despite not having access to energy data.



Jeffery Liang of Energy Solutions presents to a group of contractors in Ventura County about available incentive programs

Electrification Incentive Workshops for Contractors

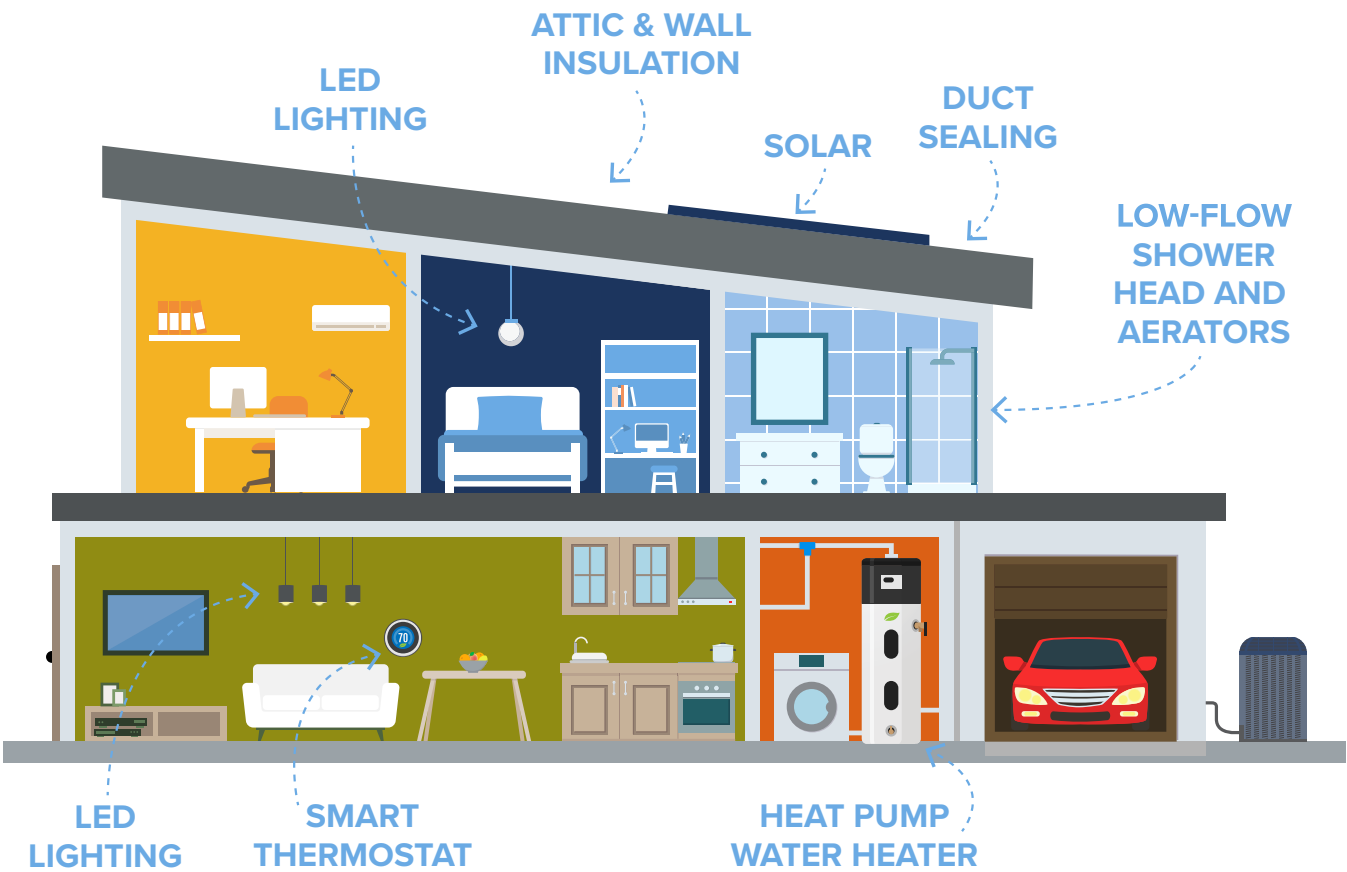
In December 2024 the program hosted a series of electrification incentive workshops in partnership with Santa Barbara Clean Energy, Energy Solutions (representing TECH and HEEHRA incentives), Central Coast Community Energy, and Clear Result (representing Golden State Rebates). These workshops provided contractors with a comprehensive overview of local, regional, and state residential electrification incentives while clarifying program rules to optimize incentive stacking. To enhance accessibility for local contractors, three in-person events were held across the tri-county region, each drawing approximately 30 attendees. These sessions offered contractors valuable opportunities to discuss their projects with numerous program administrators.

By hosting all the programs in one space, 3C-REN aimed to support market transformation by highlighting the various and often complementary programs and emphasizing services available to support home electrification. Following the workshops, state and local program administrators reported increased engagement from local contractors. Looking ahead, 3C-REN aims to expand in-person coordination efforts with contractors, connecting them with not only our programs but all programs that can support energy efficiency and electrification in the region.

An Increase in Comprehensive, Multi-Measure Energy Upgrades

Although Population NMEC design allows for flexibility and supports comprehensive energy upgrades, the program saw limited adoption of multi-measure projects in 2022 and 2023. However, in 2024, there was a notable increase in the percentage of households that implemented multi-measure upgrades. Fifteen percent (15%) of participating households (79 households) had multiple measures completed through the program in 2024. In comparison, a small percentage (5%) of participating households (15 households) completed more than one measure in 2023.

The nature of these combined measures also shifted strongly towards comprehensive electrification. In 2024, 55 households installed both heat pump water heating and HVAC heat pumps through the program, a significant increase from just 5 households in 2023. This trend towards multi-measure projects is an area for further study, including whether any program participants removed their gas service following program participation.



Addressing Unique Regional Needs: Priority Ventura County Customers (PVCC)

In 2024, the program introduced the “Priority Ventura County Customer” (PVCC) designation to better support customers in Ventura County that do not meet the geographic HTR criteria but still face similar barriers to participation. The PVCC designation allows contractors and aggregators to offer higher-than-market-rate incentives to customers in Ventura County who meet at least two of the non-geography HTR criteria: enrollment in CARE or FERA utility rates (i.e. low-income), residency in mobile or manufactured homes, or speaking a primary language

other than English. The PVCC designation acknowledges that many customers in Ventura County require comparable support to HTR customers in Santa Barbara and San Luis Obispo Counties (which fall into the geographic HTR criteria) to successfully complete energy upgrades. By bridging this gap, the program better meets the needs of its territory and ensures that more residents can successfully complete energy upgrades. In 2024 there were 45 PVCC projects completed, about 9% of total projects.

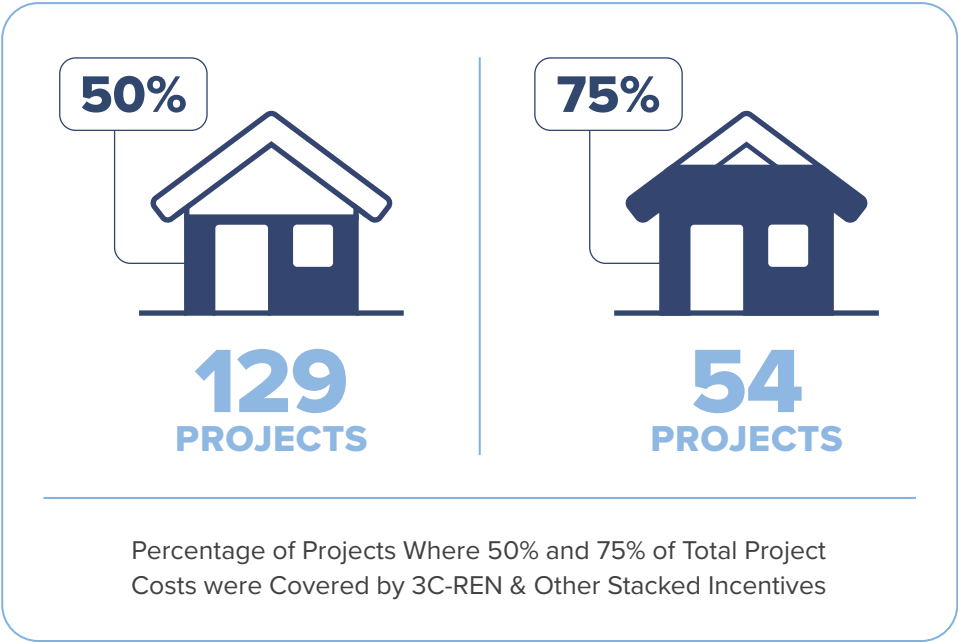


Incentive Stacking Drives Deep Savings for Electrification Projects

3C-REN’s incentives are frequently stacked with other incentives to further bring down customer costs. In 2024, 22% (113 projects) of projects utilized some form of incentive stacking (not all project types were eligible for additional incentives). The financial impact on project cost for customers was significant—15% of projects (77 total) had at least a 50% discount from accessing 3C-REN discounts alone, while 25% of projects (129 total) had at least a 50% discount from total upfront project cost from all applied incentives including 3C-REN’s Program.

With heat pumps comprising 71% of installed measures-technologies (291 HVAC and 130 water heaters) that typically have higher upfront costs, the role of incentives in influencing customer decisions is a key area of study for 3C-REN. Did customers move forward with these projects because they received a 50% discount? In some cases, they would have opted for gas equipment if the incentives were lower.

Note: 3C-REN incentives are highest for projects that provide the most grid benefit, or for HTR customers. 3C-REN incentives in these totals represent incentive amounts that are required to be passed on from the aggregator to the customer. Additional performance payments may be passed to customers, increasing customer savings.



Resilient Central Coast

In 2024, Resilient Central Coast and 3C-REN co-hosted two online community workshops about electrification and heat pumps, engaging a total of 142 participants. The January session, “Home Electrification Workshop,” provided an overview of home electrification projects and their benefits and in December, “Heat Pumps: Finding HVAC Experts and Unlocking Rebates” connected participants with the relevant resources and timely incentive programs to get a heat pump HVAC project completed.

Beyond its online presence, Resilient Central Coast was represented by 3C-REN staff at five Earth Day events in April, an effort that resulted in nearly 200 tri-county households enrolling on the Resilient Central Coast platform and many more attendees receiving educational materials and guidance about energy efficiency and electrification programs.

In 2024 updates to the platform ensured that resources would be available to all platform visitors, without requiring enrollment to see localized results. Household enrollment reached 1,247 at the close of the year. These enrolled households have completed or committed to 4,864 actions resulting in estimated savings of 163 tons of CO₂e, 18,339 kWh, and 3,142 therms.

”

I know my husband would have said an unequivocal NO without **all the great rebates.**

Home Energy Savings program participant, Oak View

Opportunities in 2025 and Beyond

In 2023 and 2024, the program gained traction and established credibility with contractors and aggregators. Building on this momentum, the focus in 2025 will be on three key areas to enhance impact and effectiveness.

A primary priority will be expanding support for HTR customers by reserving the majority of the budget for projects that serve these customers. To encourage participation, the program will offer hands-on assistance through a concierge service and electrification planning services. Additionally, partnerships with community organizations will help strengthen connections with HTR audiences for greater accessibility and engagement.

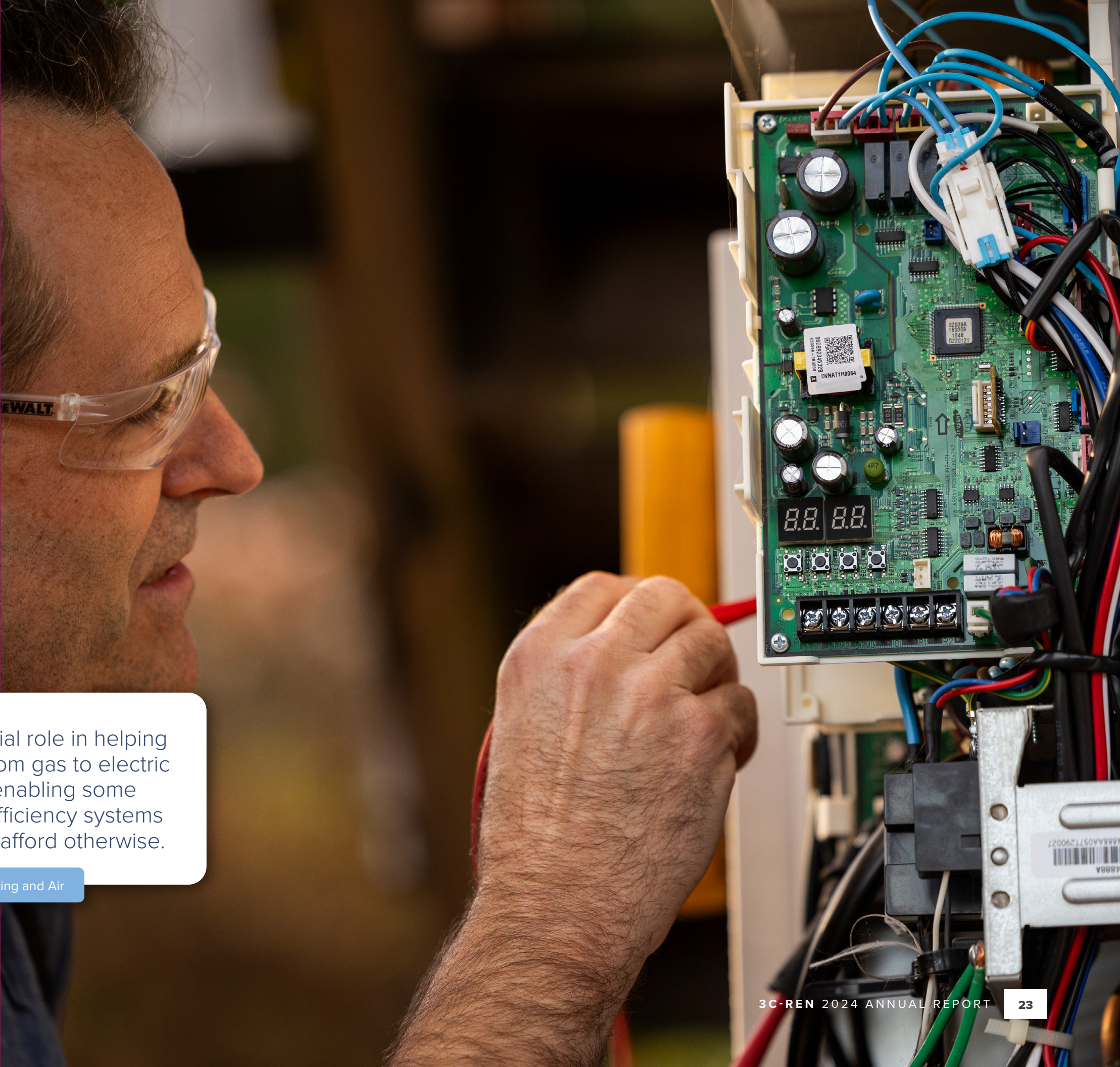
Enhancing program operations will also be a focus, with customer surveys used to assess satisfaction with incentives, program processes, equipment, and contractor experiences. Insights from this feedback will guide improvements to create a positive customer experience.

Alongside operational enhancements, the program aims to promote comprehensive upgrades by recruiting contractors and aggregators dedicated to whole-building improvements. A key objective is to increase the percentage of insulation and building envelope upgrades that accompany HVAC upgrades.

”

These incentives have played a crucial role in helping us **boost sales**, making the switch from gas to electric more affordable for our clients, and enabling some homeowners to upgrade to higher-efficiency systems that they may not have been able to afford otherwise.

Enrolled Contractor, Bee Right There Heating and Air



Home Energy Savings For Multifamily Properties

Program Description

OVERVIEW

The Home Energy Savings (HES) program helps 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

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

The program targets 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. 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.

For the multifamily program, HTR criteria is the same as for HES for single family homes (geography, language, income and Native American Tribal membership), 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.

HOW THE PROGRAM WORKS

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 CO₂e per unit. The program also offers an alternative pathway for participation to allow for partial building upgrades, under which an incentive is 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 or their contractor depending on the arrangement.

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

SUMMARY OF PERFORMANCE AND ACCOMPLISHMENTS

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. The program emphasizes whole-building, comprehensive upgrades with enhanced incentives for HTR customers and high-performance measures with high GHG reductions.

In 2024, a total of 19 qualified leads were generated and site assessments were conducted on 22 properties. The program ended the year with 13 completed projects serving families in 1,319 units—a fivefold increase in units served from the previous year. Six of the completed projects were HTR properties, 46% of the total.

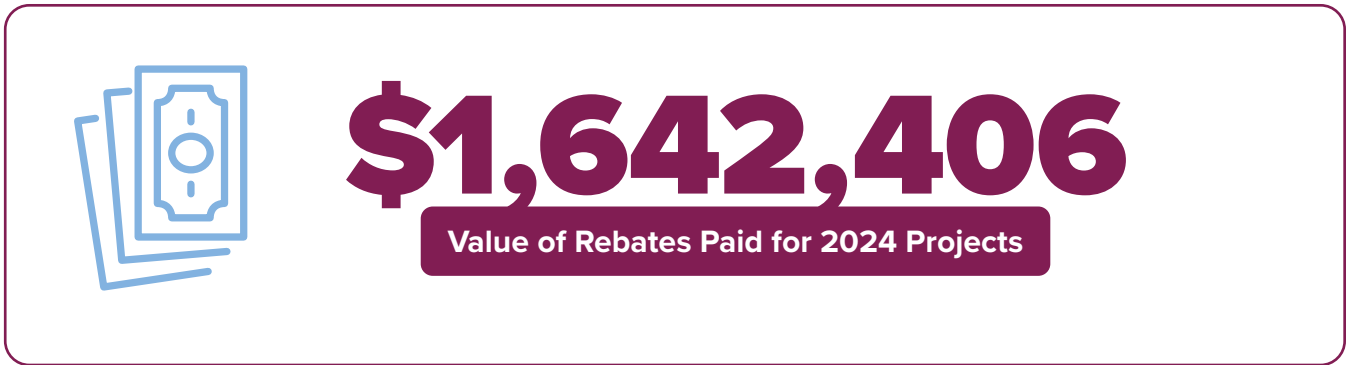
In addition, 11 properties met the CPUC underserved criteria (85%), 3 properties were deed-restricted, and 3 properties in Ventura County were in AB 1550 Low-Income Communities. In other words, most projects that did not meet the HTR criteria still supported low-income tenants. Net kWh and kW savings for claimed projects are -277,306.64 and 12.79 respectively and net therm savings are 69,719.97, with negative numbers reflecting fuel substitution in electrification projects. Greenhouse gas savings were 296.59 TCO₂e. Projects regularly included mini split heat pumps, heat pump water heaters, attic insulation, and pipe insulation. Looking ahead, there were 32 projects in the pipeline at the end of 2024.

Tenant in an apartment in Santa Barbara stands by her new induction cooktop that was completed as part of a comprehensive building upgrade



Home Energy Savings For Multifamily Properties

Summary

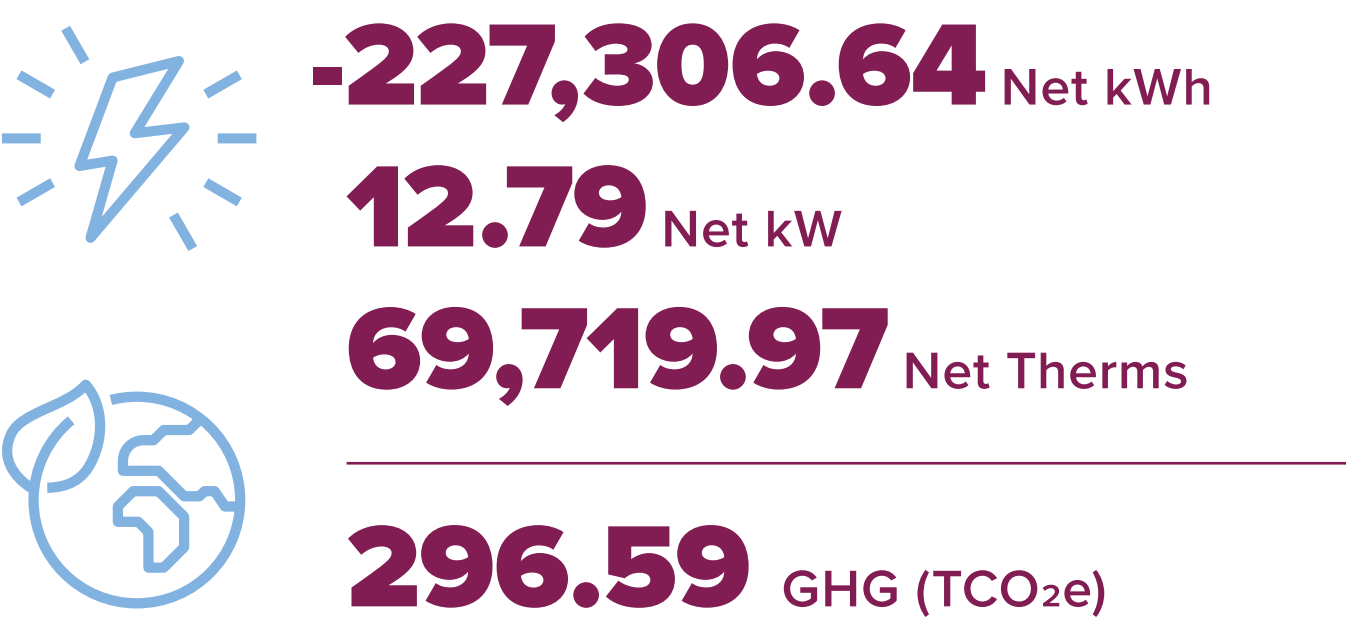


Units Served

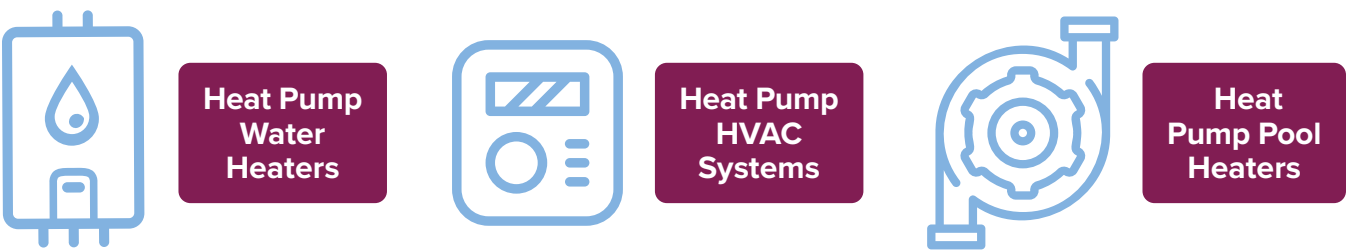


Home Energy Savings For Multifamily Properties

Energy & Greenhouse Gas Savings



Types of Projects Completed



Other Project Types:
Insulation, lighting, electrical upgrades, variable speed recirculation pumps and pool pumps, smart thermostats, and water-saving fixtures

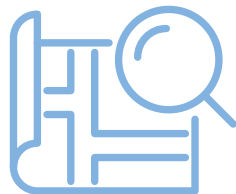
Home Energy Savings For Multi-Family Homes

Project Pipeline



19

New Qualified Leads



22

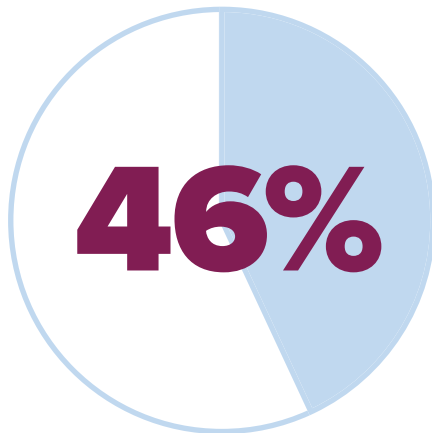
Site Assessments



32¹

Projects in the Pipeline

Equity Customer Projects²

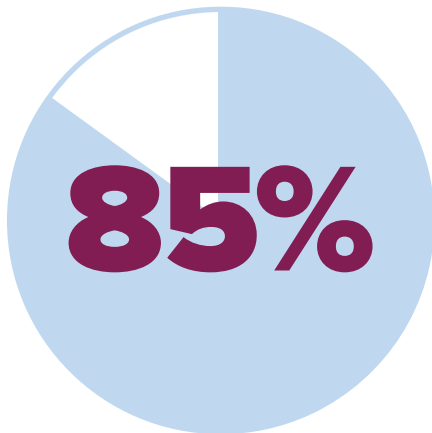


6

Projects Serving
HTR Sites

11

Projects Serving
Equity Target Sites



Over **90%** of 2024 projects were either HTR, CPUC Underserved, deed-restricted or located in an AB 1550 Low-Income Community.

¹ Projects with a rebate reserved and/or with a projected 2025 close date.

² Equity Target Customer projects include projects in census tracts that meet the definitions of CPUC Underserved, Hard-to-Reach and Disadvantaged Communities.

”

This not only helped us, but it will ultimately help our tenants who are mostly low-income families by **using less energy and lowering monthly bills.**

Owner of a Hard-to-Reach property in Santa Barbara County

2024 HIGHLIGHTS

Below are several key program accomplishments that occurred in 2024.

Fivefold Increase in Units Served in 2024

In 2024 the multifamily program had its biggest year yet, serving 1,319 residential units—a fivefold increase from the previous year! This increase can be attributed to the program hitting its stride in its third year of operation, achieving a full pipeline with projects actively progressing. Multifamily projects, especially those serving HTR and underserved customers, are lengthy—they take a lot of time to develop and involve high-touch technical assistance. For example, a property that first expressed interest in the program in mid 2022 did not complete their project until late 2024—a two-year lead time. 3C-REN’s technical assistance provides essential support throughout a project’s lifetime, something that sets it apart from most other available incentive programs. Alongside the significant increase in units served was the increase in rebates. 3C-REN rebates totaled over \$1.6 million and generated over \$4.1 million of upgrades.

3C-REN rebates totalled over

\$1.6 million

and generated over

\$4.1 million

of upgrades

For Majority of Projects, 90% of Costs Covered

Two-thirds of projects completed in 2024 had 90% or more of their project costs covered with 3C-REN rebates or by applying multiple rebates that stack with 3C-REN’s. Numbers like these are essential for serving HTR communities and affordable housing providers.

About 25% of 3C-REN projects leveraged other incentive programs—this rebate stacking was made possible by the expert guidance from 3C-REN’s technical assistants, who familiarize themselves with all the available programs and associated eligibility

guidelines to advise on what rebates and incentives a property may layer with 3C-REN’s program.

This guidance is also important for achieving the high energy savings associated with heat pump technology—heat pump water heating and HVAC systems come with high upfront costs and low payback, so the ability to stack 3C-REN incentives with additional programs can sway property owners to choose them. Programs that pair well with 3C-REN rebates include Central Coast Community Energy (3CE) Electrify Your Home, TECH Clean CA Multifamily, the CA statewide Low Income Weatherization Program (LIWP), and Solar for Multifamily Homes (SOMAH).

3C-REN & STACKED REBATES COVER AN AVERAGE OF 69% OF PROJECT COSTS

PROJECT	PROJECT STACKED MULTIPLE REBATES	PERCENTAGE COVERED BY ALL REBATES
1	Yes	100%
2	Yes	100%
3	Yes	92%
4	Yes	23%
5	Yes	100%
6	No	100%
7	No	100%
8	No	100%
9	No	94%
10	No	94%
11	No	72%
12	No	70%
13	No	55%
Total		69%

Serving Older Adults at Affordable Senior Living Properties

The program supported two comprehensive upgrades at affordable senior living properties in 2024, fully covering an energy efficiency project at a 130-unit property in Santa Maria and developing a multi-program rebate package for an energy efficiency, heat pump water heating, and heat pump HVAC project at a 38-unit property in Ventura. These senior residents will benefit from improved lighting, appliances, and water fixtures, reduced risk of combustion appliance safety issues, and added cooling in Ventura County—the fastest warming county in the contiguous U.S. according to a 2019 Washington Post article.

Demystifying Energy Incentives: Happy Hour and Resource Exhibit

On June 28th, the Multifamily Home Energy Savings team held a mixer for property owners to learn ways to achieve comprehensive upgrade projects for their properties. Solar, EV, and energy efficiency incentive programs were all highlighted in presentations from 3C-REN, Central Coast Community Energy (3CE), and Solar on Multifamily Affordable Housing (SOMAH). The event was supported and hosted by the Community Environmental Council in their downtown Santa Barbara Environmental Hub. The mixer supported the Multifamily program goal to build 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 creating spaces for peer-to-peer learning, the multifamily program hopes to alleviate these concerns and help decision makers feel more comfortable and excited to make energy-saving upgrades.





Heat Pump Water Heaters Gain Momentum

In 2024 the program saw a dramatic increase in property owners undertaking the switch from gas to electric for water heating, leading to substantial greenhouse gas emission savings. Two large properties completed heat pump water heating projects with zero out-of-pocket costs, thanks to program stacking.

The properties have 154 and 168 units and are both located in AB 1550 Low-Income Communities. One property installed unitary heat pump water heaters while the other installed central heat pump water heaters.

These projects were successful due to a number of factors: co-leveraging 3C-REN, CCCE, and TECH Clean CA rebates, technical assistance from 3C-REN that teed-up the projects for the contractor, a full-service design-bid-build company that was willing to take the rebates directly and float the cost for the owner, and engaged property management teams.

”

Without funding programs such as 3C-REN, we would not have been able to complete a much-needed HVAC upgrade at our multifamily property. **The funds received enabled us to install energy efficient heating and air conditioning units into each unit within our 50+ unit property.**

Asset Manager for a property in an AB 1550 Low-income Community in San Luis Obispo County

Opportunities in 2025 and Beyond

The Home Energy Savings program will continue to provide multifamily property owners with reliable and impactful rebates and 1:1 technical assistance at a time when uncertainty is prevalent in much of the energy retrofit market.

The program will focus on underserved customers, such as affordable housing and small property owners, and on complicated projects, such as heat pump water heating and comprehensive whole building upgrades. Innovative projects will be completed in 2025 that push the market forward by giving more owners and contractors exposure to electrification projects and new high-performance technologies.

Rebates will change slightly to meet the needs of 3C-REN customers. More money will be available for running new electrical wiring when switching from gas to electric equipment and a new rebate will be offered to encourage heat pump maintenance plans to get installers and maintenance staff comfortable with simple preventative measures to maintain the highest performance of the installed systems.

Pending approval of Integrated Demand Side Management (IDSM) budgets, a new opportunity to expand 3C-REN's technical assistance offering is available in the form of collaboration with local partners administering a California Energy Commission REACH 2.0 Electric Vehicle Supply Equipment (EVSE) grant. Multifamily properties slated to receive REACH 2.0 funding could receive 3C-REN's traditional energy efficiency technical assistance as well as new EVSE technical assistance, if IDSM funds are approved. This technical assistance could include site assessments, electrical evaluations, and project planning to make REACH 2.0 EVSE projects happen. This new offering would broaden the range of services available to multifamily property owners and further support energy efficiency and electrification access for residents in affordable housing.

Lastly, the program will collect and analyze utility data for many of the 25 projects already completed. In 2025, the program will explore how these projects are performing with actual energy usage data. This pre-install and post-install energy benchmarking will give valuable insight into which installations are performing best and what can be improved.

Commercial Energy Savings

Program Description

OVERVIEW

The Commercial Energy Savings (CES) program supports commercial business renters, lessees, and owners in the tri-county region install energy efficient upgrades. Enrolled aggregators are offered incentives to install energy-saving improvements, with greater incentives for hard-to-reach (HTR) customers who may need additional support to achieve energy upgrades. The program helps businesses reduce utility bills while also supporting sustainable decarbonization efforts, fostering a healthier environment for all.

WHAT THE PROGRAM DOES

Commercial Energy Savings provides incentives for energy efficiency upgrades for small- to medium-sized businesses, nonprofits, and public agency facilities. Incentives are offered to contractors for energy upgrades such as heat pumps for HVAC (heating, ventilation, and air conditioning) and water heating, lighting, building envelope, and refrigeration. The program emphasizes comprehensive, whole-building upgrades and electrification measures. The program utilizes a population normalized metered energy consumption (NMEC) program design which measures a baseline of energy usage prior to installation and will monitor progress for a year after project completion.

WHO THE PROGRAM SERVES

To be eligible for incentives, customers and projects must meet all three of the following criteria:

- Located in either San Luis Obispo, Santa Barbara, or Ventura counties
- Receive electric distribution and natural gas services from any combination of PG&E, SCE, and SoCalGas
- Associated with an eligible North American Industry Classification (NAICS) code

Following verification of these criteria, nearly any project that results in metered energy savings is eligible for incentives. With 3C-REN's focus on reaching customers not historically served by larger energy programs, enhanced incentives are offered for HTR customers. These customers are defined as smaller business operations, located in geographic isolation, facing language barriers, leasing or renting rather than owning property, lower income, and/or located within Designated Disadvantaged Communities (DACs).

HOW THE PROGRAM WORKS

Commercial Energy Savings is implemented by Recurve using its FLEXmarket platform, with regulatory support from Frontier Energy.

Businesses are introduced to the program through a variety of outreach channels: contact with local green business programs, email outreach from 3C-REN staff, contractor outreach, local events, and energy-saving resources shared on 3C-REN and partner websites. After customers submit an interest form on 3C-REN's website, a commercial concierge initiates contact with the businesses to better understand their energy efficiency goals. Contractors estimate the energy savings for their projects and submit the information to Recurve, either independently or through an aggregator. Projects are submitted for preapproval to secure incentives and then for final enrollment after installation. Incentives are paid directly to the contractors, with additional incentives for HTR customers. Contractors receive 20% of the estimated incentive upfront, with the remaining balance paid over the course of a year. The balance is performance-based, meaning payments depend on the actual metered energy savings from the project.



Program Performance and Major Accomplishments

Summary of Performance and Accomplishments

In 2024, the first year of program operation, the primary focus was to establish a solid foundation for scaling the program in 2025. Key milestones were achieved, including acquiring all necessary customer meter data from Investor-Owned Utilities (IOUs), contracting with implementation partners Recurve and Frontier, and outreach partners from local green business programs, as well as building out program processes, completing a program manual, and building a program webpage with a lead intake form.

The program underwent a soft launch in October 2024, initially featuring only electric customer meter data (due to limited IOU data availability). Following the retrieval of both electric and natural gas data, the program was officially launched and widely promoted in late December 2024.

”

We are thrilled to see the launch of the 3C-REN commercial program and the **tremendous potential it brings for advancing energy efficiency in our community.** The program’s focus on sustainable solutions and its commitment to supporting local businesses aligns perfectly with our vision for a greener future.

Enrolled Contractor, Ventura County

Measuring Performance

9  ENROLLED AGGREGATORS

4  GREEN BUSINESS PROGRAM PARTNERS

6  COMMERCIAL BUSINESS LEADS



2024 HIGHLIGHTS

Below are several key program accomplishments that occurred in 2024.

Access Gained to Customer Data at All Three Investor-Owned Utilities (IOUs)

The program was finalized and approved in 2024, and staff began coordinating with IOUs early on to gain access to necessary data. Electric data was received in October 2024, and access to the required meter data for both electric and natural gas was granted in December 2024. A soft launch with electric-only data occurred in October 2024. Once all electric and natural data was confirmed, the program was officially launched and promoted in late December 2024. Regular meetings are held between IOU and 3C-REN staff to ensure consistent communication regarding updates from all parties. These meetings serve multiple objectives: enhancing mutual understanding of available programs, encouraging participants to enroll in multiple programs where possible, and preventing enrollment in overlapping incentive programs.



PROGRAM SOFT LAUNCH (OCT. 2024)



Partnerships Established with Green Business Programs

To strengthen connections with local businesses, 3C-REN recruited green business programs (GBPs) to assist with outreach and marketing efforts. The program is partnered with four GBPs including the Environmental Center of San Luis Obispo (ECOSLO), Santa Barbara County GBP, City of Ventura GBP, and County of Ventura GBP. Green business programs promote sustainable practices in businesses and non-profits and certifies those that meet environmental standards. The CES program will enable businesses to complete projects that are recommended by GBPs and connect them with other opportunities for energy savings. Furthermore, due to GBP's strong sustainability goals and deep-rooted connections with the communities they serve, they are trusted messengers to champion the program. In 2024, GBPs conducted on-the-ground outreach as well as one-on-one meetings with businesses, which generated several leads.



Concierge Provides Holistic Customer Support

The CES Concierge is the main point of contact for customers, responsible for understanding their energy needs and resolving project enrollment roadblocks. The Concierge connects customers with contractors that are working with aggregators in the program and maintains regular contact with the customers to ensure that their needs are met by the contractors. In addition to connecting customers to contractors working with the CES program, the concierge also provides holistic guidance to support energy upgrades, introducing customers to other eligible energy programs that may be a better fit or may be complementary to 3C-REN's offerings.



Outreach Strategies and Progress

To promote the program in 2024, staff created collateral materials, partnered with local green business programs, and facilitated a series of meetings with complementary energy program providers. Related programs that staff have engaged with include PG&E's Central Coast Leaders in Action (CC-LEAP) run by the Energy Coalition, SoCalREN's Public Agencies program, Clean Power Alliance's Power Ready and Energized Communities programs, Central Coast Community Energy's (3CE) Electrify Your Ride program, GoGreen Financing, and TECH Clean California. These meetings focused on collaboration, referrals, and avoiding duplication in regional commercial programs.

Given this program is the first of its kind for the tri-county region, spreading awareness about this new offering for small- to medium-sized businesses and nonprofits was met with great enthusiasm and interest. The program developed a strategy focused on three marketing pillars, including targeted outreach to HTR businesses, networking with the greater businesses sector, and wider-net digital outreach. Full implementation of this marketing strategy is underway for 2025.



Leads and Potential Projects

Six leads came in from the program's soft launch, including three highly motivated businesses across the three counties. Business types, motivations and needs vary. For example, a local deli in San Luis Obispo needs a major refrigeration upgrade. A museum in Ventura, a cultural and community fixture located in a Designated Disadvantaged Community (DAC), experiences high energy bills and is interested in pursuing an HVAC upgrade to support financial stability amidst rising energy costs. A local YMCA is invested in being the most energy-efficient business possible, with an identified need for exterior LED lighting and pipe insulation. Beyond scoping for potential projects, businesses will receive personalized support to ensure they can take advantage of other eligible energy programs and benefit from the greatest savings possible.

Opportunities in 2024 and Beyond

With newly acquired access to comprehensive customer utility data, the focus for 2025 will be enrolling more aggregators, contractors, and projects into the program through targeted outreach to both customers and aggregators. Growing and developing relationships with commercial aggregators will allow the program to connect potential customers to the best-suited contractors to meet their energy goals.

Outreach will be a primary focus in 2025, concentrating on refining messaging, strengthening partnerships with green business programs, building brand awareness, and identifying the most impactful outreach methods. Staff will compile a target list of small- to medium-sized businesses that meet HTR criteria and request individualized meetings. As the program is aimed at small- to medium-sized businesses, a key priority will be to continually assess and adjust strategies to ensure effective engagement of this target customer base.

Partnerships and collaboration will also be critical in this effort. Leveraging and deepening the 3C-REN network, staff will continue to engage green business programs, meet with chambers of commerce across the tri-county region, attend business networking events, and set meetings with smaller public agencies who might benefit from energy upgrades. Staff will closely monitor engagement and lead generation through 3C-REN channels, including social media.

The diversity of both commercial leads and potential project types seen in 2024 sets an exciting stage for 2025. Projects in HVAC, refrigeration, lighting, and pipe insulation are on the horizon. Businesses may range from small grocery stores and restaurants to nonprofits and faith centers to public agency facilities. In addition, a Commercial Concierge will match and guide customers through any other eligible energy programs and other grant funding opportunities. Providing discounted energy efficiency projects in conjunction with a personalized concierge service, the program is positioned to deliver meaningful energy saving outcomes to small- to medium-sized businesses, nonprofits, and public agencies in the tri-county region.



Partnering with 3C-REN has been a highly collaborative and valuable experience. Their commercial program is a great added resource that helps businesses take meaningful steps toward energy efficiency and sustainability. We’re excited to see how this partnership continues to benefit our Green Business community.

Green Business Program Partner, Santa Barbara County



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 three services: Energy Code Coach, regional forums, and training.

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 everchanging and complex Energy Code. Energy code experts provide prompt and personalized support online, over the phone, or in the field. Coaches provide local building professionals with code citations and other resources to support comprehension, compliance, and enforcement. Coaches develop personalized resources for jurisdictions and contractors to help professionals better understand and comply with compliance forms, code requirements, and local reach codes.

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.

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, energy consultants, 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. Additionally, monthly blogs are published addressing common questions, offering insights and solutions to help the community navigate energy code requirements.

Regional Forums: Regional forums use keynotes, expert panelists, interactive breakout discussions, and networking opportunities 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 meaningful connections in the industry.

Training: Energy Code Connect training events generally follow the same processes as Building Performance Training events. Instructors with specialized code expertise and with knowledge about how the State’s code is applied locally teach courses both virtually and in-person.



Program Performance and Major Accomplishments

Summary of Performance and Accomplishments

In 2024, Energy Code Connect had a productive year, expanding its impact through training events, regional forums, and the Energy Code Coach service. Over the course of the year, 25 specialized training sessions were delivered, covering critical topics such as the 2022 Energy Code, CALGreen, HERS Measures, Load Calculations, Compliance Forms, and more. These sessions attracted a total of 347 attendees, with 211 unique participants, demonstrating a strong and engaged audience seeking to deepen their expertise. The Energy Code Coach service reached new heights in 2024, delivering its most impactful year yet by providing expert technical assistance for 142 cases related to Title 24 Part 6 and Part 11.

The program successfully hosted two regional forums—one as an interactive online webinar and another as a dynamic in-person event. The webinar brought together key industry leaders, including representatives from CHEERS, CALCerts, and HERS Raters, to provide valuable insights into the evolving HERS industry. The in-person regional forum, held in partnership with the Santa Maria Valley Contractor Association (SMVCA), offered a unique opportunity for contractors to network, engage in a spirited cornhole tournament, explore the wide array of resources available at the 3C-REN tent, and learn about the upcoming 2025 energy code changes from local experts during a lunch and learn presentation.

Energy Code Connect

Overall **166** Organizations engaged in C&S activities

Energy Code Coach



39%

Jurisdictions Using Code Coach



142

Inquiries



64

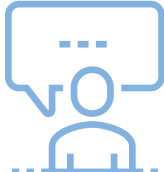
Organizations Using Code Coach

Code Coach Outreach



125

Organizations Outreached to Annually



6

Requested Staff Trainings Resulting from Outreach

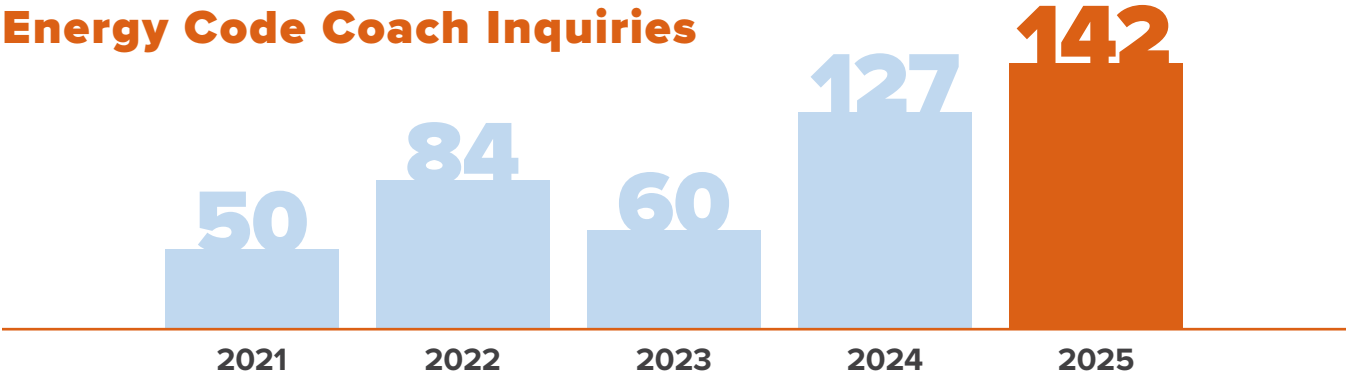


100%

Jurisdictions Receiving at Least One Marketing Touch

Energy Code Connect

Energy Code Coach Inquiries



Training Events



25

Events this Year

118

Events to-Date

Event Attendees



347

Attendees



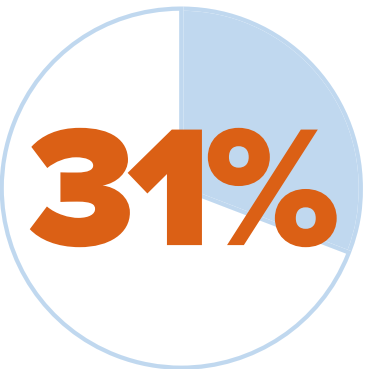
211

Unique Attendees



2,199

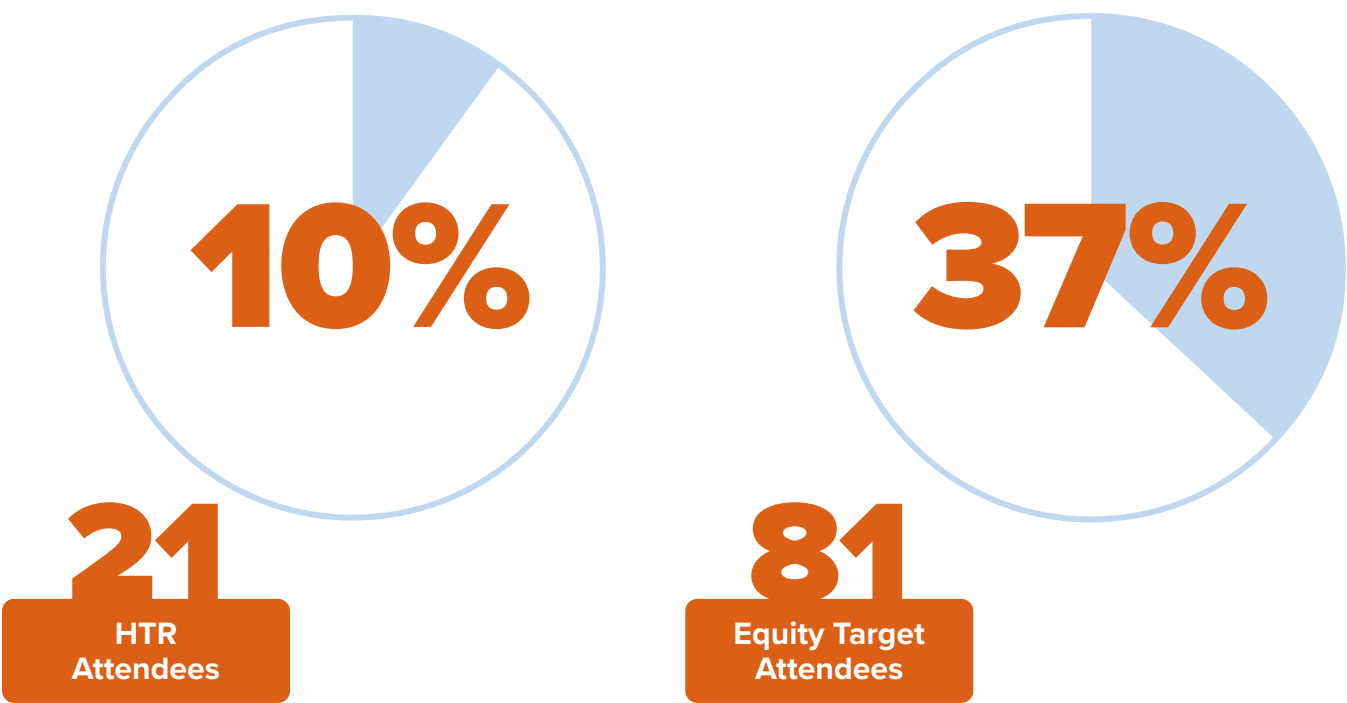
Attendees to-Date



Percent of Attendees who Attended More than One Event

Energy Code Connect

Equity Attendees



Equity Target Attendees include attendees with addresses in census tracts that meet the definitions of CPUC Underserved, Hard-to-Reach and Disadvantaged Communities

Regional Forums

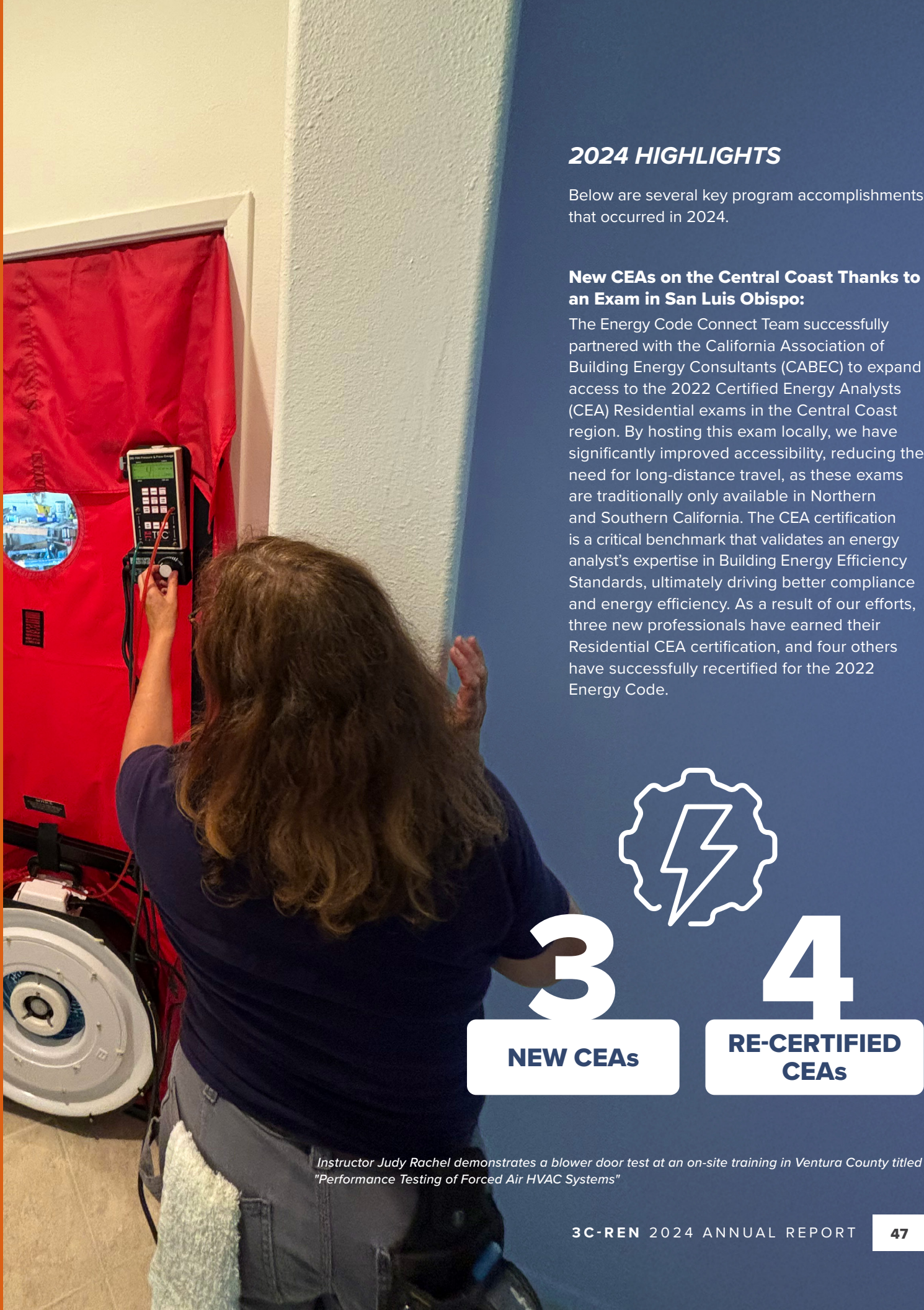


2024 HIGHLIGHTS

Below are several key program accomplishments that occurred in 2024.

New CEAs on the Central Coast Thanks to an Exam in San Luis Obispo:

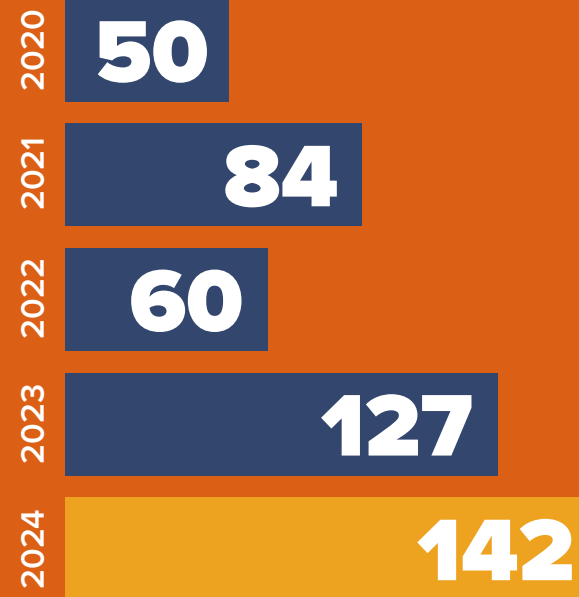
The Energy Code Connect Team successfully partnered with the California Association of Building Energy Consultants (CABEC) to expand access to the 2022 Certified Energy Analysts (CEA) Residential exams in the Central Coast region. By hosting this exam locally, we have significantly improved accessibility, reducing the need for long-distance travel, as these exams are traditionally only available in Northern and Southern California. The CEA certification is a critical benchmark that validates an energy analyst's expertise in Building Energy Efficiency Standards, ultimately driving better compliance and energy efficiency. As a result of our efforts, three new professionals have earned their Residential CEA certification, and four others have successfully recertified for the 2022 Energy Code.



Instructor Judy Rachel demonstrates a blower door test at an on-site training in Ventura County titled "Performance Testing of Forced Air HVAC Systems"



CODE COACH GROWTH



Energy Code Coach Continues to Achieve All-time High for Energy Code Support

In 2024, the Energy Code Coach service, in collaboration with In Balance Green Consulting, provided guidance on a record-breaking 142 code cases. Building professionals rely on the Energy Code Coach service to navigate complexities of CALGreen and Energy Code and get timely answers to their most pressing questions. Given the intricate nature of the Energy Code, this service remains an invaluable resource for both industry professionals and building departments. To further enhance accessibility, 3C-REN is also developing Spanish language support for the Code Coach service, helping to reduce language barriers and better serve hard-to-reach customers. With increasing demand for guidance and support, the program continues to serve as a vital resource for industry professionals navigating complex energy and green building code requirements.



Regional Forums Prepare for HERS Rater Code Changes & Engage Tri-County Contractors

In May, 3C-REN hosted its online Regional Forum, HERS Raters: The Past, Present, and Future. This event provided an in-depth look at the evolution of the Home Energy Rating System (HERS) and its significance in energy efficiency and building code compliance. It explored the program's history, highlighting key milestones that have shaped the role of HERS Raters in ensuring energy-efficient construction. A central focus of the event was the anticipated changes in the 2025 code cycle, outlining how these revisions will impact industry professionals and their work.

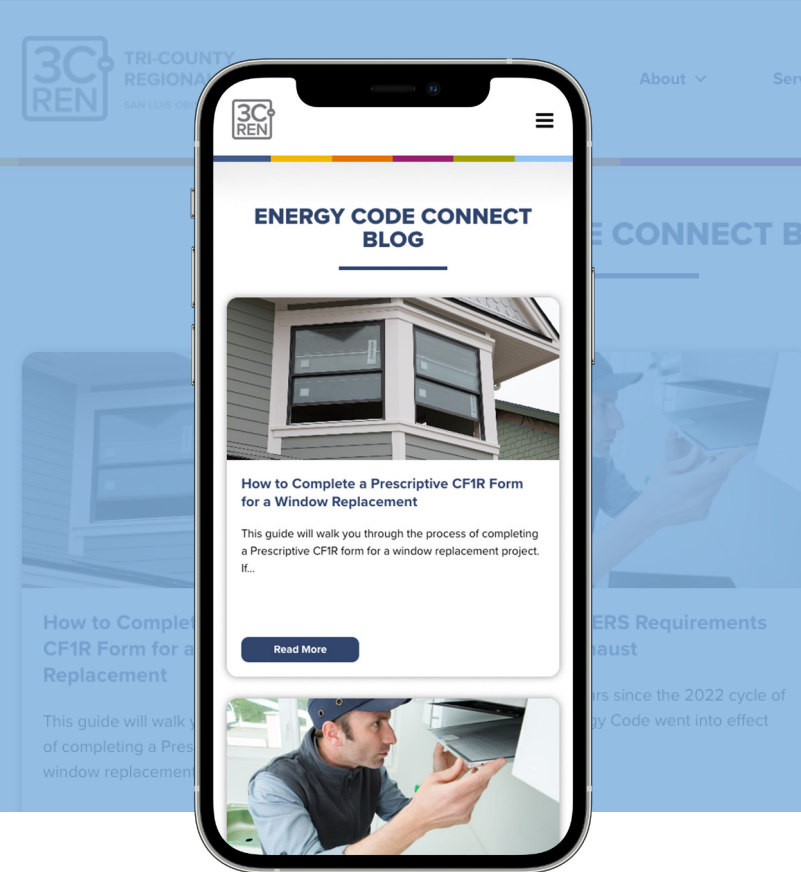
In October, 3C-REN partnered with the Santa Maria Valley Contractor Association (SMVCA) to co-host their inaugural cornhole tournament. The gathering provided contractors with opportunities to build business connections and gain insights into the upcoming 2025 Energy Code changes. 3C-REN hosted a speaker session featuring local experts, including Judy Rachel of Home Performance Pro, Nick Brown of Build Smart Group, and Jennifer Rennick of In Balance Green Consulting, who shared valuable information on energy efficiency and code compliance. Additionally, attendees engaged in the cornhole tournament, fostering camaraderie and low-stakes networking. The event successfully combined professional development with recreational activities, enhancing knowledge and engagement within the building industry.



Code Coaches Develop Resources to Help Jurisdictions with Code Compliance

The City of San Luis Obispo passed a new reach code for Alterations and Additions effective January 1, 2025. The code applies to major additions and/or alterations of 500 square feet or more and requires they complete a mix of required and flexible energy efficiency upgrades. To-date the City of San Luis Obispo is the only city in the tri-county region with an energy efficiency reach code for existing buildings.

To support the City's adoption of the new code, 3C-REN's Energy Code Coaches provided City staff training and developed intake materials, including an informational guide and form to assist staff and residents in understanding and complying with the new reach code. Ongoing support will be provided on a per project basis as permits are submitted through the city. A blog post was also created to summarize the code requirements and resources on how to comply.



Code Coach Blog Disseminates Valuable Technical Knowledge to Local Professionals

In 2024, the Energy Code Coach service continued to enhance industry knowledge and compliance by publishing monthly blogs addressing frequently asked questions and key clarifications related to energy code requirements. These blogs serve as an essential resource for building professionals, providing industry updates and expert guidance. Published on the 3C-REN website and distributed via email to the broader community, the blogs also covered significant industry developments. Notably, one of the most impactful updates of the year was the closure of CalCERTS, which had a substantial effect on the building industry. Given the importance of these changes, the blog series aimed to provide a deeper analysis of critical topics and ensure that professionals have access to the information necessary for informed decision-making. Twelve new blogs were added to the catalogue in 2024 covering niche topics such as: water submetering requirements for ADUs, triggers for EV charging in parking lot projects, embodied carbon updates to CALGreen, and more.



Opportunities in 2025 and Beyond

As the 2025 California Energy Code takes effect on January 1, 2026, the program's primary goal for 2025 is to equip building professionals with the knowledge and resources they need for a smooth transition. A regional forum will focus on key updates and changes to the energy code, providing an opportunity for industry professionals to deepen their understanding. In collaboration with In Balance Green Consulting, the program will also host a comprehensive energy code implementation series that covers the latest code updates for each occupancy to ensure widespread awareness and preparedness.

In an effort to enhance accessibility and outreach, the program will offer Energy Code Coach services in Spanish in 2025. This initiative will include a dedicated Spanish-language webform and phone line to better serve Spanish-speaking building professionals. To further bridge language barriers, the program will develop a simplified flyer featuring visuals of key topics covered by the Code Coach service, making it easier for audiences to understand and support hard-to-reach customers.

Energy Code Coaches will continue to support the City of San Luis Obispo community with the implementation of the newly passed local reach code. Building professionals and homeowners are encouraged to use the Energy Code Coach service to guide them through the compliance process. Code Coaches will also continue to support the County of San Luis Obispo with their Over-the-Counter ADU Title 24 report registration and assist jurisdiction staff and homeowners with questions.

To further expand access to training opportunities, the program is exploring a partnership with ConSol to provide free HERS/ECC Rater certification training for PG&E and/or SCE utility customers within the tri-county region. ConSol currently offers free HERS/ECC Rater certification training for SoCalGas customers. This partnership would fill a gap by increasing access to other utility customers within the tri-county region. By increasing the number of certified HERS/ECC raters, this initiative will enhance industry expertise and ensure broader accessibility to crucial knowledge in our area.

”

The energy code can be confusing, and trying to make sense of it alone can prove difficult. The saying “two heads are better than one” is especially true if that second head is one of 3C-REN’s Code Coaches. **They will break down how the code would apply to a particular scenario and work with you to make sure your project is in compliance.**

Mechanical Engineer based in San Luis Obispo

Photo: Attendees network, build business connections, and learn about upcoming 2025 Energy Code updates at the Santa Maria Valley Contractor Association's inaugural Cornhole Tournament

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, building standards such as Passive House, and sales skills to market energy efficiency. Typically, four to six 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 this workforce 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).

WHO THE PROGRAM SERVES

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 small, independent, and 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.



Ben Leer with Emu Passive showcasing a triple-pane window cross-section to attendees at 3C-REN's Passive Design/Build Bootcamp held in San Luis Obispo

Program Performance and Major Accomplishments

Summary of Performance and Accomplishments

In 2024 the program continued its growing momentum from the year prior, launching new technical training opportunities, finding innovative ways to engage hard to reach audiences, and building on existing relationships to expand training opportunities. As the program following grows, 3C-REN meets new demands and adapts to a shifting market, all while maintaining the core programming that has run successfully since 2019. To-date the program has had over 7,000 attendees join training events.

3C-REN remains on the forefront of the building decarbonization movement and a key resource for industry professionals on the Central Coast looking to upskill through convenient classes and by obtaining certifications. In 2024, the program expanded its focus on heat pump water heaters, a critical technology for decarbonizing the Central Coast's building stock. In 3C-REN's temperate climate, on average, water heating accounts for the

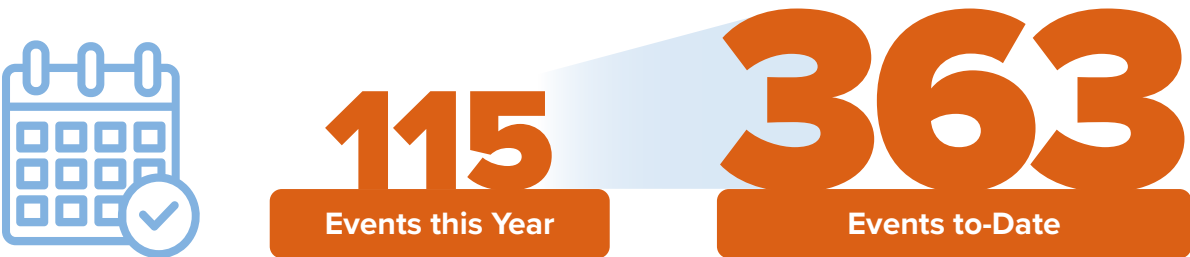
highest energy use in residential buildings. Water heaters are "low hanging [energy efficiency] fruit" and that is why it is imperative for local building professionals to understand the equipment and gain exposure and experience with it.

Throughout 2024, the program offered eight specialized sessions for plumbers across the tri-county region, focused on heat pump water heaters. Industry experts led show-and-tell discussions on optimizing coefficients of performance, minimizing callbacks, and maintenance techniques to keep this equipment in service for years to come. Additionally, the program launched an earn while you learn initiative, providing tradespeople with stipends to work alongside a skilled trainer, installing residential heat pump water heaters.

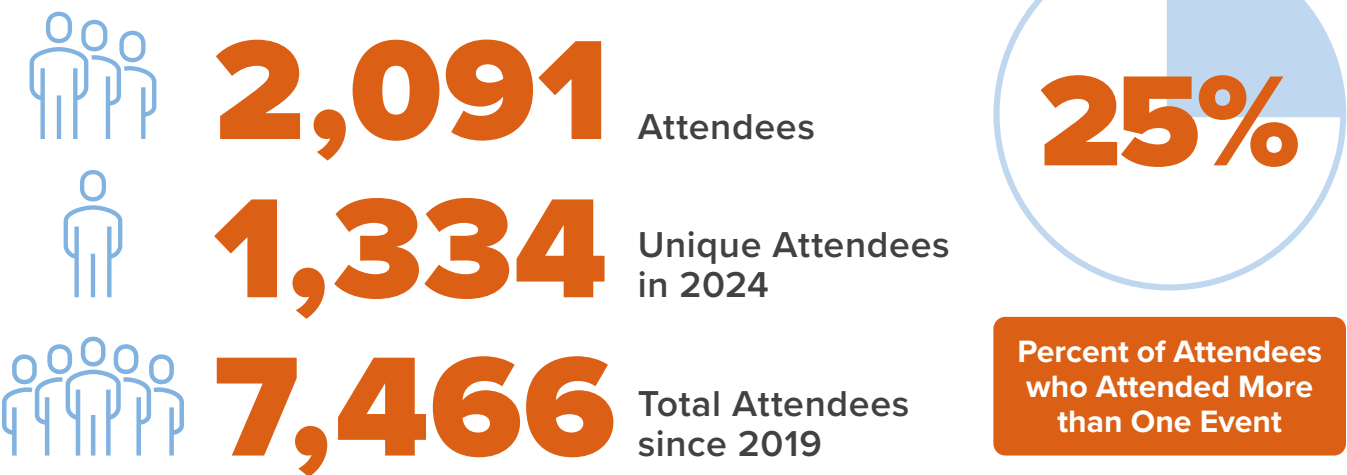
Building Performance Training continues to find new ways to engage the local workforce, strengthen industry partnerships with the institutions that have a long history of serving tradespeople in the region, while remaining true to the partnerships established early on.

Building Performance Training

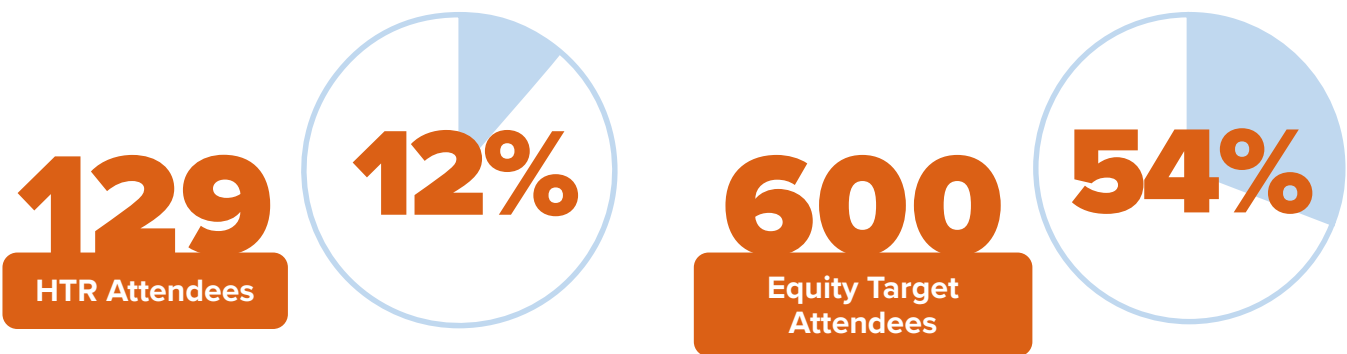
Training Events



Event Attendees



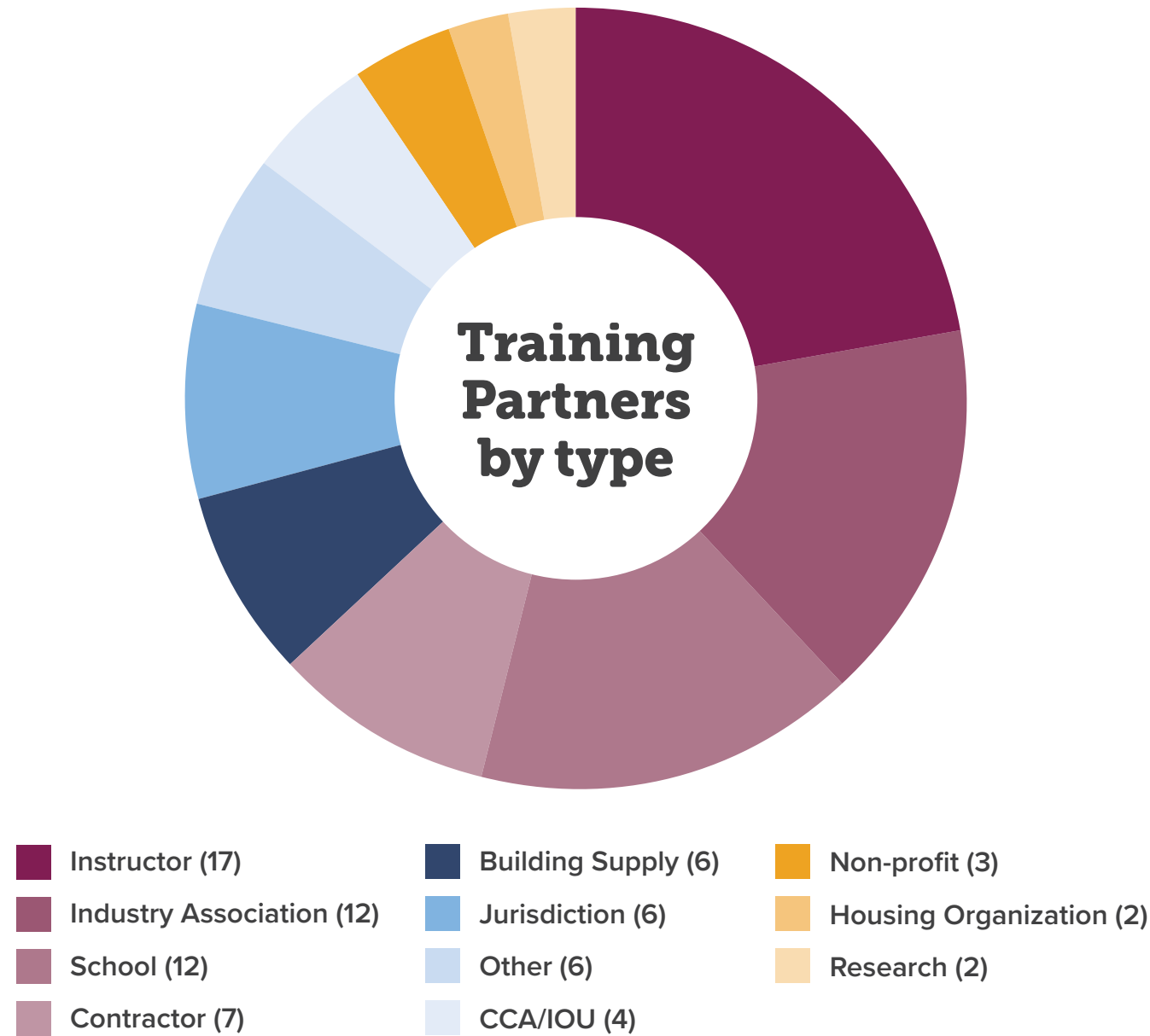
Equity Attendees



Equity Target Attendees include attendees with addresses in census tracts that meet the definitions of CPUC Underserved, Hard-to-Reach and Disadvantaged Communities

Building Performance Training

Collaborations



Building Performance Training

Supply House Tabling



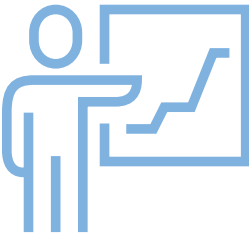
11

Supply House
Tabling Events

646

Estimated Impressions
at Supply House Events

Training for Schools



27

Guest Speaker
Events

690

Student Attendees

580

Unique Student
Attendees

Certifications



13

NAR Green Designation

15

Passive House
Tradespeople (CPHT)

11

Passive House Designer/
Consultants (CPHD)

5

High Performance
Fundamentals Certified



3C-REN instructor Michelle Zimney celebrates the donation of heat pump water heaters to Oxnard's Center for Employment Training, which began offering heat pump education thanks to a partnership with 3C-REN

2024 HIGHLIGHTS

Below are several key program accomplishments that occurred in 2024.

All About Heat Pump Water Heaters: Familiarizing Contractors with New Technology

The program kicked off and closed out 2024 with a dedicated series of trainings designed for plumbers and other trades installing heat pump water heaters (HPWHs). Certified Energy Analyst, Nick Brown of Build Smart Group, and domestic hot water distribution expert, Gary Klein of Gary Klein and Associates, travelled throughout the tri-county region, HPWH in tow, to deliver eight separate HPWH training sessions for plumbers. This curriculum was designed to address HPWH installation best practices head-on.

3C-REN gathered over 54 industry professionals to discuss the dos and don'ts of installing HPWHs in a way that maximizes coefficients of performance (COP's), minimizes wasted water, heat, and electricity, and eases the burden of maintenance for homeowners and maintenance professionals. The goal was to prepare the contractors who will be installing these water

heaters to optimize their performance, minimize call backs, and keep them in service for years to come.

Collaboration was crucial to the success of these events, each of which were either done in partnership with a regional contractor's association, or on the shop floor of a partner supply house.

In addition to these series targeted to plumbers, four additional hands-on training opportunities were offered in 2024. One in partnership with the City of San Luis Obispo, specifically focused on HPWH installation at mobile homes, training Community Action Partnership (CAP) staff. Three earn while you learn events were held with SunWork Renewable Energy Projects, with the outcomes of these trainings being newly installed HPWHs at homes on the Central Coast and upskilled contractors.

Instructors Nick Brown, and Gary Klein speak with participants at a "Heat Pump Water Heaters for Plumbers" training held in partnership with SLO County Builders Exchange in San Luis Obispo County



3C-REN instructor Javier Saucedo ready to engage with tradespeople about 3C-REN services during a Lowe's Pro event in Oxnard

Growing Trade Partnerships

County staff and subcontractors were busy in 2024, engaging with and growing a network of industry partners. The success of this program and industry adoption of building decarbonization relies on growing relationships with the trusted institutions that traditionally have served stakeholders that are difficult for 3C-REN to engage, namely contractors who unlike architects, are not required to obtain continuing education learning units.

A noticeable shift in engagement from local contractor's associations and supply houses occurred during 2024. The program is now actively engaging their membership and clients with training opportunities through newsletter blasts, partnered training offerings, physical

promotional flyers on shop counters, and expansion of a supply house tabling initiative that launched in 2023.

Workforce tabling has become instrumental to how the program serves hard-to-reach and disadvantaged worker populations, which requires proactive outreach and meeting folks where they are at in the community. Growing trust among the small and independent businesses that serve Spanish-speaking contractors remains a focus for the program. These efforts led to many training opportunities in 2024, that otherwise would not have occurred. Bilingual staff participated in 11 supply house tabling events, with an estimated total of 646 visitors to the 3C-REN table.



Earn While You Learn with SunWork

In 2024 the program launched an “Earn While You Learn” initiative to incentivize tradespeople to engage in 3C-REN’s programming and provide them with invaluable hands-on education.

3C-REN partnered with SunWork Renewable Energy Projects, a non-profit contracting business that leverages incentives and volunteers to drastically reduce (or even fully cover) the costs of solar and heat pump water heater (HPWH) projects for income qualifying residents and non-profits. Their model is unique and a great opportunity to get trade professionals trained on HPWH technology.

Installs are typically a swap out of a gas fired water heater for a heat pump. Participants are able to see firsthand how HPWH equipment differs from the legacy equipment most are used to installing in the field. The training also covers how to evaluate plumbing and electrical layouts, maintenance considerations, and installation best practices.

The program provides licensed contractors (and employees of licensed contractors) with up to a \$599 stipend to work along side SunWork’s skilled installer (roughly ~\$300 per install for up to two paid installs). Installations provide a full 8–hour day of hands-on skill building with a 2:1 student to teacher ratio, allowing for deep engagement.

This partnership was established in the fall of 2024. Three (3) installations were held before the end of the year, engaging workers from trade companies that historically have not enrolled in 3C-REN training. Coming as far south as Oxnard in Ventura County was new for SunWork, being a Bay Area based non-profit. In 2025 both 3C-REN and SunWork will be focused on building their network in the tri-county area.

Participant in 3C-REN's Earn While You Learn program adds final touches on an AO Smith heat pump water heater, installed for a family in Camarillo



Staff from Community Action Partnership of San Luis Obispo (CapSLO) and Pacific Heating and Sheet Metal (a local contractor) review manufacturer specifications before beginning a heat pump HVAC installation at a mobile home in San Luis Obispo

Retrofitting Manufactured Homes with the City of San Luis Obispo

The City of San Luis Obispo was awarded a U.S. Department of Energy Buildings Up Prize to research the feasibility of electrifying manufactured homes. Paired with traditional energy efficiency measures, the City set out to electrify four manufactured homes that were owned or rented by low-to-moderate income senior residents.

Recognizing the importance of establishing a well-trained workforce to conduct these retrofits and maintenance of this popular housing stock, the City of San Luis looked to 3C-REN’s Building Performance Training program to support a supplemental workforce development effort. These projects were used as hands-on training opportunities for local contractors. Participants worked alongside trained technicians to install heat pump space conditioning and heat pump water heating equipment, learning the considerations required for manufactured homes.

Trainings were led by two companies local to San Luis Obispo, with experience with both heat pumps and manufactured homes. Pacific Heating and Sheet Metal is a high performing HVAC contractor enrolled in 3C-REN’s Home Energy Savings incentive program. They are known in the local industry for working on Passive House and other high-performance projects. Community Action Partnership San Luis Obispo (CAPSLO) is deeply invested in supporting low-income community members. Their Home and Energy Efficiency division conducts home repairs, utility assistance, and weatherization. They have been a key partner of 3C-REN’s since 2019.

In total, seven people participated in these installations and walked away with a new understanding of how these new technologies interact and operate in manufactured homes, and the considerations needed for the equipment to perform in a retrofit scenario.



Opportunities in 2025 and Beyond

Continuing the momentum and building credibility with tradespeople and industry partners will continue to be a priority in 2025. Staff plan to implement a number of new ideas that will keep curriculum fresh and attract new participants through value-adds and secondary services.

Collaborating with Electrify My Home, the program will kick off 2025 with a dedicated “Home Electrification Contractor Bootcamp” where contractors will learn how to make the business transition to embrace electrification in a way that future-proofs their business and increases their bottom line. This bootcamp will offer a 10-week follow-up mentoring cohort, where they will receive personalized coaching and support as they take steps toward that business transition. Mentoring is a soft skill service that 3C-REN has been wanting to provide, and in 2025 it will be an option for boots-on-the-ground tradespeople. The program will explore how to provide ongoing mentoring opportunities to 3C-REN’s broader network of building professionals as well.

To drive wider and deeper engagement in 3C-REN’s workforce services, the program will evaluate other potential value-add services. For example, incentivized training is of interest, after seeing early signs of success with the SunWork earn while you learn partnership. The program will also explore providing badges and federal recognition through the Department of Energy’s Energy Skilled program, allowing participants to demonstrate their educational achievements and market them to potential clients.

Finally, the program will continue to prioritize hands-on learning opportunities throughout the tri-county region, education of young people through the guest speaker program, and an on-demand heat pump water heater specialization certificate for tradespeople.



I recently discovered 3C-REN and your organization is so far the most resourceful I have encountered. I really appreciate the education this organization **provides and its goal to improve the built environment.**

Design Consultant, LA Metro Area

Energy Assurance Services

Program Description

OVERVIEW

Energy Assurance Services (EAS) offers tailored energy audits for critical facilities within the tri-county region. Critical facilities provide essential services to the community during emergencies or power outages and may include locations like community centers, libraries or churches. These facilities may perform a variety of critical services including acting as evacuation shelters, heating, cooling, or clean air centers, food and supply distribution sites, or providing medical care. Energy audits conducted by the program are customized to meet the specific needs of each facility, with a focus on resiliency, energy efficiency, and comprehensive load management.

WHAT THE PROGRAM DOES

Critical facilities receive tailored energy audits to meet the needs of their facility and the community they serve. The audits provide detailed plans and recommendations for reducing carbon emissions, lowering energy bills, and boosting energy resilience. Along with energy audits, the program identifies complementary programs and funding opportunities to support project implementation and may offer assistance to participants in applying for these services on an as needed basis. Additionally, the program offers benchmarking services for commercial facilities seeking to comply with State regulations (AB802).

WHO THE PROGRAM SERVES

The program targets critical facilities within the tri-county region. Eligible program participants include facilities managed by municipalities, special districts, nonprofits, religious institutions, and other agencies. Critical facilities are defined by their capacity to deliver critical support to the community in emergencies or power outages. These facilities may perform a variety of critical services including acting as evacuation shelters, heating, cooling, or clean air centers, food and supply distribution sites, or providing medical care. Specific facilities are identified and targeted by 3C-REN; selection criteria focus on the community services provided, the benefits of the evaluation to the facility, and the facility’s interest in implementing energy upgrades.

HOW THE PROGRAM WORKS

3C-REN holds a contract with the engineering firm Arup to deliver tailored energy audits for critical facilities within the tri-county region. Utilizing knowledge of local communities, and in collaboration with municipal and nonprofit stakeholders, 3C-REN staff identifies eligible facilities based on their delivery of critical services and commitment to energy upgrades. Once they are selected, facility representatives sign enrollment forms that outline roles and expectations in the audit process and are connected to Arup to begin the data collection and audit process.

Each audit is customized to align with the specific goals and needs of the facility and the community it serves. The scope of the audit includes energy efficiency upgrades, plus options for electrification, solar sizing and design, battery and microgrid systems, EV charging infrastructure, GHG analysis, energy management, and opportunities to participate demand response programs.

The final recommendations are targeted to increase energy efficiency and resiliency. Along with the recommendations, the program identifies potential funding opportunities to support project implementation and may offer assistance to participants in applying for these services on an as needed basis.

Participants in the Energy Assurance Services program are also introduced to 3C-REN’s Commercial Energy Savings (CES) program to determine if site needs are eligible for 3C-REN incentives or other complementary services. By introducing facility managers to the CES Commercial Concierge, agencies are guided to all available resources, regardless of whether they are a good fit for EAS.



Program Performance and Major Accomplishments

Summary of Performance and Accomplishments

The program enrolled its first two participants in 2024—a police station and a church—and is gaining recognition from key stakeholders necessary to serve additional critical facilities in 2025. 3C-REN leveraged the groundwork laid by the original program that was led by the County of Santa Barbara to grow interest in energy audits for critical facilities across the entire tri-county region. By teaming up with local partners that are already engaged in efforts to identify Resilience Hubs in the local community, the program will implement audits on facilities that have a strong interest in conducting energy upgrades and serving the community.

Measuring Performance



2024 HIGHLIGHTS

Below are several key program accomplishments that occurred in 2024.

Santa Barbara County Program Grows into Regional Offering

3C-REN's Energy Assurance Services program grew out of a similar audit offering from the County of Santa Barbara that operated between 2022 and 2024 and provided audits to 12 critical facilities. As this new 3C-REN program gains traction, it is helpful to point to the successful audits conducted through the prior County program, as new audiences in the tri-county region learn about the offering. It is also helpful to return to stakeholders that are still evaluating potential participation with renewed funding.

Police Station and Unitarian Church Enroll to Receive Resiliency Audits

In 2024, 3C-REN staff held meetings with three cities and five agencies to discuss the program. By the end of the year one church and one police station were in the data collection phase of their audit process. Both of these sites offer critical community services and are seeking to expand the depth of these services via energy upgrades to improve their energy efficiency and resilience. The program also presented three funding opportunities to past audit recipients and supported two facilities in applying for funding to implement the recommendations from their audits.

Energy Assurance Services Finds Alignment with Local Resilience Hub Efforts

Efforts to support the development of Resilience Hubs have been underway at the County of Santa Barbara and regional nonprofit Community Environmental Council (CEC) for the last couple of years. The County and CEC ran a Resilience Hub pilot program in 2023 and 2024 to identify and provide guidance to three facilities interested in becoming Resilience Hubs. This work has evolved into a CEC program that provides ongoing support for agencies looking for resources that will support their path to becoming Resilience Hubs.

The Energy Assurance Services program serves as a critical offering in CEC's toolbelt of local re-sources. When CEC encounters a facility that is interested in becoming a Resilience Hub and also meets 3C-REN's program criteria, they refer the agency to 3C-REN. These referrals are especially valuable, as they are likely to be for agencies that have established resiliency goals and would most benefit from an audit and referrals. In fact, the church that enrolled with EAS near the end of 2024 was referred by CEC, and program staff expect these referrals go grow as CEC's program expands.

Opportunities in 2025 and Beyond

Looking ahead, 3C-REN staff plan to continue to identify critical facilities for potential participation hand in hand with municipal partners and community partners. Of particular interest are recipients of Community Development Block Grant (CDBG) funding, that may have resources to implement the findings from the 3C-REN energy efficiency and resiliency audits. 3C-REN staff will also leverage County relationships with local jurisdictions, striving to meet with smaller jurisdictions

that are often under-resourced. In 2025, the program seeks to serve two critical facilities in each county with audits and ongoing support to implement these measures. The program will continue to support agencies that have previously received audits by connecting them with funding opportunities and supporting their applications or participation in these programs as needed.

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The technical audits available through the Energy Assurance Services program are a **valuable resource for critical facilities** looking to become Resilience Hubs. These agencies need support in planning for how keep their operations going while continuing to serve their neighborhoods even during power outages.

Regional environmental non-profit partner based in Santa Barbara

Agriculture Energy Solutions

Program Description

OVERVIEW

Farms and farmers play a central role in our region’s workforce and economy, making them essential to achieving our region’s energy and climate goals. The Agriculture Energy Solutions (AES) program offers specialized support to farmers with high energy consumption, such as those in controlled environment agriculture (CEA), by identifying opportunities for energy efficiency improvements and supporting their implementation. The program delivers technical assistance to agricultural customers through energy efficiency project education and reduces barriers to project implementation by connecting farmers with different funding sources to help offset the cost of implementing energy efficiency upgrades. The program is offered across the tri-county region and largely targets small- to medium-sized farms in rural, socially disadvantaged, and hard-to-reach areas.

WHAT THE PROGRAM DOES

The program delivers free technical assistance to farmers through three offerings: utility bill analysis, facility assessment, and benchmarking. Where available, farmers will also be provided with connections to complementary incentive programs that can help cover the costs of implementing the energy projects identified through these offerings.

WHO THE PROGRAM SERVES

All farmers with high energy use in the tri-county region and receiving investor-owned utility service are eligible to participate in the program. The program specifically targets small- to medium-sized farms and socially disadvantaged or hard-to-reach farmers (including rural farmers). Additionally, the following energy-intensive farming industries and use cases are targeted: controlled environment agriculture (CEA), cannabis production, and farms with essential warehouses, storage facilities, or office spaces.

HOW THE PROGRAM WORKS

The program is designed to help farmers understand their facility’s energy consumption and identify ways to save money by reducing utility bills and providing program referrals to access incentives for equipment upgrades that save energy. The program partners with an industry expert, Seinergy, to implement three core program offerings:

- 1

Utility Bill Review: identifies key insights into energy usage and ensures farmers are on the most appropriate rate with their utility provider.
- 2

Facility Site Assessment: conducted as virtual walk-throughs, with on-site assistance available by request, of spaces on the farm that are identified as the most energy intensive. Consultants will identify equipment, including lighting, HVAC, and irrigation pumps, that could be optimized or replaced to save energy and associated costs.
- 3

Benchmarking: allows farmers to compare their energy use with similar farms. Seinergy’s network is leveraged to develop a sample of farms to benchmark against, using Resource Innovation Institute’s PowerScore benchmarking tool.

Participants can choose to take advantage of all three offerings or just one or two of them. Based on the phases completed, participants are provided with detailed and specific actions they can take to reduce their energy use and save money. When possible, resources regarding available rebates and funding sources for implementing the program’s recommendations will be provided.



Program Performance and Major Accomplishments

Summary of Performance and Accomplishments

In 2024, the program achieved key milestones that laid a strong foundation for future program success. Program design was finalized, with three defined program offerings that build off one another. Seinergy was selected as the program’s technical partner, bringing nearly a decade of experience in delivering innovative energy solutions to controlled environment agriculture (CEA). Seinergy’s team brings a wealth of knowledge and experience in energy management for the agricultural industry, making them an excellent partner to help farmers achieve cost savings through energy projects. With the program design finalized and implementor identified, the program was publicly launched in late 2024, followed by targeted outreach to farmers in the tri-county region. Staff developed a comprehensive list of key stakeholders and prospective customers by leveraging established relationships and publicly accessible databases and resources. These accomplishments set the stage for the program’s success and continued growth in 2025.

2024 HIGHLIGHTS

Below are several key program accomplishments that occurred in 2024.

Program Secures an Implementer with Expertise in Energy Efficiency for the Agricultural Sector

In 2024, 3C-REN identified Seinergy as the technical partner to bring the agricultural program to life. With nearly a decade of experience delivering innovative energy solutions to controlled environment agriculture (CEA) farmers, Seinergy is a trusted leader in the field. Their expert team—comprised of professionals with backgrounds in electric utilities, data, engineering, and sustainability—brings unparalleled expertise in optimizing energy management, ensuring that farmers have the tools and knowledge to achieve cost savings through energy upgrades.

Cross-Program Coordination and Referrals

In 2024, the program team engaged with PG&E, SCE, and SoCalGas incentive program staff to align and coordinate efforts across programs. The team also met with program implementers to identify the specific gaps that 3C-REN's program will address and to outline the process for referring participants to the relevant IOU incentive programs. Through these discussions, 3C-REN determined that the program will provide essential technical assistance to farmers prior to their involvement in incentive programs. This aspect of technical support is not a focus of other utility programs, highlighting the unique role this program will be serving to drive participation in IOU programs.

Program Launches to the Public

In late 2024, Agriculture Energy Solutions officially launched, marking a significant milestone after identifying the program implementor and finalizing the program design. The team hit the ground running with a targeted outreach strategy, building on established partnerships with county organizations and cannabis licensing teams. By tapping into these valuable connections, the team compiled a comprehensive list of key stakeholders and CEA farmers across the tri-county region. Program details were shared widely among stakeholders, such as the San Luis Obispo, Ventura, and Santa Barbara Farm Bureaus, Natural Resource Conservation Service (NRCS) Field Offices, and Resource Conservation Districts in the region. Presentations were delivered to various stakeholder groups, like the Ventura County Agriculture Policy Advisory Committee, sparking interest in the program.

Opportunities in 2025 and Beyond

In the coming year, the program aims to significantly expand its impact through lead generation and providing farmers with technical assistance to enhance energy efficiency. The focus will be on offering tailored guidance to farmers as they identify and implement energy-saving projects for their operations. A key goal for 2025 is to present at prominent local agricultural events that are well-established and widely attended by farmers. These events will serve as prime opportunities to raise awareness about the program, engage directly with potential participants, and provide insight into the energy-saving opportunities available to the agricultural community. Additionally, the program will build stronger connections with relevant incentive programs, facilitating access to funding for equipment upgrades that result in both energy and cost savings for farmers. By leveraging these incentive programs, 3C-REN will support farmers along their energy efficiency journey as they move from technical assistance and project scoping to implementing energy-efficient solutions, while minimizing the full financial burden. The goal is to build the program into a vital resource that helps farmers navigate the complexities of efficient energy use and generates long-term environmental and economic benefits for the agricultural industry.

Energy Savings

In 2024, 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 (First Year) Net kWh Savings*	Lifecycle Net kWh Savings*	Net kW Savings	Annual (First Year) Net Therms Savings	Lifecycle Net Therms Savings
Home Energy Savings	-1,274,750.60	-17,912,227.21	12.79	204,464.34	2,693,958.34
Total Portfolio Savings	-1,274,750.60	-17,912,227.21	12.79	204,464.34	2,693,958.34

*Negative kWh reflects fuel substitution in electrification projects

Savings by End-Use

3C-REN's HES Single Family and Multifamily Homes programs delivered the following savings by end-use in 2024.

TABLE 2: SAVINGS BY END-USE

End-Use Category	Annual (First Year) Net kWh Savings*	% of Total	Net kW Savings	% of Total	Annual (First Year) Net Therms Savings	% of Total
Building Envelope	-55,003.26	4%	0.00	0%	8,353.53	4%
HVAC	-938,499.20	73.6%	0.00	0%	122,810.05	60%
Recreation	18,400.25	-1%	0.16	1%	2,090.52	1%
Service and Domestic Hot Water	-299,648.39	23.5%	12.63	99%	71,210.24	35%
Annual Portfolio Savings	-1,274,750.60	100%	12.79	100%	204,464.34	100%

*Negative kWh reflects fuel substitution in electrification projects

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 2024 ENVIRONMENTAL IMPACTS

Net Annual CO2 Avoided (tons)	Net Lifecycle CO2 Avoided (tons)	Net Annual NOx Avoided Total (tons)	Net Lifecycle NOx Avoided (tons)	Net Annual PM10 Avoided (tons)	Net Lifecycle PM10 Avoided (tons)
656.53	8,586.64	0.83	10.84	-0.03	-0.43

Budget and Expenditures

TABLE 4: 3C-REN 2024 BUDGET AND EXPENDITURES

Program	2024 Budget
Agriculture Technical Assistance	\$421,338
Energy Code Connect	\$1,717,661
Commercial Marketplace	\$2,032,783
Energy Assurance Services	\$685,000
Home Energy Savings - Multifamily	\$3,623,055
Home Energy Savings Single Family	\$4,555,163
Building Performance Training	\$1,923,427
IDSM	\$420,000
Program Subtotal	\$15,378,427
Portfolio Support	\$534,016
EM&V (3C-REN only)	\$182,329
Total 3C-REN 2024 Budget	\$16,094,772

TABLE 5: 2024 ACTUALS

Program	Admin	Marketing & Outreach	Direct Implementation	Incentives & Rebates	EM&V	Total
Agriculture Technical Assistance	\$4,973	\$22,305	\$162,820	\$-		\$190,099
Energy Code Connect	\$26,260	\$43,827	\$753,659	\$-		\$823,745
Commercial Marketplace	\$5,173	\$20,854	\$504,752	\$-		\$530,779
Energy Assurance Services	\$-	\$21,344	\$202,623	\$-		\$223,967
Home Energy Savings - Multifamily	\$10,738	\$29,888	\$1,304,271	\$969,150		\$2,314,047
Home Energy Savings Single Family	\$10,572	\$33,477	\$1,881,126	\$2,081,266		\$4,006,441
Building Performance Training	\$19,054	\$44,788	\$1,240,485	\$-		\$1,304,326
IDSM	\$-	\$-	\$-	\$-		\$-
Program Subtotal	\$76,770	\$216,483	\$6,049,736	\$3,050,416		\$9,393,405
Portfolio Support	\$329,211	\$-	\$-	\$-		\$329,211
EM&V (3C-REN only)	\$-	\$-	\$-	\$-	\$50,707	\$-
Total 3C-REN Expenditures	\$405,982	\$216,483	\$6,049,736	\$3,050,416	\$50,707	\$9,773,323

Commitments

Commitments made in the past year (2024) with expected implementation by December 2025.

3C-REN has \$7,802,479 in commitments to carry into future years from 2024. These are commitments for projects that came into the Single Family and Multi Family Home Energy Savings Program pipeline in 2024 and will be installed in 2025.

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 2024 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): 9.46%
- Percentage of event 3C-REN attendees considered hard-to-reach (Market Support sector): 11.54%
- Number of jobs and economic value, inclusive of job creation at counties (Market Support sector): 83%*

*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 2024 Environmental Impacts

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

3C-REN continued to provide workforce training opportunities in 2024. The following required metrics were tracked for the BPT (WE&T) program:

- Number of collaborations: 77
- Number of participants: 2,091
- Percent of participation relative to eligible target population: 6.35%
- Percent of participants that meet the definition of disadvantaged worker: 4.2%

* 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 2024 was 807 in the tri-county region.

Codes & Standards Sector: Energy Code Connect

3C-REN continued to provide energy code support in 2024. The following required metrics were tracked for the ECC (C&S) program:

Participation in Energy Policy Forums

3C-REN held two energy policy forums in 2024:

- Number of jurisdictions with staff participation in an energy policy forum: 4
- Percent of jurisdictions with staff participation in an energy policy forum: 14%
- Number of organizations with staff participating in energy policy forum: 35
- Number of attendees participating in energy policy forum: 57

Energy Policy Technical Assistance

3C-REN launched the Energy Code Coach service for the tri-county region in 2020 and began its fourth year of program delivery in 2024:

- Number of jurisdictions with staff receiving energy policy technical assistance: 6
- Percent of jurisdictions with staff receiving energy policy technical assistance: 21.4%
- Number of buildings receiving enhanced code compliance support: 142

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: 25
- Number of participants attending codes and standards training events: 347
- Number of unique participants attending codes and standards training events: 211

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 indicators below represent the combined achievements of these activities:

- Number of organizations directly engaged in codes and standards activities: 166
- Number of jurisdictions directly engaged in codes and standards activities: 15
- Percentage of jurisdictions directly engaged in codes and standards activities: 54%

To download all reported metrics and indicators, please visit the California Energy Data Reporting Systems (CEDARS) website: cedars.cpuc.ca.gov/documents/standalone/list/. For Report Type select: Annual Report Narratives and Spreadsheet. For Program Administrator select: Tri-County Regional Energy Network. For Reporting Year select: 2024.





TRI-COUNTY REGIONAL ENERGY NETWORK

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