



2022 Annual Report



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Executive Summary



About 3C-REN

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

In Decision 16-08-019¹, the California Public Utilities Commission (“CPUC” or “Commission”) provided guidance for Energy Efficiency (“EE”) Rolling Portfolio Business Plan (“BP”) filings and included consideration of the formation of new Regional Energy Networks (“RENS”). Since filing 3C-REN’s business plan to serve stakeholders within Southern California Edison’s (“SCE’s”), Southern California Gas’ (“SoCalGas”), and Pacific Gas and Electric’s (“PG&E’s”) service territories, 3C-REN remains intent to deliver programs that meet CPUC criteria as indicated by Decision 12-11-015 in the formation and implementation of programs; filling gaps that the investor-owned utilities (“IOUs”) are not serving; developing programs for hard-to-reach markets; and piloting new approaches to programs that have the potential to scale and offer innovative avenues to energy savings.

In its current portfolio, 3C-REN offers energy saving opportunities for households including single family residents and multifamily property owners, with an emphasis on underserved communities. For industry, 3C-REN offers capacity-building services including workforce training and technical code support. Serving both public and private sector professionals, 3C-REN responds to the needs of the local building industry. Together, 3C-REN’s residential and industry programs support energy-efficient, resilient, and healthy buildings throughout the tri-county region. These efforts help reduce energy use, strengthen local job markets, and support climate goals.

"3C-REN is offering great resources."

—Respondent to 3C-REN's economic value survey

¹ See D.16-08-019 page 10.

Informed by a strategic planning exercise and stakeholder outreach that involved listening sessions as well as surveying, on March 4, 2022, 3C-REN filed Application 22-03-004 for approval of its 2024-2031 Strategic Business Plan, 2024-2027 Portfolio Plan, and Budget, with supporting Testimony in compliance with D.21-05-031.² If approved, 3C-REN's current portfolio would be expanded to serve additional sectors: agriculture, commercial, and expansion of the cross-cutting sector.

RENs are an integral component of the California energy efficiency landscape as program administrators. In 2022, nearly 10 years after the establishment of the first REN, coordination and collaboration among the inaugural RENs has only

continued to grow. RENs share best practices and resources, and aid newly formed RENs to set them up for success. 3C-REN attends REN coordination meetings, which will be formalized in 2023 into the "CalREN" network to ensure that RENs coordinate, complement, and supplement each other's efforts.

Below is a summary of key programmatic achievements in 2022 under 3C-REN's current portfolio of programs:



3C-REN brings Passive House knowledge to the region by offering an in-person certification course for tradespeople in October of 2022. Shown here students learning about energy-efficient window assemblies.

² Note that the February 15, 2022 filing date from D.21-05-031 was extended to March 4, 2022 upon request by SoCalGas on behalf of itself and other PAs.

3C-REN Contractor Ad Campaign

Building Performance Training Summary (WE&T Sector)

Building Performance Training (BPT) is tailored for current and prospective building professionals—providing expert instruction, technical trainings, soft skills development and certifications on the latest energy efficiency methods and measures.

In 2022, the program achieved the following key accomplishments: hosted a total of 51 events in collaboration with 52 partners, reaching 1,091 total attendees, and 743 unique individual attendees. While total attendance was similar to 2021 achievements, unique attendance increased in 2022 by 19%, representing growth in 3C-REN’s network of workforce program participants.

Additional 2022 highlights include: launched a guest speaker program for local high schools, vocational programs, and community colleges; delivered bi-lingual home performance education, and a hands-on blower door demonstration for students at a Center for Employment Training; piloted 7 fundamentals courses designed by 3C-REN for Central Coast building

professionals; and hosted several certifications that brought in new faces, like the Certified Passive House Tradesperson certification, the National Association of Realtors Green Designation, and the Building Performance Institute Healthy Homes Certificate.

Looking ahead to 2023, 3C-REN will continue to operate its core training services for existing professionals while encouraging new and younger professionals to join the building industry through its guest speaker program and the High Performance Fundamentals certificate program, which is a homegrown certificate opportunity that offers foundational training in building science and high performance building. Providing free learning units and certification opportunities for local professionals will continue to be a focus, as well as ongoing program improvement through surveying and evaluating trainings. 3C-REN will continue to broaden its network through targeted outreach, new partnership development, and new course offerings. Of particular focus in 2023, outreach to Spanish speaking workers will be a priority. Expansion of in-person training is another key priority for BPT in 2023.



3C-REN Contractor Ad Campaign

Energy Code Connect Summary (C&S Sector)

Energy Code Connect (ECC) provides trainings, forums, technical code support for existing code for public and private sector building professionals, and reach code support.

ECC continued to deliver training and forum events and continued to offer and fine tune the Energy Code Coach service. In 2022, ECC held 20 energy code training events, delivered 3 regional forums, fielded 60 Energy Code Coach inquiries, and launched a reach code support service.

Additional 2022 highlights include: restructured and procured program implementation partners to better streamline Energy Code Coach, training, and reach code services; contracted with CalCERTS, Inc. to offer free HERS Rater training to ten candidates in the region; assisted the City of San Luis Obispo with the development and adoption of a mandatory residential new construction reach code, and assisted the cities of Morro Bay, Carpinteria, Goleta, and County of Santa Barbara with the development of residential new construction reach codes that are expected to be adopted in 2023. ECC continued to expand partnerships, for example: trainings are

now displayed on the California Energy Commission website; staff regularly attended and presented to the two local chapters of the International Code Council (ICC); continued support of the California Association of Building Energy Consultants (CABEC) with education, advocacy, and conference development; and coordinated with American Institute of Architects (AIA), Home Builders Association (HBA), and various contractor organizations on event promotion.

In 2023, the ECC team will continue to focus on training to better assist building professionals with the launch of the 2022 Energy Code, for example delivering a 2022 Energy Code series for both local ICC Chapters. With the support of a new lead implementation partner, the Energy Code Coach will be made more accessible and less structurally cumbersome in 2023 and beyond. The Reach Code Support service will expand its focus from new construction to existing buildings to better serve current and future jurisdictions with meeting regional and statewide goals. ECC will continue to focus on relationship development and coordination with local and statewide organizations to extend 3C-REN’s reach and better service building professionals.



3C-REN Contractor Ad Campaign

Home Energy Savings Summary (Residential Sector)

Home Energy Savings (HES) provides energy efficiency upgrades and services to residents throughout San Luis Obispo, Santa Barbara, and Ventura Counties. In 2022, 3C-REN operated two versions of the program: HES for single family homes was relaunched with a new program design in May 2022, and HES for multifamily dwellings operated for the full duration of 2022 (following its launch in October of 2021).

Single Family Program

HES for single family homes relaunched in May of 2022 with a design rooted in Population Normalized Meter Energy Consumption (NMEC) with implementer partner Recurve. In the updated program, contractors enroll as program participants, and are paid incentives based on the energy that their residential clients save following energy retrofits. The incentives are highest for projects completed for hard to reach (HTR) customers. The flexible program design allows enrolled contractors to meet the needs of their clients in designing energy upgrade projects, as there are no lists of measures; nearly any project that results in metered energy savings is eligible for incentives.

In the spring of 2022, the program initially focused on program development followed by contractor enrollment and onboarding. By the end of 2022, there were 16 projects completed through the single family program. Three of these were with HTR customers, approximately 19% of total projects. In total, the 16 projects will have an estimated kWh savings of 22,821 and therm savings of 1,032 in year one. The projects were completed by eight enrolled contractors and included primary measures of: HVAC heat pumps, pool pumps, natural gas furnace upgrades and one heat pump water heater.

Looking ahead to 2023, the program will focus on recruiting additional contractors and supporting them in enrolling projects. The program will also have a focus on residential customer engagement and outreach, with a strong focus on HTR communities. HTR community engagement will be conducted via partnerships with community-based organizations in order to instill trust in the energy saving messaging and associated services. Broader community level outreach will include educational webinars, tabling events, and partnered outreach with municipalities and nonprofits that have shared energy efficiency or electrification and decarbonization goals.

Multifamily Program

After launching the previous fall, 2022 was the multifamily program's first full year in operation. The program continues to emphasize whole-building, comprehensive upgrades with enhanced incentives for HTR customers and high-performance measures. The first half of the year was spent ramping up activities, conducting outreach to various stakeholder groups, and building program awareness. In late summer, the program launched a limited-time promotional rebate, and a successful mailer campaign that generated significant interest. By the end of 2022, the program had converted 118 leads, conducted 29 site assessments, and seven projects totaling 122 units had completed a rebate reservation for their project. Six of the seven projects in progress qualify as HTR and include two properties owned by Housing Authorities, one that houses formerly chronically homeless residents, and one affordable housing property owned by a community based organization (CBO).

Looking ahead to 2023, the multifamily program will continue to build program awareness with targeted, personal outreach to multifamily sector stakeholders. The program will also develop an alternative path for participation. Based on lessons learned over the past year and a half, there is an opportunity for a pathway designed to meet the needs of smaller multifamily property owners, as well as to capture upgrade opportunities on either tenant turnover or appliance burnout.

For any questions regarding 3C-REN feel free to contact Alejandra Téllez at 805-654-3835 or at alejandra.tellez@ventura.org

2022 Energy Efficiency Programs Overview

Building Performance Training

Program Description

Program Need

Climate Action: With buildings accounting for a large percentage of the tri-county region’s greenhouse gas emissions, creating more “high performance buildings” (HPBs)—energy efficient and resilient buildings that reduce energy use and lower emissions to address climate change—is key to local climate action.

Consumer Demand: Despite the benefits offered by HPBs, consumer demand remains low, and in turn building industry professionals are not receiving strong market signals to transform their business models to focus on high performance practices. Until sufficient market drivers emerge, a push rather than pull strategy can be employed to develop the workforce within the tri-county region to focus on HPBs. Additionally, with the explosion of reach codes across the state—including several in the tri-county region—this is beginning to change for new construction. Incentives and tax credits will also help drive demand in the existing building space.

Geographic Isolation: Finally, geographic isolation of the region from urban centers means there are fewer training opportunities for local workers.

Program Detail

WHAT

Through Building Performance Training (BPT), workers receive technical and soft skill training and certifications focused on energy efficiency and high performance. Example training topics include creating an effective building envelope, ventilation basics, heat pump technology, Passive House, and sales skills to market energy efficient buildings.

WHO

The program targets local, private sector building professionals, such as contractors, HVAC technicians, electricians, plumbers, engineers, architects, certified energy managers, real estate professionals, and energy-intensive cannabis cultivators. Public sector building department staff engage in the BPT program as well but are more heavily engaged in 3C-REN’s

Program Solution

3C-REN’s WE&T program, *Building Performance Training* (BPT), is designed to support achievement of the region’s energy and climate goals by establishing a thriving and local workforce that possess the knowledge and skills to design, build, retrofit and sell high performance buildings (HPBs).

The program does this by delivering training events that enable our workforce to develop the skills essential for creating and communicating about HPBs. Continuing education credits and certificates 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 educational offerings in partnership with local educational institutions such as high schools, colleges and career technical educational schools.

codes and standards program. Training is also offered to current and prospective professionals in disadvantaged communities (DACs) and hard to reach (HTR) areas.

BPT partners with educational institutions, like community colleges, and seasoned industry experts to deliver trainings and customize course content. The program leverages relationships with industry conveners, such as architectural and contractor associations, to ensure broad engagement.

HOW

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 greater expertise of the workforce in the tri-county region. Annual course planning assesses which training topics are in greatest demand, as well as topics that deserve greater attention even if not in high demand. Event size ranges from 5-10 attendees for niche topics to 40+ students for popular topics or instructors. Participants are surveyed after each event and feedback is used to evaluate participant satisfaction and improve upon future events.

BUILDING PERFORMANCE TRAINING

2022 Snapshot of Program Performance and Major Accomplishments

New in 2022



20

EARNED NATIONAL ASSOCIATION OF REALTORS GREEN DESIGNATION

20

EARNED PASSIVE HOUSE INSTITUTE (PHI) CERTIFIED PASSIVE HOUSE TRADESPERSON



11

GREEN BUILDING CLASSROOM PRESENTATIONS



228

ATTENDEES FOR NEW SPEAKER SERIES



3

VIDEOS IN SPANISH ADDED TO TRAINING LIBRARY

Events



51

EVENTS IN 2022



155

TOTAL EVENTS SINCE 2019

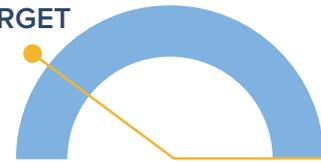
Collaborations



52

EVENT COLLABORATORS IN 2022

12 TARGET



52 ACTUAL

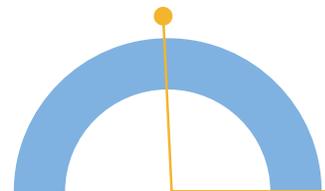
Unique Attendees



743

UNIQUE ATTENDEES IN 2022

369 TARGET



743 ACTUAL

Total Attendees



1,091

ATTENDEES IN 2022

3,033

TOTAL ATTENDEES SINCE 2019

160 TARGET



1,091 ACTUAL

Program Performance and Major Accomplishments

In 2022, the program achieved the following key accomplishments: hosted a total of 51 events in collaboration with 52 partners, reaching 1,091 total attendees, and 743 unique individual attendees. While total attendance was similar to 2021 achievements, unique attendance increased in 2022 by 19%, representing growth in 3C-REN's network of workforce program participants.

Program Implementation

PARTNERS

Collaboration with local stakeholders has been essential to growing 3C-REN's network of training participants. Events were held in partnership with training providers, industry associations, non-profit organizations, educational institutions and more. Architectural associations continued to be key partners, as well as growing relationships with contractor associations. Partners supported 3C-REN's delivery of courses in several ways: as trainers, guest speakers, advising in the development of course selection, and as marketing partners distributing event announcements.

Event Partners

ACE Charter High School
AIA Santa Barbara
AjO
Allen Construction
Anderson Porter Design
Berkeley Cannabis Research Center
Building Performance Institute (BPI)
Building Wright
California Cannabis Industry Association
CARP Growers
CCT, Inc.
Center for Employment Training Santa Maria Valley
Central Coast Agriculture, Inc.
Center for Employment Training Oxnard
Chitwood Energy Management
County of San Luis Obispo
County of Santa Barbara
County of Ventura
Design AVEnues LLC
Eklund Properties
Electrify My Home
EMU Systems
Energy Conservation Consultants
Energy Resources Integration, LLC
Fluence by OSRAM

Franklin Energy
Frontier Energy, Inc.
Gary Klein & Associates
Good Farmers Great Neighbors
Healthy Indoors Training
Home Performance Pro
In Balance Green Consulting
InSpire Transpiration Solutions
Inspired ADU's
Microclimates Inc.
North American Passive House Network (NAPHN)
Oxnard Union High School District
Passive House California
Resource Innovation Institute
Santa Barbara Association of Realtors
Santa Maria Career Technical Education
Scenic Coast Association of Realtors Inc
Siegel & Strain Architects
Silver Bullet Water Treatment, LLC
Small Planet Supply
Southern California Edison
Symbium
Ten Over Studio
the Endeavour Centre
Thousand Oaks High School
UC Davis
USGBC Central Coast Green Building Council (C4)

MARKETING & OUTREACH

Events are marketed via weekly outreach emails to 3C-REN's distribution list, which grew by over 1,800 contacts in 2022. Communications have an average open rate of 34% (up from 30% in 2021) and average click rate of 4% (stable from 2021). A quarterly course calendar is distributed to key partners such as architectural associations, contractor associations, supply houses, and green building councils. Personal outreach emails to energy champions within various organizations and firms have continued to prove worth the extra effort in developing strong relationships with local advocates. 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.

REPORTING

Several key documents and software platforms (including a Salesforce database) enable successful program delivery. Software platforms are integrated to streamline management of event schedules, registration, virtual event links, communication with attendees and post-event reporting. Additionally, staff follow a thorough event checklist for each event, acting as quality assurance to the software automation processes. All attendance data is manually reviewed by staff and checked off in Salesforce for monitoring of program performance and reporting. Program dashboards are used to track program progress and visualize key metrics such as the total number of participants and collaborations.

"A huge thank you to 3C-REN for bringing Passive House training to the region, which is what made participation feasible for me. I have already been able to utilize the knowledge learned in this training in reviewing building envelope details and through an increased ability to collaborate and communicate with my current builder partners, thank you to 3C-REN and the Emu instructors!"

–Tri-county based design professional

3C-REN Distribution List Continued to Grow in 2022

+1,853

NET NEW
CONTACTS

4,844

CURRENT TOTAL
CONTACTS

The image shows a flyer for 3C-REN Events in May 2022. The flyer has a header with the 3C-REN logo and the text '3C-REN Events May 2022'. Below the header is the title 'Full Line-Up of May Trainings'. The main content is organized into sections with sub-headers and descriptions of upcoming events. The first section is 'Up Next: Heat Pumps for Heating and Cooling; Intro to Passive House for Trades; Building Science and High Performing Buildings'. This section includes two images: one of two construction workers in hard hats and safety vests, and another of a woman sitting on a couch using a laptop. The second section is 'Spanish-speaking residents in Santa Maria are invited to join a presentation at the Santa Maria Library on Saturday May 7th to learn about saving energy at home and the supplies available in the [DIY Home Energy Savings Toolkit](#).' The third section is 'All building-industry professionals are invited to join the Higher Performing Building on the Central Coast, All-electric Construction Series. Part 1 on May 10th will cover [Heat Pumps for Heating and Cooling](#). Part 2 on June 7th will discuss [Heat Pump Water Heaters \(HPWHs\) and other Electric Appliances](#).' The fourth section is 'Next up, contractors and tradespersons can learn about industry-leading Passive House construction and design during next Thursday's [Introduction to Passive House for Trades](#) (with Passive House Network)'. The fifth section is 'Students, new professionals, and established industry workers are invited to join [The Role of Building Science in High Performance Buildings](#) to cover why the principles of building science are more important than ever for delivering energy-efficient, safe, and comfortable projects for clients.' The final section is 'Finally, don't miss our rescheduled [Home Performance: Tools of the Trades](#) on May 24th to learn about the various tools needed to



Students at Passive House certification training apply INTELLO PLUS as an air barrier to their Passive Pod.



Students at Passive House certification training gather for the Pod Olympics. After being left outside overnight, their Passive Pods were tested against a code-built pod for airtightness, thermal bridging, and thermal resilience.

2022 Highlights

Including 2022, the BPT program has had an active workforce program in place for a total of 3.5 years. Below are several key program accomplishments that occurred in 2022.

CERTIFIED PASSIVE HOUSE TRADESPERSON HANDS-ON WORKSHOP

Continuing to address building science principles through Passive House education, in October, 3C-REN offered the Certified Passive House Tradesperson (CPHT) certification to professionals in the tri-county region. In partnership with EMU Systems, the weeklong certification took place on the campus of Santa Barbara City College.

EMU System's "Bootcamp" style training is comprised of two 8-hour classroom days of deep dive passive design/build curriculum, two 8-hour days of hands-on workshop designed to examine the decision-making process behind using building science in everyday construction practices and simulate on-site job roles. The four days of education is followed by a 3-hour Passive House Institute accreditation exam to become a CPHT. Of the 22 participants, 20 received the accreditation, most of whom are practicing tradespeople and contractors in the region.

Prior to 3C-REN offering the CPHT Bootcamp, there were zero CPHT's in the tri-county region. Offering this accreditation in hand with the Certified Passive House Designer/Consultant (CPHD) accreditation, 3C-REN is growing a network of professional designers and builders proficient in building science principles on the Central Coast.

LAUNCH OF 3C-REN'S GUEST SPEAKER PROGRAM

The tri-county region is home to a diverse group of educational programs: community colleges, universities, high school vocational programs, trade schools, and more. In an effort to engage with younger audiences who are looking to start or advance their careers, BPT formalized a Guest Speaker Program in September of 2022. In partnership with In Balance Green Consulting and Eklund Properties, 3C-REN established a 5-part lecture series:

- Green Building 101
- Green Careers
- Heating, Cooling and Ventilation
- Water-Energy Efficiency Nexus
- Zero Net Energy

In just three short months, 3C-REN engaged 11 different classes and 228 students with an interest in STEM fields and environmental topics. All presentations were given in person, in the classroom.

This effort has proven to be an effective way to engage with the future workforce and influence educators to include building energy efficiency topics in their lesson plans. 3C-REN plans to continue the series with these 11 classes and expand into other school programs throughout the region.

WORKFORCE TRAINING FOR SPANISH-SPEAKING PROFESSIONALS

In the fall of 2022, a Spanish-language version of the BPT program page was established. The page features an overview of the BPT program, an explanation of the value the program offers to working professionals in the building industry, on-demand training videos that workers can watch when it fits within their schedules, a survey on the types of services they would find helpful if offered via BPT, and a newsletter sign-up to stay connected. In 2023, BPT will develop an outreach strategy to connect local Spanish-speaking workers to this resource and identify additional training needs that can be addressed through the BPT program.

Also in 2022, 3C-REN offered two in-person bi-lingual training events in English and Spanish. The training events offered an introduction to home performance, as well as training on how to complete blower door testing. These events were held in partnership with Centers for Employment Training, and are discussed in more detail below.



Screenshot of newly updated 3C-REN workforce program page for Spanish speakers.

"I really enjoyed the course, and enjoyed meeting everyone. Hopefully we will see some better built homes in the Central Coastal area."

–Tri-county based high performance home professional

CENTER FOR EMPLOYMENT TRAINING (CET) PARTNERSHIP

BPT's expanded focus on young people and emerging professionals enabled a deeper level of engagement with the local community in 2022, formalizing partnerships with educational programs that historically have been overlooked.

The Center for Employment Training (CET) has two locations in the tri-county region. As members of the Association of Farmworker Opportunities Programs, CET Oxnard and CET Santa Maria both provide grants for agricultural workers and their dependents to participate and find career paths that lead to meaningful work.

BPT found a clear fit in their Green Building Construction Skills classroom, where students learn construction math, rough carpentry, electrical, plumbing, customer service, and other skills to prepare them to be successful in the construction industry. Through 3C-REN, students enrolled in the program received bi-lingual education on high performance building. Students learned the importance of setting goals for things like performance of the building envelope, then were able to measure the actual envelope performance of the test home they had built throughout their 9-month program using a blower door.

With CET's rolling enrollment, 3C-REN will continue to visit the classroom regularly as part of the Guest Speaker Program to engage new students on green building and careers.



3C-REN instructor teaches Center for Employment Training students how to interpret results of a blower door test.

Opportunities in 2023 and Beyond

BPT completed a successful year of programming in 2022 and plans to continue the momentum through 2023 to deepen the engagement with educational institutions, local architects and designers, real estate professionals, and support growing interest from contractors and tradespeople.

Learning units continue to be a key incentive for design and real estate professionals. In 2023 3C-REN plans to develop a Zero Net Carbon Design (ZNCD) educational series to support local architects with the new California ZNCD learning requirement. ZNCD principles were already core to the BPT program mission, and five hours of ZNCD educational learning units are now required of all architects to renew their license in the state. Offering these learning units also creates incentive beyond AIA members.

Contractors, however, do not share the same learning unit requirements and continue to be difficult to engage. By offering accreditation like the CPHT, and incentives available through 3C-REN's Home Energy Savings program, some contractors took interest in BPT training events. As this network grows, it is anticipated that contractors and their staff will become more involved with all 3C-REN services.

Another challenging audience to engage is hard-to-reach Spanish speakers working in the construction industry. In 2023, 3C-REN plans to develop a dedicated outreach plan to leverage the on-demand training videos that it developed and recorded in 2022. While plans will be developed in 2023, initial thinking involves in-person outreach at strategic locations to generate awareness and drive Spanish-speaking viewers to on-demand trainings. The hope is that this first exposure to 3C-REN will build trust and lay the foundation for deeper learning opportunities in the future, such as in-person or jobsite training.

In 2022, BPT was also able to pilot the High Performance Fundamentals (HPF) curriculum. With minor tweaks to content, BPT plans to offer the six-part HPF classes as a certificate series in 2023. Students and young professionals will be able to earn a 3C-REN certificate upon completion of post-training exams. This certificate will signify participants' understanding of foundational building science principles and will set them apart from the competition when applying to local firms.

Preparing the region's future workforce with an understanding of building science and decarbonization strategies will continue as 3C-REN develops its Guest Speaker Program and HPF Certificate, expanding the network of trained local students and teachers.



3C-REN instructor, Andy Pease from In Balance Green Consulting, with Architecture, Construction and Engineering (ACE) Charter High School students and faculty after a Green Building 101 presentation.

ENERGY CODE CONNECT

Program Description

Program Need

The Energy Code and California Green Building Standards (Title 24, Part 6 and Part 11 respectively) support energy efficiency and improve human and environmental health, but only when codes and standards have a high level of compliance.

Unfortunately, compliance is difficult for several reasons:

Low & Inconsistent Comprehension: Codes are already complex and comprehension is further hindered by regular code updates with changes every 3 years; many building professionals are just getting comfortable with the prior code by the time the new code cycle takes effect

Real & Perceived Costs: There is a common perception amongst many industry professionals that codes and standards add requirements which add costs to a project; it is not understood by many that these requirements can offer value to occupants in the form of increased energy efficiency, lower utility bills, improved health and safety or other benefits

Lackluster Enforcement: Enforcement of energy codes and standards is one of many competing priorities that building and safety staff are responsible for; with limited time and resources, codes often go unenforced or are enforced inconsistently

Program Detail

WHAT

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

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

Regional Forums: Focused on energy and green building codes and related policies and technologies, forums convene professionals from both sides of the

Program Solution

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

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, but also 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. Course content is curated to address the 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.

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

WHO

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

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

HOW

Energy Code Coach: In 2022, the Energy Code Coach was implemented by Franklin Energy, with onsite local support from In Balance Green Consulting and Central Coast Energy Compliance. Inquiries are submitted via an online form or by calling the Energy Code Coach hotline. Coaches respond within 24 hours by phone or email, or offer in-person support at the counter or in the field.

Regional Forums: Regional forums use keynotes, panelists, breakout discussions, and networking to share the latest information and best practices related to energy code and policy and their broader implications for the wider community. Attendees leave with enhanced knowledge and new connections across sectors. A mix of in-person and virtual forums were held in 2022.

Training: Energy Code Connect training events follow the same processes as BPT events and are therefore not discussed again here.

Reach Codes: The Reach Code Support service offers jurisdictions a full suite of technical and outreach support through all phases of adopting and implementing a reach code. This service is completed with 3C-REN as the lead on outreach and a consultant providing technical expertise.

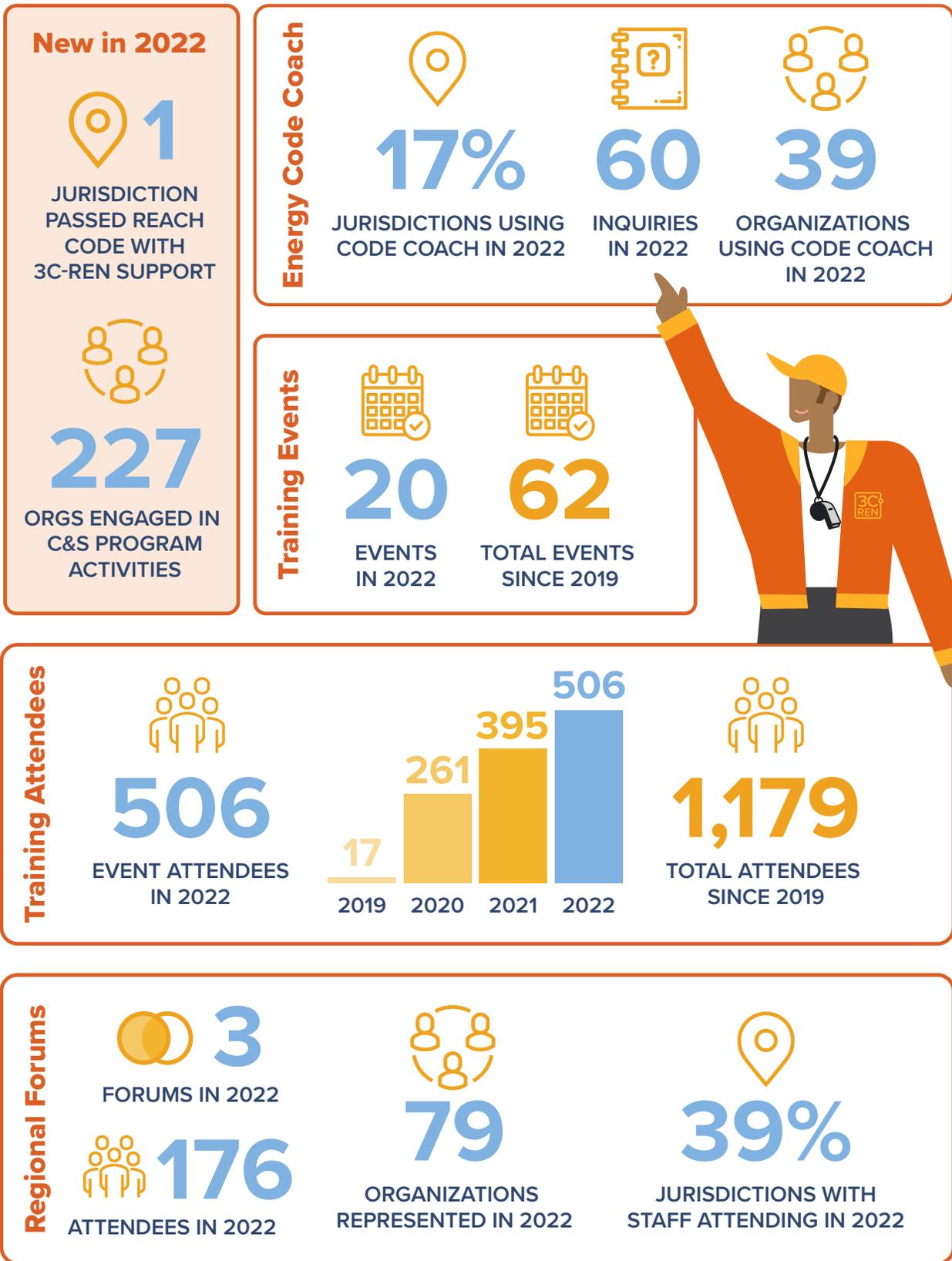
2022 ECC Partners

CalCERTS
Association for Energy Affordability
County of Santa Barbara
City of Goleta
City of Carpinteria
Pacific Gas and Electric Corporation (PG&E)
In Balance Green Consulting
City of Santa Barbara
Energy Code Ace
California Energy Commission (CEC)
Arris Studio
Franklin Energy
Southern California Edison
Misti Bruceri & Associates, LLC
Frontier Energy, Inc.
TRC Companies
City of San Luis Obispo
CivicSpark
California Association of Building Energy Consultants (CABEC)
Selby Energy, Inc.

“Keep up the good work in regard to changing energy policies of feds and state and implications for local practices.”

—Respondent to 3C-REN’s economic value survey

2022 Snapshot of Program Performance and Major Accomplishments



Program Performance and Major Accomplishments

ECC continued to deliver training and forum events and continued to offer and fine tune the Energy Code Coach service. In 2022, ECC held 20 energy code training events, delivered 3 regional forums, fielded 60 Energy Code Coach inquiries, and launched a reach code support service.

Program Implementation

PARTNERS

ECC continued to work with its primary implementation partners from Franklin Energy and In Balance Green Consulting for the Energy Code Coach, reach code support, and training services. The program issued an RFP for program implementation partners at the end of 2022. Other program partners include instructional providers and a diversity of guest speakers that engage in regional forums as subject matter experts. ECC engages with the California Energy Commission (CEC) through bi-monthly coordination calls and via the energy code cycle update to share local perspective from the tri-county region. 3C-REN Energy Code Coaches also directed customers to Energy Code Ace (ECA) resources and staff coordinated with the ECA team as needed. ECC partnered with California Association of Building Energy Consultants (CABEC) to offer Certified Energy Analyst (CEA) training and exams across the region. ECC also partnered with CalCERTS to offer free HERS Rater training to students in the tri-county region. Lastly, public sector staff at building departments also continued to be key partners and participants.

MARKETING & OUTREACH

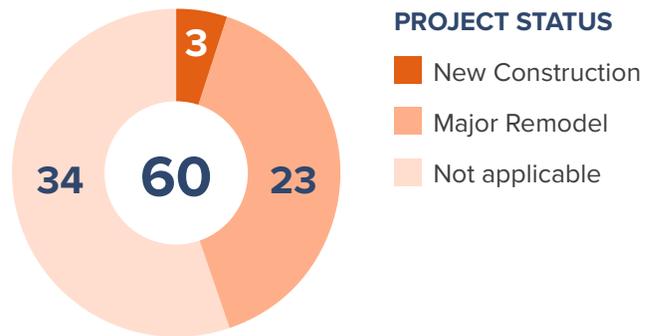
Energy Code Coaches continued to make in-person visits to meet with city and county building departments to promote the program and offer support. These meetings encourage use of the service from public sector staff and allow ECC to better understand jurisdiction needs when it comes to energy code enforcement. For training and forums, ECC follows the same marketing and outreach strategies as BPT, with additional personalized outreach for forums depending on the topic and associated target audiences. 3C-REN utilizes publicly

available staff directories for planning and building departments, code officials, and city managers in jurisdictions across the territory to market the reach code program via email. Recipients received flyers on the program offerings and requests to meet. Meetings established how jurisdictions would utilize the service and what additional public outreach would be needed, such as public forums, stakeholder meetings, and informational utility mailers.

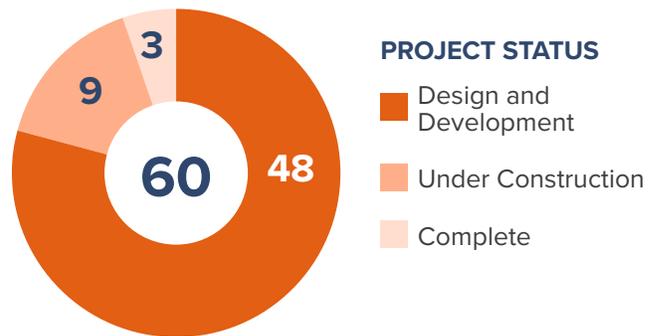
REPORTING

ECC uses the same software and processes as BPT for tracking and reporting on training events and forums. The same Salesforce database is used to track and report on Energy Code Coach data. Program dashboards are used to track program progress and visualize key metrics such as the total number of code training events, Energy Code Coach cases, which organizations are the most active in the program, the breakdown of Energy Code Coach cases focused on new construction versus renovations, and more.

Cases by Project Type



Cases by Project Status



2022 Highlights

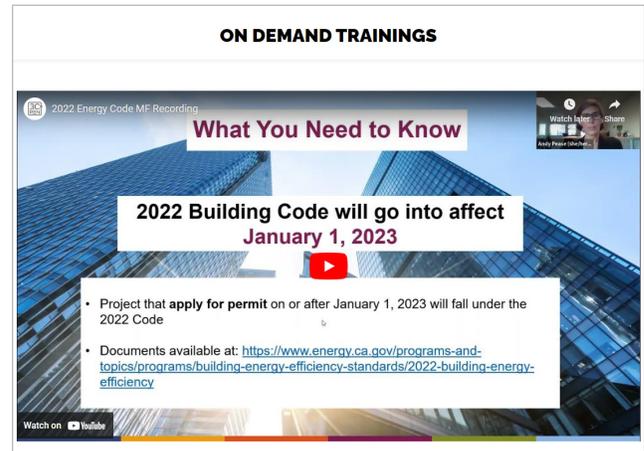
Below are several key accomplishments and innovations from the Energy Code Connect (ECC) program in 2022.

VIRTUAL TRAININGS PREPARE THE INDUSTRY FOR THE 2022 ENERGY CODE AND MORE

The ECC program offered 20 virtual trainings and served 506 total attendees in topics ranging from a 2022 Energy Code preview series for industry sectors, Reach Code workshops, and technical mechanical and inspection courses for code officials. ECC educational trainings for 2022 focused primarily on providing information on energy code changes from the 2019 code to prepare jurisdictions and building professionals for the upcoming energy code cycle that went into effect January 1, 2023.

EXPANDING THE CENTRAL COAST HERS RATER NETWORK WITH FREE HERS TRAINING

One successful example of new ECC training opportunities included partnering with CalCERTS, Inc. to provide free HERS Rater training to ten candidates in the tri-county region. The offering launched in October with ten seats for candidates. Candidates filled out a simple interest form online and had a short informal interview with 3C-REN staff to discuss use of the certification once obtained. Once approved, CalCERTS was alerted to enroll the student and provide materials. Students receive free training for all certification types and are responsible for their own exam fees. The majority of students enrolled in the program are independent contractors looking to make a difference in their careers and all live and work in the tri-county region. With successful enrollment in 2022, ECC intends to contract again with CalCERTS to offer ten more seats in 2023.



3C-REN training from In Balance Green Consulting prepares the local industry for the new 2022 energy code.

"Train more plumbers and electricians who can implement heat pumps"

—Respondent to 3C-REN's economic value survey

"Excellent programming."

—Respondent to 3C-REN's economic value survey

REGIONAL FORUMS OFFERED IN-PERSON AND VIRTUALLY AS COMMUNITY EMERGES FROM COVID-19

Regional forums serve a critical need in the 3C-REN territory by gathering local stakeholders to examine the latest developments in energy policy and Title 24 code while also gathering ideas and suggestions to better serve the community. The following is a list of forums held in 2022:

March 30 – What is the Big Deal About Heat Pumps and Electrification?

This forum taught homeowners and renters how to implement affordable and code-compliant energy efficiency and electrification upgrades for a healthier, climate-friendly home. The event focused on heating and cooling systems that utilize heat-pump technologies. Speakers highlighted the challenges and opportunities created by energy efficiency and electrification through case studies, testimonials, and state incentives.

Virtual forum with 83 attendees

July 21 – 2022 California Energy Code: Reaching Towards Higher Efficiency Standards

This forum explained how the California Energy Commission set a precedence for decarbonization through the 2022 Title 24, Part 6 Energy Code, which promotes all-electric new homes, expands solar and storage standards, encourages heat pump installations, and expands to new building segments. Participants learned how industry groups and experts are preparing for the changes ahead for commercial, residential, and multifamily buildings and developing their own sets of codes.



July Regional Forum attendees learn about the 2022 Energy Code changes to single family homes from Nick Brown of the Build Smart Group.

In-person forum with 38 attendees

November 9 – Shifts in Power: Ensuring the IRA, 2022 Energy Code, and California's Climate Policies Benefit the Tri-county Region!

The forum focused on landmark Federal and State economic policies and record amounts of climate funding that are revolutionizing the California energy and building sectors. To be at the forefront of this shift, 3C-REN convened local energy efficiency and green building advocates to ensure that the region is prepared to benefit from these opportunities and address any challenges. Participants explored how California's climate funding and the new energy code will change the way buildings are constructed throughout the state. Attendees established a foundation for strategic coordination and partnership to successfully capture the financial incentives and resources provided through the Inflation Reduction Act and other opportunities.

In-person forum with 55 attendees



November Regional Forum attendees gather to discuss how the 2022 Energy Code and Inflation Reduction Act funding will shape the energy landscape in the tri-county region.

NEW REACH CODE SUPPORT SERVICE FILLS GAP ON THE CENTRAL COAST

Prior to the launch of 3C-REN's Reach Code Support service, there was a gap in reach code programming in the tri-county region in Santa Barbara and San Luis Obispo Counties (Ventura County is served by Southern California Edison's reach code program). 3C-REN's Reach Code program offered comprehensive technical and outreach support to jurisdictions interested in adoption codes that improve energy efficiency in buildings above the State baseline. In 2022, the program was delivered with 3C-REN leading on all outreach support, and Franklin Energy leading on all technical support. Since the program's inception, outreach was done to 14 jurisdictions, 5 jurisdictions utilized the service, 1 jurisdiction adopted a revised reach code, and 3 jurisdictions are anticipated to adopt reach codes in 2023.

INCREASED ECC PROGRAM CAPACITY VIA STAFF GROWTH

In 2022, the County of San Luis Obispo, lead for the Energy Code Connect program, hired two new staff to support the ECC program and 3C-REN overall. A new program manager leads the management of the Energy Code Coach service, training and event support, Salesforce solution implementation, and other REN-wide tasks. A former CivicSpark Fellow with 3C-REN was also hired in 2022. Their scope includes managing the Reach Code Support service, training and event support, HERS Rater training management, marketing and social media implementation, and many other supporting tasks for 3C-REN. The addition of these new staff has helped the ECC program grow tremendously and enhanced support in San Luis Obispo County and across the tri-county region.



Media coverage of City of San Luis Obispo's updated reach code, supported by 3C-REN's new reach code service.

Opportunities in 2023 and Beyond

The Energy Code Connect program is looking forward to 2023 and aims to further expand the reach to customers, stakeholders, and partners across the region. In addition, staff will be examining best practices to streamline and bring offerings to the sector in more efficient ways. ECC looks to accomplish this in the following ways:

Energy Code Coach: The Energy Code Coach service is a pillar of the ECC program. In 2023, the service will be streamlined by restructuring and going out to bid for a new local partner. With a new implementation partner, ECC intends to engage more customers, while streamlining internal program processes for enhanced data analysis to evaluate program strengths and areas for improvement. Streamlining data will also cut unnecessary administrative costs. Additionally, the need for a simplified marketing strategy and tailored approach for the Energy Code Coach service is increasingly important for 2023, with the launch of the new 2022 Energy Code.

Regional Forums: As COVID-19 has fundamentally shifted the way that people gather and learn, 3C-REN will reevaluate its regional forum strategy in 2023 to most effectively use program resources to provide value to stakeholders. The goal of regional forums is to foster essential energy efficiency and energy policy conversations in the region. One possible solution to streamlining forums may include offering a mix of virtual webinars that can better reach those in hard-to-reach areas with limited transportation resources, with in-person events that satisfy stakeholder interest in

conventional networking. 3C-REN will evaluate these opportunities in the first half of 2023 and implement in the latter half of the year.

Educational Code Training: In 2023, ECC will continue to offer trainings primarily on a virtual platform to widely capture those in 3C-REN's rural and hard to reach community, and will target trainings to public and private building organizations. 3C-REN will utilize past instructors with proven success and will look to offer new courses from highly regarded instructors who are subject matter experts in their fields. With the 2022 Energy Code effective in January 2023, the year will heavily focus on the new code cycle. 3C-REN will again offer the 2022 Energy Code series provided by In Balance Green Consulting and will offer a dedicated version to local ICC Chapters, per their request. A few examples of new course topics that will be offered include: residential load calculations, 2022 CalGreen Codes, and modeling all-electric under new code.

Reach Code Support: Building on the momentum established in the first year of the Reach Code Support service, 3C-REN will continue to engage the jurisdictions that are actively working towards implementing reach codes. Also in 2023, staff plan to expand support to include a focus on reach codes that apply to existing buildings, for those jurisdictions that have already passed codes for new construction or are ready to focus on both new and existing buildings.

HOME ENERGY SAVINGS

Program Description

Program Need

Most of the homes in the tri-county region were built prior to the existence of the California energy code. As a result, homes use more energy, cost more, and are less comfortable, while the cost for improving home energy efficiency is often prohibitive for residents. Historically, residential energy efficiency programs have either been too prescriptive and required expensive, whole-home retrofits, or been limited to low-income households. This has made necessary energy improvements to Central Coast housing stock inaccessible to a large portion of the population.

Program Detail

WHAT

Home Energy Savings (HES) provides energy efficiency programs for single family and multifamily properties.

Single Family

The original program model for the single family program was launched in 2020 and sunsetted in 2021 due to limited energy savings potential. The current single family program model was launched in May of 2022, using a normalized metered energy consumption (NMEC) program design. 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. There is no prescriptive measure list, but there must be an approved work paper for the installed measures. The program targets hard-to-reach customers with enhanced incentives.

Multifamily

The multifamily program, which launched in fall of 2021, is a multi-measure rebate program that provides no-cost technical assistance and incentives to multifamily property owners for making energy efficiency improvements to a property. Any upgrades that achieve greenhouse gas savings qualify for the program, and upgrades can be made in both common areas and in-unit. Enhanced incentives are available for underserved properties. The technical assistance includes services such as an 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.

Program Solution

The Home Energy Savings programs help residents and multifamily property owners of the tri-county region save money and make their homes healthier and more comfortable with energy efficiency upgrades.

From heating and cooling to building envelope and water heating upgrades, incentives enable deeper energy and cost savings. Enhanced incentives are available for hard-to-reach customers who may need additional support to realize home energy upgrades.

WHO

Both programs target hard-to-reach (HTR) customers. The single family program primarily targets underserved homeowners, and the multifamily family program benefits renters and owners of underserved multifamily buildings. For residential customers, HTR criteria include geographic location (Santa Barbara and San Luis Obispo Counties and designated disadvantaged communities in Ventura County), a language other than English primarily spoken in the home, income, and housing type. For the multifamily program, a property is considered underserved if it has less than 100 units, is deed restricted or naturally occurring affordable housing, or is located in an AB 1550 low-income or SB 535 disadvantaged community. Non-HTR customers may also be served, but are not the primary audience for these programs.

HOW

Single Family

Customers work with enrolled contractors to scope and implement their energy-saving projects. 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 that they would like to work with that are not yet enrolled in the program.

Contractors estimate energy-savings associated with the project to forecast expected incentives. Actual project energy savings are determined by quarterly review of meter data over the course of a year. Incentives are paid directly to contractors. Half of the forecasted incentive total is paid upfront to the contractor, and the balance is paid to the contractor over the course of a year based on the actual metered energy savings of the project.

Multifamily

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 and project in more detail. Next an initial site assessment is conducted to confirm site conditions and identify energy efficiency opportunities. Once a scope is finalized, the rebate is reserved and installation begins. Unlike in the single family program, 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 rebate is sent directly to the property owner.

"We recently had our internal Sustainability Awards and highlighted the educational opportunities your team at 3C-REN has made available to us. Thank you for involving our team in the brainstorming process, and of course for all the great classes you've put on this past year."

–Tri-county based construction company

"What a brilliant program from the libraries! I've been cooking on an induction cooktop for about three and a half years and I really like it!"

–Tri-county resident on the launch of 3C-REN's induction cooktop partnership with local libraries

HOME ENERGY SAVINGS

2022 Snapshot of Program Performance and Major Accomplishments

HES for Single Family Homes



May
2022

LAUNCHED



23

CONTRACTORS
ENROLLED



16

PROJECTS
COMPLETED



19%

OF PROJECTS
SERVING HTR
CUSTOMERS



22,821 kWh

1,032 therm

SAVINGS ESTIMATED
FROM THE 16 PROJECTS

HES for Multifamily Homes



Oct
2021

LAUNCHED



176

LEADS



29

SITE ASSESSMENTS
COMPLETED



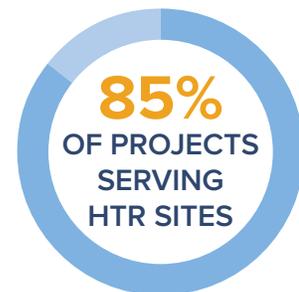
7

SITES RESERVED
REBATES



122

UNITS REPRESENTED
BY 7 SITES



Program Performance and Major Accomplishments

Single Family

In the spring of 2022, the program initially focused on program development followed by contractor enrollment and onboarding. By the end of 2022, there were 16 projects completed through the single family program. Three of these were with HTR customers, approximately 19% of total projects. In total, the 16 projects will have an estimated kWh savings of 22,821 and therm savings of 1,032 in year one. The projects were completed by eight enrolled contractors and included primary measures of: HVAC heat pumps, pool pumps, natural gas furnace upgrades and one heat pump water heater.

Multifamily

By the end of 2022, the program had converted 118 leads, conducted 29 site assessments, and seven projects totaling 122 units had completed a rebate reservation for their project. Six of the seven projects in progress qualify as HTR and include two properties owned by Housing Authorities, one that houses formerly chronically homeless residents, and one affordable housing property owned by a community based organization (CBO).

Program Implementation

Single Family

PARTNERS

The single family program is implemented by Recurve, with support from Frontier Energy and the Community Environmental Council (CEC). Recurve utilizes its FLEXmarket platform to pay enrolled contractors for the value they deliver to the grid in the form of energy savings. Rather than focusing on traditional “measures,” FLEXmarket determines outcomes at the

meter using transparent open-source measurement and verification (M&V) and pays contractors for those delivered outcomes. Frontier Energy supports regulatory compliance and CEC provides community outreach.

MARKETING & OUTREACH

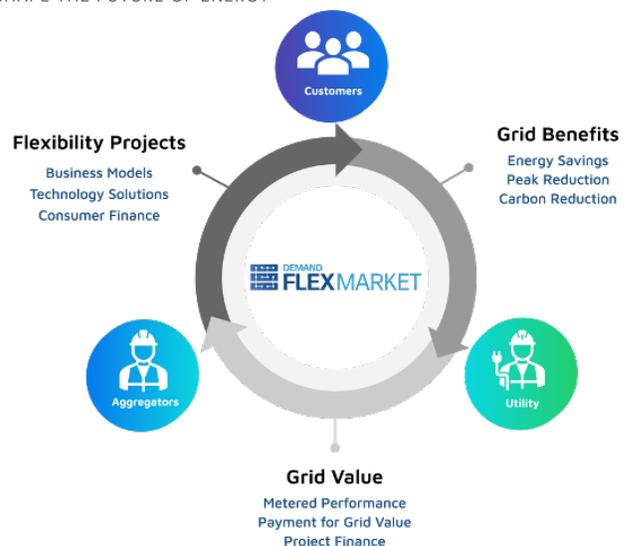
M&O is focused on two primary audiences, contractors and residents. Contractors are engaged through direct outreach, via in-person visits to their offices as well as direct calls and emails. Informational program webinars and outreach events are also used to encourage contractor enrollment in the program. Residents are engaged through email outreach, community events, and energy-saving information publicized on 3C-REN and partner websites.

REPORTING

Contractor and resident leads are tracked via 3C-REN’s Salesforce system. Once a resident becomes a customer in the program, all required project data is tracked and stored in Recurve’s database. Project information is shared with 3C-REN monthly, and additionally as needed for program management.

RECURVE

SHAPE THE FUTURE OF ENERGY



Multifamily

PARTNERS

The multifamily program is implemented by the Association for Energy Affordability (AEA), with support from Frontier Energy and the Community Environmental Council (CEC). AEA brings a depth of knowledge and experience with the multifamily sector, both in terms of technical expertise and effective program design. Frontier Energy supports customer enrollment in the program as well as regulatory compliance. CEC supports community outreach for the program.

Multifamily Home Energy Savings Implementation Team



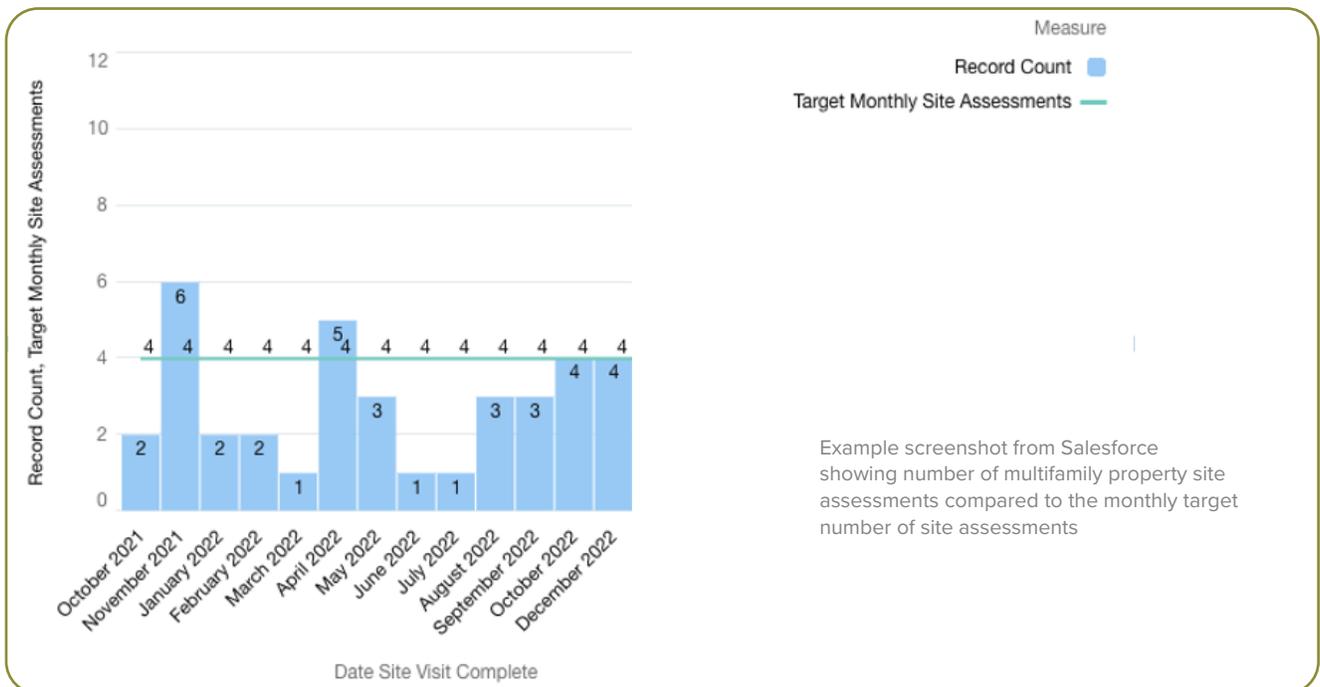
MARKETING & OUTREACH

M&O is primarily focused on building owners and operators as the decision-makers for energy infrastructure in multifamily buildings. These stakeholders are engaged through direct outreach in the form of physical mailers, calls and emails. Informational program webinars are also held and outreach events attended to raise awareness about the program.

REPORTING

All program leads are tracked in 3C-REN's Salesforce, as well as all project data. Program reports and dashboards are used to track program progress and visualize key metrics such as the status of new leads, completed site visits, projects in the pipeline, rebate reservations, and more.

Completed Site Assessments



2022 Highlights

Below are several key accomplishments and innovations from the Home Energy Savings program in 2022.

Single Family Program

AN INNOVATIVE PROGRAM DESIGN FOCUSED ON KEY REN GOALS

The HES single family program incentive structure was designed to meet the unique characteristics of 3C-REN's territory, customers and contractors. Prior to program launch in May of 2022, 3C-REN staff worked with program implementation partner Recurve to modify their FlexMarket Population NMEC design to optimize local results. For instance, FlexMarket programs previously offered incentive payments that rewarded kWh savings but disincentivized electrification projects because of the associated kWh increases with those projects. The 3C-REN team applied a novel incentive structure that hadn't previously been used on the FlexMarket in order to encourage electrification and other REN priorities. The program launched with generous incentive multipliers for projects that:

1. Are completed for HTR customers.
2. Replace natural gas equipment with efficient electric equipment.
3. Are completed by local businesses and contractors.

A few months into operation, the program team further modified the incentive structure by planning for significantly higher upfront contractor payments for projects rather than spacing all of the incentives out based on metered energy savings over an entire year. The decision was rooted in 3C-REN's desire for contractors to offer transparent, upfront discounts for their services, which contractors had resisted in the previous incentive schedule. The program team's ability to modify the structure of the program based on agency goals and participant feedback speaks to the FlexMarket's flexibility and fit for 3C-REN.

RESIDENT OUTREACH FOCUSED ON SAVING MONEY AND MAKING HOMES MORE COMFORTABLE

Resident facing outreach strategy has been rooted in simple messages of increased home comfort and health, that can be achieved by making free or affordable upgrades. Rather than leading with marketing about the incentive program itself, the HES single family program has focused on driving interest in home improvements and an associated list of contractors that can help. Efforts include:

1. Electrification education that is led with the message of affordability, comfort and safety by demonstrating saving potential from stacking regional, state and federal programs, positioning 3C-REN as the place to turn to for all energy program information.
2. HTR outreach that is planned to focus on making trusted connections, providing basic education, and connecting community members with contractors that are able to offer free or highly discounted services.
3. Webinars and planned community events that continue to feature real stories from residents that have made energy improvements.
4. 3C-REN's DIY Toolkits that are distributed throughout the tri-county region's library system and offer a basic, free entry to energy efficiency improvements.

Through these and other efforts offered through the program, 3C-REN aims to become a trusted household name for energy efficiency improvements, and ultimately drive deeper engagement in HES incentive programs.

OUTREACH TO GEOGRAPHICALLY ISOLATED SPANISH SPEAKING COMMUNITIES

In 2022, HES established a pilot partnership with the Santa Barbara County Promotores Network. Promotores are local community members who have a deep understanding of community needs as well as expertise in available community resources. Originally focused on public health, Promotores have expanded their expertise to include other community resources that benefit their community, including home energy efficiency through the partnership with 3C-REN. Between March and October of 2022, Promotores held 18 in-person presentations in Spanish for 3C-REN. The presentations educated 144 residents about energy efficiency and 3C-REN resources available to support them improve their home's health and energy use, including rentable DIY Toolkits. Events were focused in the remote communities of Santa Maria, New Cuyama, Guadalupe, Lompoc and others. The program will explore expanding the Promotores partnership to San Luis Obispo and Ventura Counties in the future.



HAPPY CONTRACTORS = SUCCESSFUL PROGRAM

Contractor participation in any incentive program, regardless of potential benefits, can be a major barrier to program success. By offering dedicated staff that are available to answer contractor emails, texts and phone calls, the single family program is set up to support contractors that may be otherwise unwilling to engage with energy efficiency programs. The program provides comprehensive one-on-one support throughout the contractor enrollment period, for the first few project submissions, and ongoing as requested by participating contractors. In this role, program staff continually identify opportunities to improve processes and the contractor experience.

One example of a happy contractor is San Luis Obispo County-based "Bee Right There Heating and Air." Bee Right There has accessed incentive payments for both energy efficiency retrofits and electrification swaps; the HVAC company has earned incentives for upgrading natural gas furnaces to more efficient models, and for replacing natural gas heating systems with electric heat pumps. In 2022, the company completed 5 projects, including 2 with HTR customers. Bee Right There's success in the program is being leveraged for a case study to inspire other contractors to enroll in the program and drive more energy saving projects in the region.





MANY MANSIONS

Multifamily Program **UPGRADING HOUSING FOR THE FORMERLY** **CHRONICALLY HOMELESS**

Encouraging customers with limited financial resources to make energy efficiency upgrades is a challenge, and the split incentive dilemma for multifamily rental properties, residents of which tend to be lower income and historically underserved, is notoriously difficult to overcome. One unique and valuable service provided by the HES multifamily program that aims to provide resources that may otherwise be lacking, is technical assistance. A dedicated Technical Assistant works with a participating property owner to provide support such as conducting site assessments, analyzing energy usage, determining upgrade opportunities, developing a project scope, and identifying other incentives that can be layered with 3C-REN rebates.

This service was instrumental in helping one of the first projects to come through the program develop a comprehensive scope of work and leverage additional incentive programs to make the project financially feasible. Many Mansions, a non-profit affordable housing provider, initially came to 3C-REN wanting only to upgrade the slider doors in a 12-unit property that houses formerly chronically homeless residents. After an on-site assessment and delivery of a post-visit report that included recommended upgrades and corresponding rebate amounts, the Technical Assistant worked with Many Mansions to develop a comprehensive project scope that included a central heat pump water heater, heat pump HVACs, smart thermostats, pipe insulation, and domestic hot water recirculation controls. Additionally, the Technical Assistant was able to identify Low Income Weatherization Program (LIWP) funds that will be used to install solar PV, which will offset the cost of the additional electrical load.

In addition to lower utility bills with the addition of on-site solar, anticipated benefits to the residents include increased comfort and improved indoor air quality.

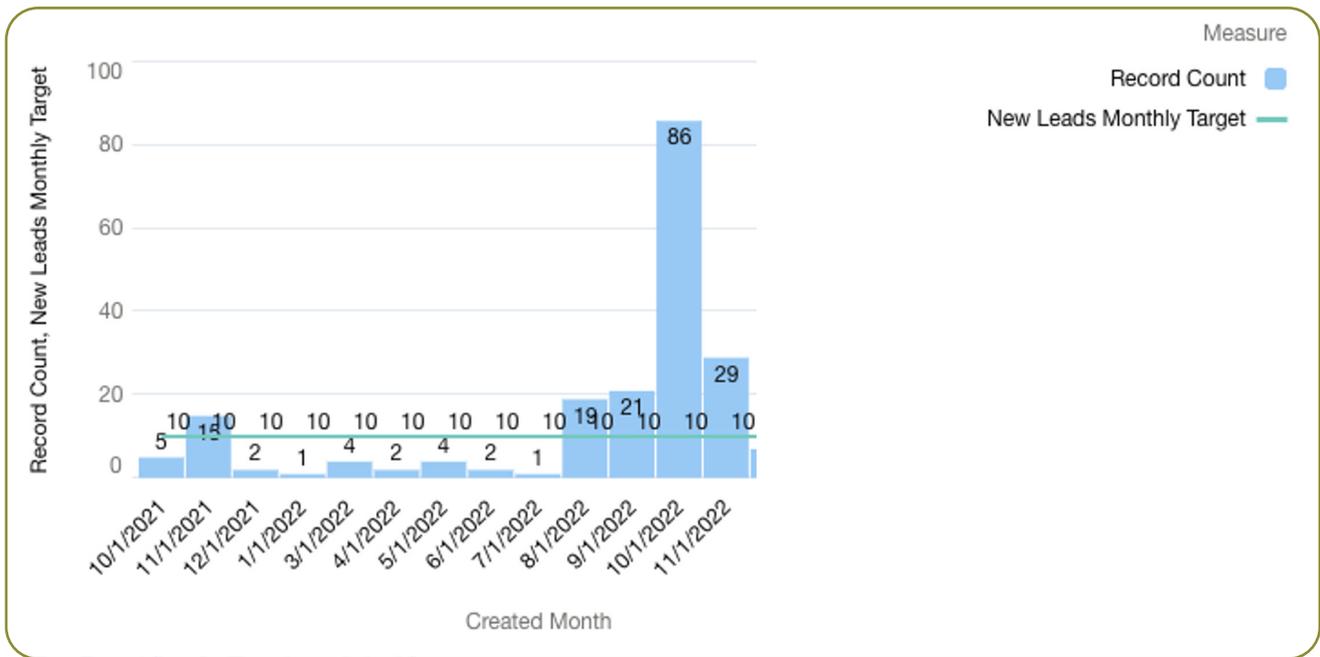
SECOND HALF SURGE IN PROGRAM LEADS LAYS **FOUNDATION FOR GROWTH IN 2023**

The HES multifamily program, still in its infancy, spent the first half of 2022 conducting outreach, building name recognition, and connecting with key stakeholder groups in the multifamily housing sector. Because the program targets hard-to-reach customers, the focus of outreach efforts was housing authorities, affordable housing providers, and city and county government housing departments. The program hosted in-person and virtual informational workshops, and sought out opportunities to present at relevant member association meetings and conferences.

Efforts to generate program interest and project leads took off in the second half of the year with the launch of a limited-time rebate promotion and a successful mailer campaign. To spur participation, and offset increasing cost pressures due to supply chain constraints and increasing material and labor costs, base rebate amounts were doubled from \$500 per unit for market rate properties and \$750 per unit for underserved properties, to \$1000 and \$1500 per unit respectively.

In order to get the word out about the limited time promotion, the program partnered with County Board of Supervisors Chairs from each 3C-REN member county to send a mailer out to multifamily property owners throughout the tri-county region. Within the span of a month of the letters being sent, the program received over 100 new leads, more than the total number of leads the program had generated to-date, proving the effort to partner with local government leadership successful.

Monthly Count of New Leads



Example screenshot from Salesforce showing number of multifamily property customer leads. Surge in October of 2022 reflects an effective direct mail campaign released in collaboration with County Boards of Supervisors.

REPEAT CUSTOMER DEMONSTRATES A VIABLE STRATEGY TO SCALE PROGRAM IMPACT

Part of the HES multifamily program’s long-term strategy is to engage property owners with a large portfolio of properties. Once a property owner has gone through the program once and experiences the value and benefits 3C-REN can provide, they’ll be likely to submit another project when a property is up for renovations or rehabs.

One smaller property owner is already realizing those benefits and has three projects underway. The upgrades in progress for a total of 16 units located in Santa Barbara include attic insulation, ductless mini split HVAC systems, induction cooktops, central heat pump water heater, domestic hot water (DHW) recirculation pump, DHW pipe insulation, and electrical panel upgrades. The projects are expected to achieve about 66% overall energy savings and a reduction of over 20 MTCO2.

Opportunities in 2023 and Beyond

Single Family

Looking ahead to 2023, the HES single family program will focus on recruiting additional contractors and supporting them in enrolling projects. Specifically, the program looks to expand the scope of services available to residents through participating contractors, and to ensure that a suite of services are available throughout the service territory. For instance, many of the enrolled contractors are HVAC professionals, and may not be prepared to address broader scopes of home energy retrofit work. The program will also prioritize enrolling contractors that are able and willing to provide services for HTR customers; engagement of Community Action agencies and other mission aligned organizations will be key to uniform service to these customers. Program staff will recruit contractors via industry events, through other program administrators, via direct outreach and advertising. Contractors will continue to receive individual support from program staff in their enrollment and project submission process in order to establish contractor enthusiasm for the program.

The program will also focus on residential customer engagement and outreach, with a strong focus on HTR communities such as low-income communities, Spanish-speaking enclaves and exploration of energy-saving opportunities in mobile home parks. The outreach strategy for the program focuses on general education about energy savings opportunities and holistic guidance on the suite of incentive and other financial programs that exist to support the adoption of high performance equipment and home improvements. HTR community engagement will be conducted in partnership with the Community Environmental Council, a local nonprofit partner, via partnerships with community-based organizations in order to instill trust in the program's energy saving messaging and associated services. For example, the program will explore a partnership with Diversity Coalition in San Luis Obispo County to refine heat pump messaging to BIPOC communities, which they are doing through a TECH Quick Start grant. The program may also contract with Promotores networks to reach Spanish speaking households via trusted messengers. Broader community level outreach will include educational webinars, tabling events, and partnered outreach with municipalities and nonprofits that have shared energy efficiency or electrification and decarbonization goals.

Multifamily

In 2023, the HES multifamily program will look to expand its participation pathway options. Many of the leads that came in during the 2022 program year that did not move forward with technical assistance or a project cited inability to finance comprehensive, whole-building upgrades. Others preferred to do upgrades upon turnover to avoid disruption to tenants, or on appliance burnout. These tended to be smaller, "mom and pop" property owners who didn't necessarily have a large portfolio of properties, but just one or two smaller ones. In an effort to serve all types of multifamily properties, and to meet property owners where they are, alternatives to a whole-building approach that still achieve substantial energy savings and provide in-unit benefits will be explored and implemented.

Outreach and engagement will continue to focus on broad outreach to multifamily sector stakeholders with an emphasis on the numerous resources available to bring down the cost of making high-performance energy efficient upgrades, as well as the customized, personal support provided by the program's Technical Assistants. Once the new participation pathway launches in 2023, the program will initiate a re-engagement campaign for existing leads and contacts who have not moved forward with a project.

In addition to conducting outreach to property owners, the program will expand engagement and education to multifamily tenants. Similar to the single family program, the multifamily program will look to collaborate with local nonprofit, the Diversity Coalition in San Luis Obispo County, to provide education to, and hone the messaging around the conversion to heat pumps specifically for BIPOC and low- and moderate-income communities.

Energy Savings

In 2022, 3C-REN administered one resource program with savings, Home Energy Savings for single family homes, which launched in May of 2022 (the multifamily program was launched in October 2021 but no projects were completed in 2022). The single family program delivered the following energy savings.

Table 1: Net Energy Savings

Electric and Gas Savings and Demand Reduction	Annual kWh Savings	Lifecycle kWh Savings	Peak Demand kW Savings	Annual Therms Savings	Lifecycle Therms Savings
Home Energy Savings	22,821.30	241,236.00	3.80	1,031.85	13,932.00
Total Portfolio Savings	22,821.30	241,236.00	3.80	1,031.85	13,932.00

Savings by End Use

3C-REN's HES single family program delivered the following savings by end-use in 2022.

Table 2: Savings by End-Use

End-Use Category	kWh	% of Total	kW	% of Total	Therms	% of Total
Appliance or Plug Load	0	0.00%	0	0.00%	0	0.00%
Building Envelope	0	0.00%	0	0.00%	0	0.00%
HVAC	2,604.60	11.41%	0.97	0.00%	722.70	70.04%
Lighting	0	0.00%	0	0.00%	0	0%
Service and Domestic Hot Water	20,216.70	88.59%	2.83	0.00%	309.15	29.96%
Annual Portfolio Savings	22,821.30	100%	3.80	100%	1,031.85	100%

Environmental Impacts

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

Table 3: 3C-REN 2022 Environmental Impacts

Annual CO2 avoided (tons)	Lifecycle CO2 avoided (tons)	Annual NOx avoided (tons)	Lifecycle Nox avoided (tons)	Annual PM10 avoided (tons)	Lifecycle PM10 avoided (tons)
12.07	155.41	3.54	37.57	1.46	15.45

Expenditures

Table 4: 3C-REN 2022 Budget

Program	2022 Budget
Residential	\$5,632,284
Codes and Standards	\$1,807,045
WE&T	\$1,848,046
Program Subtotal	\$9,287,375
EM&V (3C-REN only)	\$386,974
Total 3C-REN 2022 Budget	\$9,674,349

Table 5: 2022 Actuals

Programs	Admin	Direct Implementation	Incentives & Rebates	Marketing & Outreach	Total
Single Family NMEC	\$45,685.17	\$649,627.20	\$0.00	\$25,800.05	\$721,112.42
Multifamily Home Energy Savings	\$54,189.03	\$883,594.34	\$0.00	\$22,319.15	\$960,102.52
C&S	\$109,552.90	\$1,078,301.68	-	\$70,241.29	\$1,258,095.87
WE&T	\$105,328.85	\$1,019,345.96	\$0.00	\$27,568.14	\$1,152,242.95
Program Subtotal	\$314,755.95	\$3,630,869.18	\$0.00	\$145,928.63	\$4,091,553.76
EM&V (3C-REN only)					\$4,933.75
Total 3C-REN Expenditures	\$314,755.95	\$3,630,869.18	\$0.00	\$145,928.63	\$4,096,487.51

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 2022 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): 26.99%
- Percentage of event 3C-REN attendees considered hard-to-reach (Market Support sector): 16.00%
- Number of jobs and economic value, inclusive of job creation at counties (Market Support sector): 85.29%*

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

Equity Sector: Home Energy Savings

For energy savings and environmental impacts metrics see referenced tables:

Table 1: Net Energy Savings

Table 2: Savings by End-Use

Table 3: 3C-REN 2022 Environmental Impacts

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

3C-REN continued to provide workforce training opportunities in 2022. The following required metrics were tracked for the BPT (WE&T) program:

- Number of collaborations: 52
- Number of participants: 1091
- Percent of participation relative to eligible target population: 5.85%*
- Percent of participants that meet the definition of disadvantaged worker: 5.27%

* 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 2022 was 743.

Codes & Standards Sector: Energy Code Connect

3C-REN continued to provide energy code support in 2022. The following required metrics were tracked for the ECC (C&S) program:

Participation in Energy Policy Forums

3C-REN held three energy policy forums in 2022:

- Number of jurisdictions with staff participation in an energy policy forum: 11
- Percent of jurisdictions with staff participation in an energy policy forum: 39.29%
- Number of organizations with staff participating in energy policy forums: 79
- Number of attendees participating in energy policy forums: 176

Energy Policy Technical Assistance

3C-REN launched the Energy Code Coach service for the tri-county region in 2020 and began its third year of program delivery in 2022:

- Number of jurisdictions with staff receiving energy policy technical assistance: 5
- Percent of jurisdictions with staff receiving energy policy technical assistance: 17.86%
- Number of buildings receiving enhanced code compliance support: 60

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: 20
- Number of participants attending codes and standards training events: 506

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: 227
- Number of jurisdictions directly engaged in Codes and Standards activities: 16
- Percent of jurisdictions directly engaged in Codes and Standards activities: 57.14%

Reach Code Support Activities

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

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

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

Commitments

3C-REN made no commitments in 2021 for expected implementation in 2022. The Single Family Home Energy Savings program (TCR-Res-001) completed all installations prior to program close-out at the end of 2021.