



2020 Annual Report

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Executive Summary



About 3C-REN

The Tri-County Regional Energy Network (3C-REN) is a collaboration of the three counties, Ventura, Santa Barbara, and San Luis Obispo, in the California Central Coast Region, with 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' experience and cooperative administration of energy and sustainability programs, the tri-county local governments formed the 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 public agencies and their constituencies within Southern California Edison's ("SCE's"), Southern California Gas' ("SoCalGas's"), 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 Decision 14-10-046 the Commission authorized funding for EE programs until 2025. In 2015 the Commission issued Decision 15-10-028 approving the mechanics for the EE rolling portfolio and outlining the business plan application process. On January 23, 2017 3C-REN filed a motion for approval of its rolling portfolio business plan and budget proposal. Decisions 15-10-028 and 18-05-041 provided the requirements of the Annual Budget Advice Letter ("ABAL") and directed Program Administrators to file ABALs. In Decision 19-05-019 the Commission directed the

¹ See D.16-08-019 page 10.

ABALs going forward to include the results of the Program Administrator Cost (PAC) and the Ratepayer Impact Measure (RIM) test and cost-effectiveness estimates.

For households, 3C-REN offers low-cost and easy-to-install energy saving opportunities, 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 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.



Home Energy Savings Summary (Residential Direct Install)

The Home Energy Savings (HES) program provides free and reduced-cost home energy efficiency upgrades and services to residents throughout San Luis Obispo, Santa Barbara, and Ventura Counties.

In 2020, progress was made on program design including finalizing the list of energy efficiency measures to offer, and the incentive structure for those measures. Project tracking infrastructure was designed and developed, and a program implementer was selected.

The HES program launched in March of 2020, initially a soft launch focused on San Luis Obispo and northern Santa Barbara counties. Shortly after the soft launch, COVID-19 shutdowns required a shift in program focus. Staff pivoted to design and deliver virtual home assessments and self-install energy efficiency kits. Hard-to-reach customers were targeted, and nearly 200 self-install kits were delivered. By the fall, the program tapered outreach activities and made the decision to refocus on opportunities that would yield higher energy savings, while identifying ways to improve program delivery.



Example 3C-REN self-install energy efficiency kit

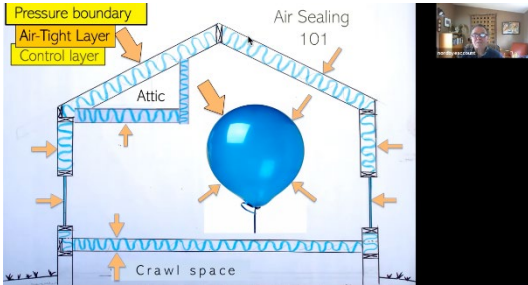


Building Performance Training Summary (WE&T)

The Building Performance Training (BPT) program is geared towards current and

prospective building professionals—providing expert instruction, technical trainings, soft skills development and certifications on the latest energy efficiency methods and measures.

In 2020, the program achieved the following key accomplishments: transition to online delivery of trainings, conducted hard to reach (HTR) workforce stakeholder outreach, created an associated HTR action plan, launched training services for real estate professionals, and hosted 33 events reaching over 400



Screenshot of online Air Sealing Training with instructor Terry Nordbye | 2020

total attendees (nearly 300 unique individual attendees).

Continued increases in participation numbers and repeat attendees in 2020 reinforced a demand for local training. Looking ahead to 2021, 3C-REN will continue to survey and evaluate trainings. BPT will incorporate standardized instructor quality assessments to increase quality of training delivery and identify training gaps. Additionally, 3C-REN will continue to broaden the types of industries engaged in the program through targeted outreach and new course offerings. Increased outreach in Santa Barbara and Ventura Counties will continue to be a priority.



Energy Code Connect Summary (C&S)



Regional Forum on Optimizing the Virtual Building Department for COVID-19 | 2020

The Energy Code Connect (ECC) program offers regional services, resources, and trainings for public and private-sector building professionals. Currently ECC provides three core services: Energy Code Coach, regional forums, and training events.

In 2020, ECC continued to deliver relevant and valuable forums and training events and launched the Energy Code Coach service. In 2020, ECC held five regional forums, delivered 16 training events, and launched the Energy Code Coach service across the tri-county region. It should be noted that the COVID-19 pandemic had a major impact on the

delivery of all services. As can be expected, after March 2020, all courses, forums, and the Energy Code Coach service were delivered in a virtual environment.

In 2021, the ECC team looks forward to further expanding training events that will support energy code compliance, enforcement, and comprehension across tri-county region. In addition, 3C-REN looks forward to holding forums in person, when it is safe to do so, at new locations across the region to engage participants in HTR areas, and continue to deliver the Energy Code Coach service to the public. As with BPT, increased outreach in Ventura and Santa Barbara Counties will continue to be a priority.

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

2020 Energy Efficiency Programs Overview

BUILDING PERFORMANCE TRAINING

Program Description

Program Need

The tri-county region has set ambitious energy and climate goals that will partially be achieved through “high performance buildings” (HPBs)--energy efficient and resilient buildings that reduce energy use, lower emissions and address climate change. Unfortunately, consumer demand for HPBs is not increasing at the rate required to meet these goals. Without consumer demand or policy mandates, the industry has not developed the skills or capacity required for HPB development. The majority of our workforce is not sufficiently trained to recognize or communicate the value of HPBs, which could drive greater consumer demand. There is also a lack of training opportunities for workers to gain the knowledge and skills to properly design and build affordable HPBs. Furthermore, the relative geographic isolation of our region has historically been a barrier to accessing training.

Program Detail

WHAT

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

Program Solution

3C-REN's Workforce Education & Training program, *Building Performance Training (BPT)*, is designed to achieve 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 local training events that enable our workforce to develop the skills essential for creating and communicating about HPBs. Clear career pathways will be developed by the program to enable people of all backgrounds to join the industry.

WHO

The program targets local, private sector building professionals, such as contractors, HVAC technicians, engineers, architects, designers, certified energy managers, and real estate professionals. Public sector building department staff engage in the program as well but are more heavily engaged in the ECC program. Training is offered to professionals in disadvantaged communities (DACs) and hard to reach (HTR) areas, as well as individuals interested in joining the energy efficiency workforce.

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. Trainings are delivered locally in each county to address the unique challenges of the tri-county region where geographic isolation limits proximity to career advancement opportunities.

HOW

Events after March 2020 were held online, but in-person learning will resume when safe to offer enhanced hands-on learning opportunities to remote communities across the tri-county region. Smaller training events may have 5 – 10 attendees, allowing students to engage with instructors by asking questions and discussing application of course content to real-world projects. Larger training events may have 40+ students, allowing instructors to deliver the latest industry knowledge and practices to a large number of attendees. Participants are surveyed after each event and feedback is used to improve upon future events.

Program Performance and Major Accomplishments

Online Delivery

In 2020, the BPT team witnessed an immediate and significant shift to the Central Coast's workforce development programs. In-person trainings and outreach quickly pivoted to online trainings. This required closed coordination with 3C-REN instructors to transition to online delivery of course materials. The transition to digital presentations became seamless once content was tailored to online program delivery and once instructors gained comfort with the platforms. By mid-April, BPT was set up for online training via Zoom. Most planned courses were delivered in 2020, keeping local building industry professionals in the tri-county region engaged.

Stakeholder Engagement: Hard to Reach Workers

The BPT team strives to better serve less resourced workers in Ventura, Santa Barbara, and San Luis Obispo Counties. In the fall of 2020, 3C-REN engaged local, regional, and other relevant entities that serve disadvantaged contractors and workers. The goal of this outreach was to identify the target audience and pinpoint training needs to build an inclusive workforce that will bring energy efficiency and resilience to the tri-county region. This was done by identifying and interviewing key stakeholders who understand the gaps between underserved and more resourced workers, and the skills and knowledge needed to be competitive.

Below we have summarized the results of our conversations with HTR stakeholder organizations in the tri-county region. A total of 42 entities were contacted, and 14 interviews were conducted.

Distribution of Interviews across Organization Type

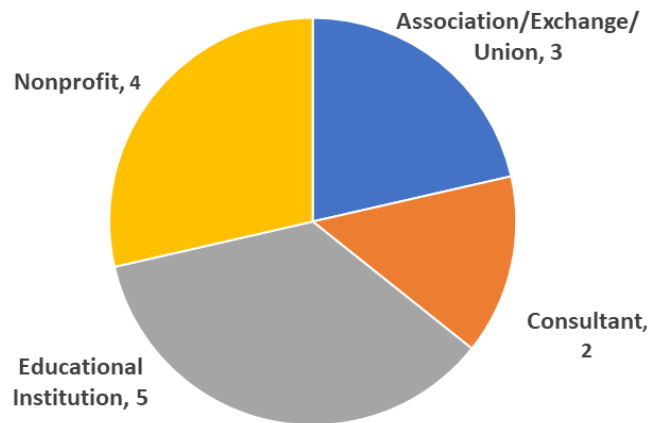


Figure 1: Breakdown of organizations engaged in HTR interviews

Target Audience:

Interviews identified disadvantaged workers as:

- Female
- Hispanic/Latinx
- From low-income communities
- Geographically isolated
- Having age-related skills gaps
- Students or entry-level workers
- Small business owners

Trends:

Geographic:

Workers in the northern portions of San Luis Obispo and Santa Barbara Counties have less access to resources than workers in the southern areas of the counties.

Knowledge Base:

- Mid-to-Senior Professionals: Strong trade skills but struggle with technology.
- Entry-level workers: Lack trade skills but are tech savvy.
- Workers of all backgrounds typically lack strong business management skills.

Training Needs:

Every partner agreed that basic soft skill trainings are lacking in the region.

- **Soft Skill Needs:** sales, marketing, and customer service

- **Technical Knowledge Gaps:** safety and compliance, permits, codes, energy rating testing, and general energy efficiency
- **Business Management Gaps:** project planning, inventory, retirement, and financial management

Program Documents and Database

Staff continued to use process documents established in 2019, but refined them in 2020 as staff integrated learnings from the first year of program operations. The most significant process shift was the transition from in-person to online training events. Event checklists and processes with instructors were updated to reflect the shift to the virtual environment. Continued development of 3C-REN's Salesforce platform is ongoing, as the system is adapted to meet the team's reporting requirements and enhanced to support analysis of training services. Program dashboards were developed to improve tracking of program progress and visualize key metrics such as the number of events by month, total number of participants and collaborations.

Seeing an opportunity to streamline operations, the key software platforms required for program delivery were integrated (e.g., Salesforce, Zoom, ConstantContact) and automations were tested to reduce staff time spent on event planning and reporting (e.g., syncing event creation from Salesforce to the 3C-REN website). Testing and refinement of the automations will continue into 2021.

Marketing & Outreach

The BPT team continued to engage and foster existing connections with organizations dedicated to energy and sustainability, economic development, education, labor, building and safety, planning, and community development. These organizations push event notifications to their members on behalf of 3C-REN, extending 3C-REN's reach in the tri-county region.

In 2020, a consistent event promotion strategy was implemented, including weekly outreach emails to an expanded distribution list and targeted emails for events that require additional promotion. A standardized template for weekly outreach emails was established to enhance brand visibility and to expedite creation of the weekly emails. A template was also established to promote a quarterly course calendar, which is then distributed to key partners such as architectural associations and green building councils. Additionally, website improvements were made to help users navigate to event registration pages.

Standardized slides and talking points were created to introduce 3C-REN at the beginning of each BPT event. These slides further enhance 3C-REN's brand recognition and create consistency when partnering with various instructional providers. Discussions for digital advertising and improved search engine optimization began for launch in 2021.

Program Implementation

Event Achievements

BPT quickly ramped up and pivoted to online delivery of trainings through the end of the year. A total of 33 events were held under the BPT program reaching 416 total training participants (296 unique individuals) across the region:

2020 Building Performance Training Overview



Figure 2: Summary of BPT achievements in 2020

2020 BPT Training Events

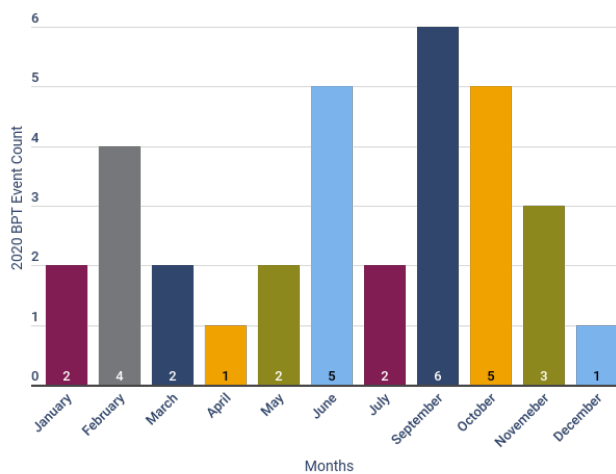


Figure 3: Number of BPT training events held by month

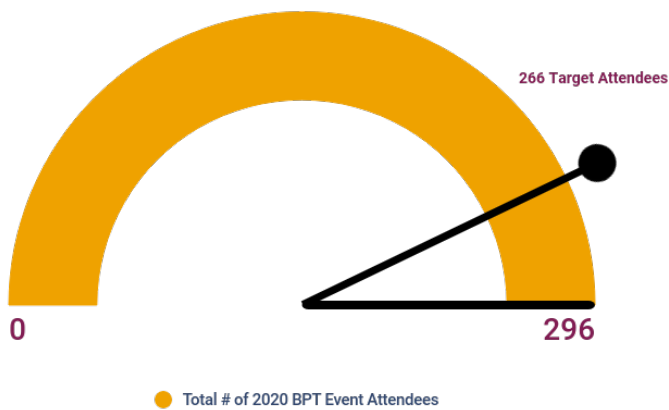


Figure 4: Total number of unique individuals who attended BPT training events

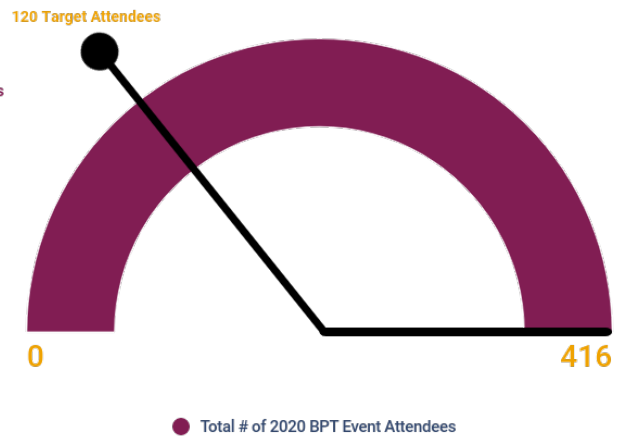


Figure 5: Total number of attendees (includes individuals who attended more than one training) at BPT training events

Professions Who Engaged in 2020 BPT Training

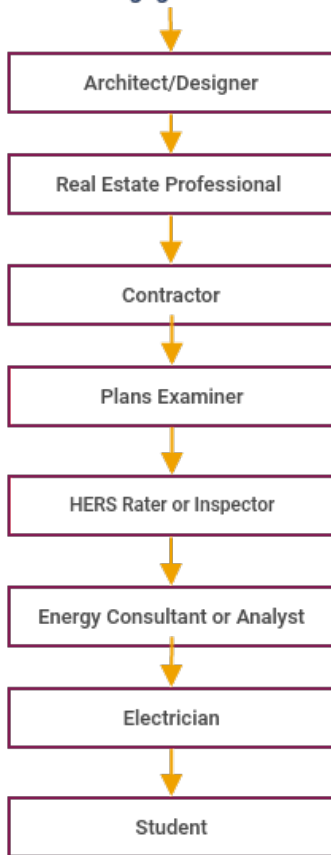


Figure 7: Types of professionals who attended BPT training

BPT 2020 Training Topics



Figure 6: Topics covered by BPT training

Events were held in partnership with training providers, industry associations, non-profit organizations, building supply houses, educational institutions and more. Partners supported 3C-REN's delivery of these courses in several ways: as trainers, advising in the development of a course calendar, and as marketing partners. The following is a list of partners engaged in 2020, including instructors and promotional partners:

Table 1: 2020 BPT Partner Organizations

2020 BPT Partner Organizations	
1	AIA California Central Coast
2	AIA Santa Barbara
3	AIA Ventura County
4	Allen Construction
5	Air Sealing Solutions
6	Conejo Simi Moorpark Association of REALTORS
7	Community Action Partnership San Luis Obispo
8	Eklund Properties
9	AjO (real estate training)
10	Santa Barbara Association of REALTORS
11	Scenic Coast Association of REALTORS
12	In Balance Green Consulting
13	North American Passive House Network (NAPHN)
14	Ojai Valley Board of Realtors
15	SLO County Builders Exchange
16	RRM Design Group
17	Ten Over Studio
18	USGBC Central Coast Green Building Council (C4)
19	Ventura County Contractors Association (VCCA)
20	Ventura County Coastal Association of Realtors
21	Pacific Mortgage Trust
22	Con Com-T, Inc. (soft skills training)

3C-REN attendance slowly ramped up by Q3 as online training and marketing was fine-tuned as our partners transitioned to online outreach. A total of 416 attendees participated in BPT events in 2020. A diversity of industries were represented, from 188 organizations.

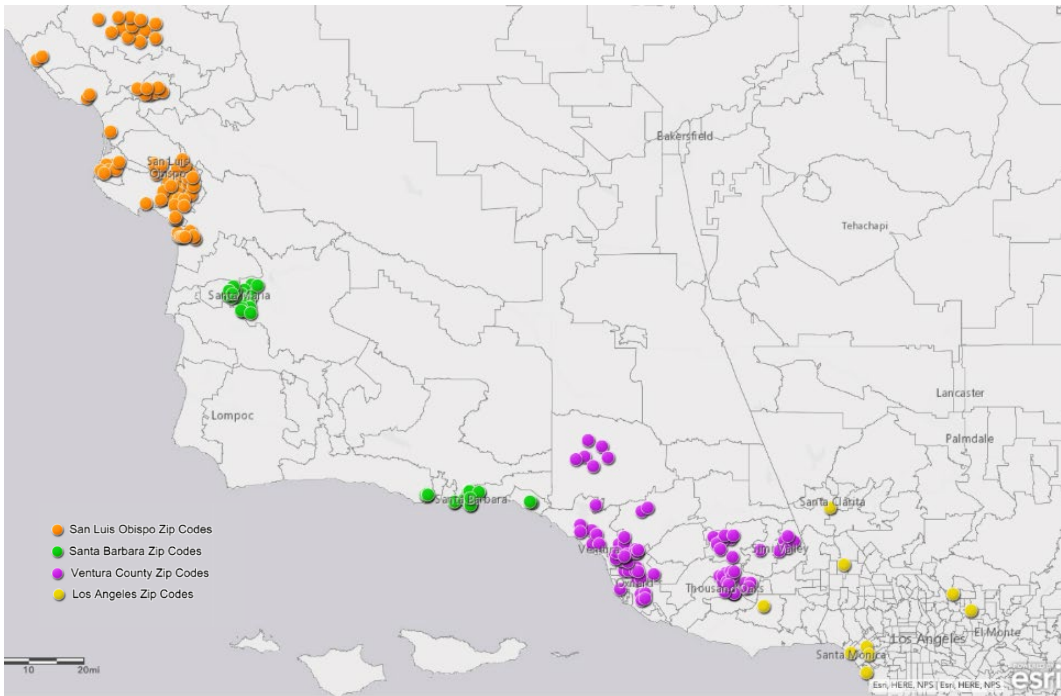


Figure 8: Zip codes represented by BPT attendees; professionals living and working in the tri-county region

2020 NAR Certified Realtors

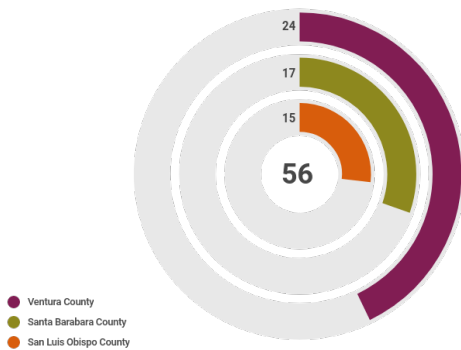


Figure 9: 3C-REN trainings resulted in 56 newly “Green-Designated” realtors in the region

Geographic diversity still continues to be a critical feature of 3C-REN programs, with online delivery we were able to accommodate more students across the region. Partnership models with large employers and membership organizations proved successful. BPT also expanded to other audiences, offering training for real estate professionals. This included National Association of Realtors (NAR) Green Designation for real estate agents, as well as high performance training events for appraisers and inspectors.

2020 Highlights

3C-REN’s vision for 2020 was develop 3C-REN name recognition and start to build trust with stakeholders to become even more efficient in the delivery of quality workforce training. The quick transition to online delivery, expanding our portfolio of instructional providers and continuing outreach with partners organizations all supported a successful year of program delivery despite COVID-19 impacts. Interviews were conducted to help 3C-REN understand partner goals, how to communicate 3C-REN programs values, and how 3C-REN’s work can support our partners’ current work.

In 2020 3C-REN Leadership agreed to search for diversity, equity, inclusive and justice (DEIJ) training for staff. To effectively design programs serving hard-to-reach populations, staff must deepen their understanding of social justice issues and systemic inequities that create the need this enhanced focus on HTR and underserved communities. Training will focus initially on developing a common language related to DEIJ issues. Such language will improve 3C-REN's ability to connect with and understand the needs of the populations RENs target. BPT's 2020 outreach efforts to engaged local, regional, and other relevant entities serving disadvantaged contractors and workers provided insight into identifying the target audience and pinpointing training needs. Ongoing training and support from organizations engaged in DEIJ is planned for 2021.

Opportunities in 2021 and Beyond

Ongoing stakeholder engagement and fostering of key relationships will continue to be an important component of program development. Training will continue to evolve to meet industry changes, through regular communication with working professionals and educational institutions is essential.

Throughout 2020, the BPT team developed partnerships with key stakeholders to engage hard to reach workers to develop career pathways for building professionals in the tri-county area. These partnerships will be continued to support the expansion of the program's network, especially into the private sector. Core architecture and construction sectors will continue to be a focus, while incorporating new sectors in our training programs. In addition, there will be continued coordination with the statewide WE&T team, starting with review of updated course offerings.

The efforts in 2020 to seek feedback on how to better serve less resourced, disadvantaged workers produced pathways to partnering opportunities with local, and regional entities that serve disadvantaged contractors and workers. The findings will position BPT as a contributor to building an inclusive workforce that will bring energy efficiency and resilience to the tri-county region. In addition, 3C-REN will continue to assess and leverage opportunities to achieve longer term program goals related to serving English as a Second Language workers, offering apprenticeship-style learning opportunities, and establishing career pathways in partnership with local educational institutions. With a broad base of workers equipped with the skills and knowledge to apply both established and advanced energy efficiency technologies, building professionals will increase efficiency and reduce emissions within the built environment, while improving their resilience and health outcomes.

ENERGY CODE CONNECT

Program Description

Program Need

The Energy Code and California Green Building Standards included in the California Code of Regulations (Title 24, Part 6 and Part 11 respectively) are designed to support energy efficiency and green building practices that reduce the wasteful and uneconomic use of energy and resources while improving both indoor and outdoor environmental health. To address climate change, reducing or eliminating emissions from buildings is essential. Strict energy and green building codes can lower energy use and emissions, but only when a high level of compliance is achieved.

Compliance is difficult for several reasons:

Low & Inconsistent Comprehension: Codes are complex and updated every 3 years

Real & Perceived Costs: The value proposition of energy efficient buildings is different and poorly understood

Lackluster Enforcement: Competing priorities and limited resources mean codes often go unenforced

Program Solution

Energy Code Connect (ECC) services aim to establish the tri-county region as a leader in California Energy Code and Green Building Standards compliance and enforcement. Through educational events 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). In 2020, ECC focused on three key services: Energy Code Coach, regional forums, and training events.

Program Detail

What

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

Energy Code Coach: Energy Code Coaches help building professionals navigate California's ever-changing and complex Energy Code. Local experts provide prompt and personalized support online, over the phone, over the counter, or in the field. Coaches provide access to existing and new compliance and enforcement resources and tools for local building professionals.

Regional Forums: Focused on energy and green building codes, forums convene professionals from both sides of the building counter. Events are educational, with subject matter experts speaking to the latest developments in the state’s energy efficiency landscape, but also interactive, fostering shared understanding as the industry works towards common goals. Networking is a key feature of forums to create relationships

Training: Educational events are opportunities to help increase overall comprehension, compliance, and enforcement of codes and standards. Course content is curated to address 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.

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. Sharing target stakeholders with the BPT program, coordination between ECC and BPT programs is essential. While the ECC program caters more to the public sector than BPT program, engaging the private sector is equally as important as connecting with public sector code officials.

Given the array of professions that touch the energy code in the design and construction of new and existing buildings, ECC offers services to architects, engineers, electricians, plumbers, plans examiners, inspectors, building officials and more. Ideal participation in the ECC program involves use of the Energy Code Coach service in addition to attendance at training events and forums.

HOW

The Energy Code Coach is implemented by Franklin Energy (formerly Build it Green), with onsite local support from In Balance Green Consulting. Requests for support from the Energy Code Coach are submitted through an online form or by calling the Energy Code Coach hotline. Franklin Energy staff respond to requests as soon as possible, but no later than one business day upon receipt. Depending on the nature of the request, code coaches will answer by phone, email or offer in-person support at the counter or in the field, when it is safe to do so.

Traditionally, regional forums are half-day events that rotate among the three counties but seek representation from a diversity of panelists and attendees to draw participation from across the territory. 2020 introduced an opportunity to pivot and offer forums in a virtual environment which was successfully delivered across the tri-county region. Using keynotes, panelists and breakout discussions, participants learn and share best practices from across the region. Topics may range from code updates to balancing affordability and sustainability to tactics for conveying the value of energy codes to customers and many more. Attendees leave with enhanced knowledge and new connections to peers both the public and private sectors. In 2020, forums were leveraged to support the local industry adapt to COVID-19 changes,

supporting continued compliance and enforcement with the energy code during a time of transition.

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

Program Performance and Major Accomplishments

Program Design

Working jointly with the BPT team, the ECC team dedicated the first quarter of 2020 to develop a comprehensive course and regional forum calendar and launch the Energy Code Coach service. Gathering stakeholder feedback from a range of voices laid the foundation for program design. For ECC, special effort was paid to key stakeholders focused on the energy code, including the California Energy Commission (CEC), California Association of Building Energy Consultants (CABEC), and many additional local and statewide member organizations, as well as private sector firms. In addition to targeted stakeholder conversations, as with BPT, 3C-REN's Market Needs Assessment was also heavily relied upon to inform ECC program design.

Stakeholder Engagement

2020 was a hallmark year for stakeholder outreach and engagement for the Energy Code Connect program. The ECC team put a significant amount of effort into engaging public and private sector stakeholders, jurisdictions, and member organizations across the tri-county region. The ECC team continued to work with the 28 jurisdictions to bring various trainings in front of public sector staff. Additionally, ECC and BPT program staff engaged various private sector member organizations to gather feedback, provide an overview of all programs, and market upcoming events. Organizations include the Architecture Institute of America, International Code Council local chapters, Home Builders Association, Builders Exchanges, United States Green Building Council local chapters, and many more.

Public and private sector outreach focused on increasing awareness and understanding of operations and the challenges to applying energy code best practices. Outreach occurred through extensive research, growing contact lists, direct phone calls and emails, attending and speaking at virtual events, distributing collateral to local supply houses and jurisdictions, and initiating training opportunities around the 2019 Building Codes Cycle.

Relationship Management with the California Energy Commission (CEC)

In 2020, the Energy Code Connect Program continued to deliver services to building industry professionals in the tri-county region. Key to this effort was continuing regular coordination and collaboration with the CEC, including calendaring bi-monthly meetings with the Building Standards and Standards Compliance Offices. These conversations helped 3C-REN and the CEC identify opportunities of interest, maximize coordination to avoid the duplication of efforts,

effectively utilize existing resources, identify service gaps and value-add opportunities, and leverage respective industry roles and expertise to improve program services.

Coordination calls led to the sharing of resources relevant to ECC offerings, such as the CEC training calendars and code compliance tools, and improved information to inform 3C-REN decision-making. For example, 3C-REN became more familiar with how the CEC Hotline is utilized by industry professionals and applied these learnings to the Energy Code Coach service while also developing new features tailored to the region's needs. This collaboration also led to 3C-REN participating in and commenting on the 2022 code cycle process for the first time in 2020.

Coordination between 3C-REN and statewide partners is necessary to continue delivering services that effectively serve the needs of building professionals in the tri-county region while improving access to resources that enhance knowledge and compliance with Title 24, Parts 6 and 11.

Relationship Development with the Statewide Codes and Standards Team and Energy Code Ace

As a major player in statewide codes and standards training, Energy Code Ace (ECA) was an obvious partner for 3C-REN. This partnership is mutually beneficial, expanding the range of customers ECA serves and bringing ECA Title 24, Part 6 and Part 11 training resources to underserved building professionals in the tri-county region. 3C-REN reviewed available trainings and offerings, highlighting options that focused on the changes in the 2019 Energy Code as priorities for the region's building professionals. ECA training on the 2019 Energy Code was held in-person in early 2020 in each of 3C-REN's three counties, prior to COVID-19 shutdowns.

Unfortunately, due to the COVID-19 pandemic, collaboration on course delivery between 3C-REN and ECA was limited later in the year, as all courses were online. When possible and appropriate, 3C-REN directed interested parties to ECA courses and resources.

Program Documents and Database

Staff continued to use key program documents in 2020, including event and instructor coordination checklists and strategic planning documents. For efficiency, event processes for ECC and BPT are the same; software integration and automation processes as well as Salesforce updates referenced in the BPT section apply to ECC as well.

Beyond event processes, database updates in Salesforce for the Energy Code Coach service were made to better analyze program data. As experience running the service increases over time, opportunities to improve upon it are identified. One such improvement included the addition of new data points to better understand the number of times the typical customer engages with the service on a single question (e.g., 3 email exchanges), a uniform list of potential inquiry topics (e.g., solar requirements for new construction), and a uniform list of resolution outcomes (e.g., provided code citation). Enhanced data collection and analysis supports staff's ability to improve the service over time.

Procurement

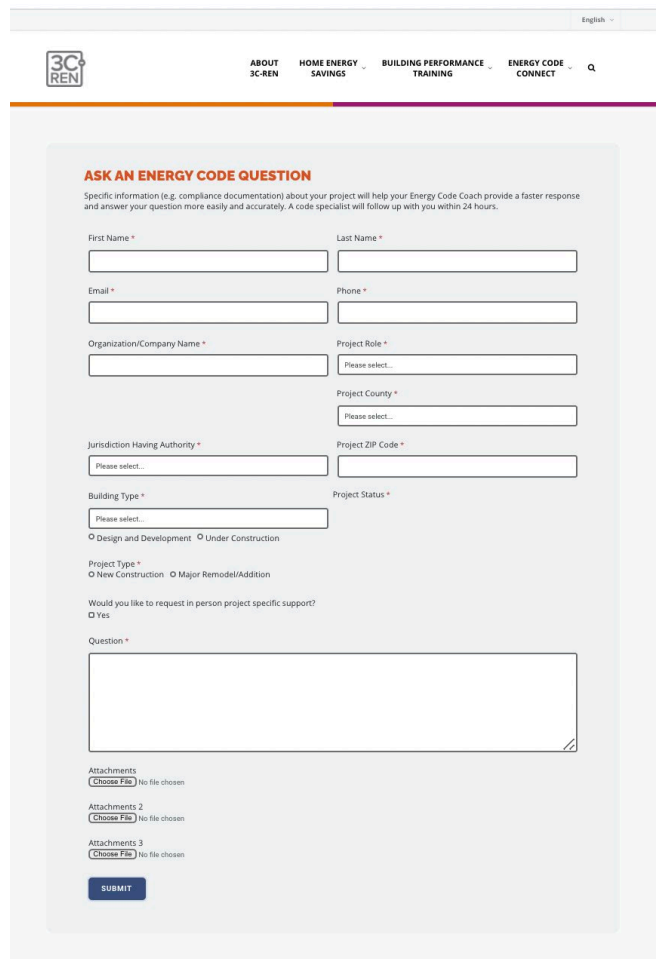
For ECC trainings, 3C-REN again leveraged joint efforts between ECC and BPT and followed the same procurement processes for both programs. Some training partners, such as ECA, did not require procurement. For forums, procurement needs are minimal, but the team established clear division of responsibilities among the three counties.

Lastly, 3C-REN continues to engage Frontier Energy and Bluepoint Planning services to support the planning, promotion, and execution of regional forums.

Marketing and Outreach

Marketing and outreach efforts detailed under the BPT section of this report apply equally to ECC. However, additional resources were developed to support the Energy Code Coach. A rack card providing an overview of the Energy Code Coach service and how to contact the coaches was developed for distribution in the tri-county region. The card includes a magnet to keep the service hotline and URL information front and center. Cards have been delivered to some building counters at local jurisdictions, and wider distribution is planned once more in-person activity is resumed. The cards will also be distributed to private sector stakeholders as more offices begin to re-open.

Additional marketing and outreach resources developed in 2020 include an Energy Code Connect overview presentation and updates to the ECC page on 3C-REN's website. The presentation will be used initially for meetings between 3C-REN and local building department staff at tri-county jurisdiction offices. Website enhancements included a revised program page, and a dedicated Energy Code Coach inquiry form.



The screenshot shows the 'ASK AN ENERGY CODE QUESTION' web form. At the top, there is a navigation bar with the 3C-REN logo and links for 'ABOUT 3C-REN', 'HOME ENERGY SAVINGS', 'BUILDING PERFORMANCE TRAINING', and 'ENERGY CODE CONNECT'. The form itself is titled 'ASK AN ENERGY CODE QUESTION' and includes a sub-header: 'Specific information (e.g. compliance documentation) about your project will help your Energy Code Coach provide a faster response and answer your question more easily and accurately. A code specialist will follow up with you within 24 hours.' The form contains several input fields: 'First Name *', 'Last Name *', 'Email *', 'Phone *', 'Organization/Company Name *', 'Project Role *', 'Project County *', 'Jurisdiction Having Authority *', 'Project ZIP Code *', 'Building Type *', and 'Project Status *'. There are also radio buttons for 'Project Type' (New Construction, Major Remodel/Addition) and 'Would you like to request in person project specific support?'. A large text area is provided for the 'Question *'. At the bottom, there are three 'Attachments' sections, each with a 'Choose File' button and 'No file chosen' text. A 'SUBMIT' button is located at the bottom right of the form.

Figure 10: 3C-REN Energy Code Coach web form

Program Implementation

Energy Code Coach

Following the soft launch of the Energy Code Coach service in late 2019, 3C-REN and Franklin Energy learned from the experience and applied what was learned to a full launch of the service on January 2nd, 2020. Uptake of the service was slow in the beginning and primarily through the year due to an inability to promote the service in person. Overall, the Energy Code Coach Service received and answered over 50 inquiries. Most were received via the webform.

In addition, 3C-REN built training development and delivery into the Energy Code Coach contract as part of the implementation of the Energy Code Coach. In 2020, Franklin Energy and In Balance Green Consulting developed 10 energy code focused courses for delivery to building professionals via virtual platforms.

The end of 2020 also marked the development and delivery of several virtual “roadshows” featuring the Energy Code Coach service. These roadshows were developed to be meet and greet opportunities for the Energy Code Coaches and city building department staff. 3C-REN felt it would be important for city staff from all 28 jurisdictions to meet and put faces to the names of all the people behind the Energy Code Coach service. Virtual Roadshow meetings are being scheduled and will be held throughout 2021. 3C-REN’s goal for these roadshow meetings is to garner more support and use of the service from jurisdiction staff across the tri-county region, as well as better understand jurisdiction needs when it comes to energy code enforcement.



Figure 11: Summary of ECC achievements in 2020

Regional Forums

3C-REN developed and delivered five regional forums to various audiences in the tri-county region. While only the first forum of 2020 was delivered in-person, each was unique and successful despite the virtual circumstances. The following is a list of Forums held in 2020:

- **March 12th** – Achieving Resilience in Wildfire Areas (hosted at UC Santa Barbara in Santa Barbara, CA)
 - o Description: California has entered a new era of increased wildfire and power outage risks – but

our homes and businesses still need to adapt to become more resilient. How can Central Coast buildings offer continued safety and power reliability in the face of these challenges? This event will explore the intersection between these phenomena, energy code and regional resilience – with a focus on designing, building, and operating more resilient and responsive buildings.

- Number of Attendees: 47
- **April 30th** – Optimizing the Virtual Built Environment (hosted virtually)
 - Description: Building departments are transitioning to electronic permit applications, plan submittals, and virtual inspections to continue operations during the pandemic. This webinar will feature code officials presenting on safe permitting and inspections services in support of construction projects, including housing projects, recognized as “essential” under California’s Stay at Home order. It will also include a facilitated conversation about best practices for using readily available remote technologies and methodologies for communicating these changes with customers to ensure continued energy code enforcement.
 - Number of Attendees: 53
- **May 21st** – Construction During a Crisis (hosted virtually)
 - Description: With social distancing, supply challenges, and new health and safety concerns, the building industry is working quickly to respond to the COVID-19 crisis. This webinar will feature local, real-world leaders sharing their approach to adapting business protocols to meet project timelines, including health and safety, permitting, and communicating with clients. It will also include an overview of local public health guidance on the latest recommendations to keep employees and the public safe. Finally, 3C-REN will lead a peer discussion on the changes, challenges, and tips and tricks for successfully working in the tri-county building energy efficiency sector during shelter-at-home.
 - Number of Attendees: 40
- **June 25th** – Building Regional Economic Resilience (hosted virtually)
 - Description: The full picture of the economic impacts of COVID-19 are still unclear, but we are preparing for economic upheaval. This webinar will explore how our region can position the building industry and energy efficiency as a driver and beneficiary of the economic recovery. Speakers will discuss resources available and needed in the tri-county area that can facilitate a healthy and resilient recovery. Finally, we will discuss the importance and benefits of high-performance buildings that meet and exceed code requirements, in support of climate and workforce goals.
 - Number of Attendees: 40
- **November 13th** – Taking the High Road (hosted virtually)
 - Description: A skilled workforce with mastery of building science and energy efficiency not only strengthens the construction industry, but just as importantly

opens the door to high quality careers for first-time and early career job seekers and those transitioning careers. With an overarching goal in growing, diversifying, and upskilling the tri-county’s workforce, 3C-REN’s Fall Regional Forum will explore strategies relating to building science and energy efficiency, including pre-apprenticeship programs, high road training partnerships, and community college classes. Speakers will discuss existing gaps and barriers, how to improve inclusion of hard-to-reach workers and highlight opportunities to acquire the knowledge and skills needed to enter and thrive in an evolving industry.

- Number of Attendees: 70

3C-REN forums featured robust and varied topics in 2020, adapting to the circumstances created by COVID-19. Over 250 people attended these events, affirming growing trust in 3C-REN as a reliable source of information for the tri-county building industry.

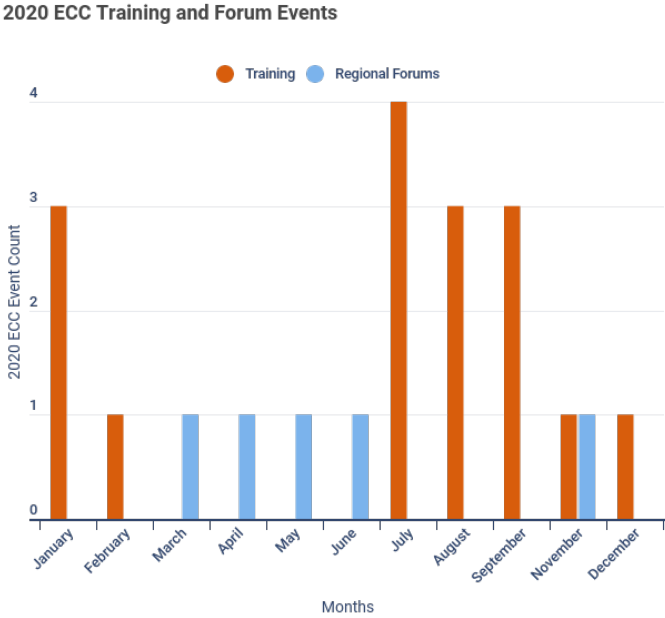


Figure 12: Number of ECC events held by month

Training

Working in close coordination with the BPT team, ECC brought several energy code focused trainings to the tri-county region. ECC focused on planning training events for 2020 that demystify the energy and green building codes and bring clarity to building professionals in the region.

In 2020, the ECC program offered 16 training events focused on various topics from broad to specific. The list of topics is included below.

- HERS Registry
- Heat Pump Water Heaters and the Energy Code – New Construction and Existing
- Quality Insulation for Contractors
- What Energy Consultants Need to Know About HERS Features
- What Energy Consultants Need to Know About Quality Insulation Installation (QII)
- Intro to CBECC-RES Energy Modeling
- Nonresidential Title 24 Part 6 for Designers
- Nonresidential Top 10 Energy Code and Commissioning
- Residential Top 10 Energy Code

Overall, nearly 300 attendees completed ECC’s courses. ECC originally planned to deliver all trainings in person in 2020; however, the COVID-19 pandemic limited the delivery of all courses to a virtual format. ECC and BPT utilized the Zoom platform to deliver all courses after March 2020 and has done so ever since.

2020 Highlights

Energy Code Coach

In 2020, the ECC Program focused on the launch and delivery of the Energy Code Coach service. The service endeavored to be different from existing energy code assistance services (CEC Hotline, Energy Code Ace, and others) by offering a personal focus on projects and needs, with local context focused on the Central Coast. By procuring Franklin Energy and subcontractor In Balance Green Consulting to design and implement the service, 3C-REN gained a knowledgeable and respected partner in the state.

3C-REN and Franklin Energy were able to quickly develop the Energy Code Coach service and focus on implementation after the pilot in 2019. The service launched on January 2nd, 2020 in conjunction with the launch of the 2019 Energy Code. Uptake was slow at first and further compounded by the COVID-19 pandemic. Nevertheless, 3C-REN and Franklin Energy continued to promote and engage various organizations and grow utilization of the service. The Energy Code Coach service answered 51 formal inquiries in 2020, submitted by web form and hotline inquiries, not including questions asked during meetings and public facing events. As the service continues to grow in popularity and use, 3C-REN and Franklin Energy will continue to refine and deliver a seamless and valuable customer experience.

Regional Forums

In 2020, 3C-REN developed and delivered five Regional Forums. While only one forum was held in person, there was extensive knowledge transfer on a diverse range of topics through four online forums. As mentioned in the previous section, a vast range of topics were selected and discussed in 2020, from resiliency to fires to resiliency during COVID-19. There were over 250 professionals across the tri-county region in attendance. Virtual forums made use of breakout rooms to allow attendees to network. Virtual presenter “Meet & Greets” after several forums

enabled participants to more deeply engage on the topics and build local connections, while also bringing state expertise to the tri-county region.

As noted, 3C-REN held all but one Regional Forum on a virtual platform in 2020. While limiting in some respects, the virtual environment provided some advantages that include the following – more people were able to attend; speakers/panelists were more flexible; better time management; and shorter timing. In addition, 3C-REN worked closely with Frontier Energy and BluePoint Planning to develop and deliver effective and valuable content to customers. Both teams are valued and important partners to 3C-REN and helped make the forums memorable.

Surveyed forum participants provided valuable feedback about the events. The Fall 2020 Forum “Taking the High Road” for example received several insightful responses to the question “How can 3C-REN further support you in implementing high road principles in the region?” Below are a few example responses:

“I am very happy to see the great work and programs that are offered under the 3C-REN. It will inspire me to work with my CCA to model the workforce development actions.”

“Keep providing exposure to different sectors and facilitating connections, e.g., high schools to industry, labor to education providers, etc.”

“Adopt a high road policy that includes goals and implementation strategies.”

“One of our project owners is a proponent of design-build ... Can you provide any feedback on the implications of the design-build process as it pertains to the new energy code?”

Training

In coordination with the BPT program, the ECC program brought multiple energy code trainings to building professionals in the tri-county region. As detailed earlier, the priorities of the ECC program are to increase compliance, enforcement, and comprehension of the Energy Code and California Green Building Standards. Additionally, another main goal is to bring educational offerings and resources that are not normally available to customers to our region.

3C-REN collaborated with Franklin Energy, In Balance Green Consulting, CalCERTS, and the Statewide Codes and Standards team and Energy Code Ace to deliver multiple courses focused on the residential and nonresidential sides of the energy code and the CalGreen building standards.

As highlighted earlier, 3C-REN developed and delivered 16 training courses with over 300 building professionals attending in 2020. Most courses were held in a virtual environment and offered some of the same advantages the regional forums experienced. These include - more people were able to attend; speakers/panelists were more flexible; better time management; and shorter timing. 3C-REN instructors were flexible and nimble amid the global pandemic.

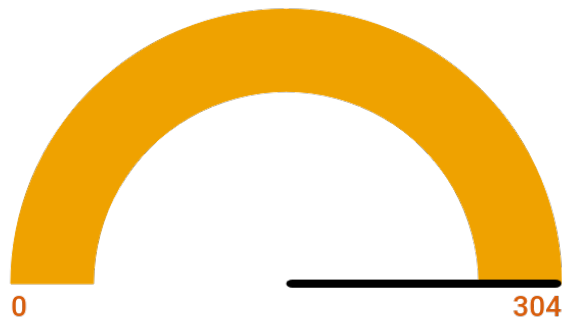


Figure 13: Total number of unique individuals who attended ECC events; includes training and forums

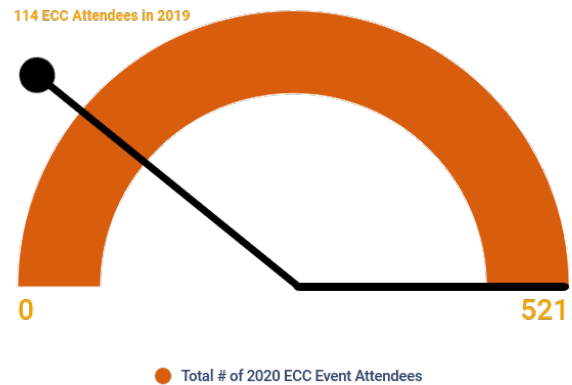


Figure 14: Total number of individuals (includes people who attended more than one ECC event); includes training and forums

Developing and Maintaining Relationships

One of the most important focuses of the 3C-REN is the development of relationships. Without relationships of city building department staff, member organizations, and stakeholders, all of the offerings under the ECC program would not have come to fruition through 2020.

Along with continuing to engage building departments and other agencies 3C-REN staff also gave multiple virtual presentations to member organizations like the Central Coast Chapter of the ICC, AIA, Home Builders Alliance, and others to provide an overview of programs and gain valuable feedback and insight on needs.

Lastly, 3C-REN staff has continued to engage and lead an Advisory Committee that consists of building professionals ranging from real estate to contractors to energy consultants to community college staff to gain insight into what the region's needs are surrounding the Energy

Code. This committee meets every other month to discuss updates to programs and gather input.

Opportunities in 2020 and Beyond

The ECC team laid important groundwork in 2020 for the continued success and expansion of services in 2021. For the Energy Code Coach, 2021 will focus on further diversifying the service as well as strategic outreach to public and private sector professionals. For forums, the goal will be to host 3 forums and cover new and relevant topics. For training activities, the focus will be on encouraging more unique attendees across the territory.

Energy Code Coach

A key role of the Energy Code Coach is to serve as the principal customer facing resource of the 3C-REN Energy Code Connect program, building credibility and brand recognition for the program. Through relationship building, training, ongoing technical support and fostering peer-to-peer information sharing across building departments, ECC will seek to enrich, reinforce, and shift the existing paradigm to one that encourages a culture of compliance through consistent, correct, and effective implementation of energy code enforcement best practices across the tri-county region.

The Energy Code Coach service relies on speed, consistent information, and local engagement to capitalize on the ECC's delivery as a distinguished market offering for 3C-REN customers in the spirit of the program's initial vision. Under the direction of the 3C-REN team, Franklin Energy and its subcontractors conduct proactive marketing and outreach to public and private sector building professionals across the region. These efforts position Energy Code Coaches to:

- Guide energy code enforcement process improvement through direct interaction and observation of building department personnel with an understanding of the challenges and constraints that building code officials often face;
- Serve as the subject matter expert in energy codes and any provisions specific to each jurisdiction/climate zone with emphasis on providing cost effective measures which enhance compliance margin and/or improve building safety;
- Provide ongoing education of tri-county building departments on energy code requirements delivered in flexible time blocks and with courses building on one another;
- Share knowledge, mentor code officials and develop department champions to apply best practices through individual counsel, training, and group roundtables;
- Provide ongoing feedback from code officials regarding concerns and perspectives to 3C-REN team;
- Develop new tools as required to facilitate energy code enforcement; and
- Facilitate measurement and evaluation of the implementation effort over time.

The ability to deliver services to local building department and private sector professionals is a key strength of 3C-REN and a key market differentiator from existing Codes and Standards

services. Providing a comprehensive and meaningful peer-to-peer service aligns with the vision of the ECC presented within the 3C-REN business plan.

Energy Code Coach inquiries provide insight into local challenges and allow for customized tools and resources that respond to the most common code coach questions. Analysis of inquiries submitted in 2020 informed training needs for 2021. For example, Franklin Energy will develop a training on how the energy code applies to ADUs, after seeing many questions for the Energy Code Coach on this topic. Additionally, the Energy Code Coach service is interested in exploring a text inquiry feature in 2021 that would allow for easy access to coaches from job sites. Energy Code Coach Office Hours is another potential subservice that will provide an open forum for building professionals to ask direct questions to the Energy Code Coaches, receive answers instantly, have a dialogue, and perhaps most importantly build trust in the service.

Regional Forums

Building off the success of 2020 Regional Forums, the ECC program seeks to further develop and deliver relevant and valuable content to building professionals in the tri-county region.

One topic of consideration for 2021 is building materials and technologies that support code compliance, such as Heat Pump Water Heaters and the existing/future market in 3C-REN's territory. With the energy efficiency landscape evolving at a rapid pace, it's important that professionals in our region be exposed to innovations in building material science. Compared to urban areas, there are relatively few events in the tri-county region dedicated to the energy code and energy efficiency, so forums like this would take advantage of an in-person gathering to offer hands-on education and training for a topic that is best suited to a live event. This topic was originally planned for 2020, but was postponed as it is best suited for in-person delivery.

Threaded throughout all forum events, regardless of topic, will be a focus on uniting the public and private sectors. Creating common goals and shared understanding, 3C-REN will help form bridges between these sectors, which can often feel at odds when compliance and enforcement come into play. As new, human to human connections are made through various mediums and breakout discussions at these forums, participants will develop more collegiate and cooperative relationships, supporting increased compliance and easier enforcement.

Training

The 2021 program year will focus on course planning and procurement, with the goal of delivering quarterly training catalogs, allowing stakeholders to plan further ahead and maximize training attendance. Education on the new code cycle will continue to be a priority. Additionally, the team will explore in-person training opportunities, when it is safe to do so, to offer more hands-on training opportunities like Heat Pump Water Heating and Quality Insulation Installation, as well as HERS and CEA certifications and testing.

3C-REN seeks to effectively serve and expand the market for energy code compliance and knowledge in the tri-county region by utilizing existing courses and curriculum developed by BayREN, Energy Code Ace and the Statewide Codes and Standards team, as well as developing

new offerings under the Energy Code Coach service. To further 3C-REN's goal of serving customers and filling gaps not covered by IOU offerings, ECC trainings will be hosted in multiple venues and formats to increase access by underserved jurisdictions. 3C-REN will continue to offer virtual trainings until in-person training is deemed safe by respective counties and the state. Expansion of contact lists and more professional marketing materials will expose new and larger audiences to 3C-REN offerings, both in person and online.

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 Solution

By offering a menu of both free and reduced-cost energy efficiency measures, historically underserved residents in the tri-county region will get to enjoy the financial, health and comfort benefits that accompany them. The ability for customers to select only the upgrades needed or wanted will allow for ease of participation and encourage deeper energy savings.

Program Detail

WHAT

Home Energy Savings (HES) provides free direct install energy efficiency measures, and offers higher energy saving measures at a reduced-cost to participating homeowners and renters throughout the tri-counties. Examples of the free direct install measures include smart power strips and smart thermostats, while co-pay measures include higher energy-saving items and services such as EnergyStar refrigerators, HVAC tune-ups, and heat pump water heaters. As a supplement to installing energy efficient equipment in homes, customers receive education on additional energy saving behaviors they can implement at home.

WHO

The program targets Hard to Reach (HTR) homeowners and renters. 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. HTR eligibility depends on meeting two or more of those criteria.

Initially, the program focus is on single-family residents in San Luis Obispo and northern Santa Barbara Counties, with plans to expand service to the rest of Santa Barbara and Ventura Counties.

HOW

A variety of marketing and outreach strategies are employed to promote HES including presentations at community events, targeted ads, and collaborations with other organizations working in our target communities. Interested customers who contact the program are screened for eligibility, and scheduled for a site visit, during which, no-cost direct install measures are installed. An assessment of the home is also completed, and information on additional opportunities for co-pay upgrades is presented to the customer. HES is designed to meet customers where they are and provide services to customers as they are ready. Customers may move forward immediately, or over time as they are able with additional upgrades.

In response to restrictions in place due to COVID-19, the program offered virtual home assessments and self-install packages to HES participants to provide them immediate energy savings, continue engaging and educating the public, and to raise awareness of HES program resources. Once safety protocols were developed and put in place, in-person assessments and installations resumed.

Program Performance and Major Accomplishments

Program Design

The first quarter of 2020 was spent finalizing program design components, requirements for customer validation to prevent double dipping, and building out infrastructure and processes in preparation to launch in March 2020.

Project Validation

Many of the processes that IOUs already have in place for their third-party program providers were not ideal for HES. Using a front-end customer validation process that could take up to 72 hours may be appropriate for programs that involve larger projects and longer lead times, but would not work for a direct install program that requires a relatively quick qualification process to maintain customer interest and keep costs low.

Ultimately, it was agreed that front end (pre-installation) customer validation prior to the installation of direct install measures was not required. Instead, 3C-REN, through CAPSLO, obtains a signed customer application that includes collection of customer information, IOU account numbers, and a disclaimer stating they have not participated in an IOU direct install or rebate program for the same measure within a certain number of years (depends on useful measure life).

The HES implementer also conducts a visual inspection of the site and obtains a copy of the customer's utility bills.

3C-REN has been working in collaboration with IOUs on a reporting template format that works for all parties, and will report quarterly on installed projects to SoCalGas to confirm account information, prevent double dipping and report on savings. On behalf of all IOUs, SoCalGas will send back verification confirming the customers' account information and that the customers have not participated previously in an IOU direct install or rebate program for the same measures.

Project Verification

The Project Verification Specialist conducts pre and/or post installation site visits for quality control and quality assurance. The Verification Specialist is responsible for confirming that the building information submitted in the customer application matches the actual site conditions, verifying that all measures have been installed and meet program specifications and note any immediate health and safety concerns.

Program Optimization

To design a program that is accessible to, and serves the needs of target communities, 3C-REN staff continues to utilize the support of CAPSLO and Frontier Energy. Through weekly and/or bi-weekly meetings and calls, progress towards goals on outreach efforts, projects and savings, upcoming opportunities, details of what upgrades customers are interested in, or changes that need to be made are discussed.

Changes made throughout the year included the removal of LED lighting as a measure, a popular and often necessary upgrade in the Central Coast, due to the elimination of claimable energy savings. With the uncertainty around COVID-19 and switch to mostly virtual implementation in the first half of the year, HES also moved up the timeline for launching a multifamily program, the outreach for which is more conducive to limited in-person interactions, and began developing an RFP for implementation services in late 2020.

Program Implementation

3C-REN and CAPSLO staff originally prepared for a March 2020 launch date. Initially, a soft launch of the program was to roll out in San Luis Obispo and northern Santa Barbara Counties. However, in light of the COVID-19 restrictions set in place by Governor Newsom's Executive Order NN-33-20, program launch was delayed.

The program quickly pivoted to providing virtual home assessments and self-install packages to provide participants immediate energy savings, continue engaging and educating the public, and to raise awareness of HES and Program resources. The self-install packages included LED lights, a smart powerstrip, and educational material. The program delivered the self-install packages to 178 participants.

Once safety protocols and processes had been developed and put in place, CAPSLO staff were able to resume in-person installations, while continuing with virtual assessments to minimize face-to-face contact for the safety of both participants and staff.

The inability to conduct in-person outreach limited the program's ability to recruit participants. Over the summer, the program conducted message testing via a digital ad campaign targeting Spanish speakers. This provided insight into which aspects of home energy efficiency are important to homeowners and renters.

Despite program delays and obstacles presented by COVID-19, CAPSLO completed 284 direct install projects. However, uptake on higher energy savings co-pay projects was lower than anticipated. In October, the program tapered outreach activities and made the decision to refocus on opportunities that would yield higher energy savings, while identifying ways to improve program delivery.

One high-impact project 3C-REN is collaborating on is a large-scale energy efficiency retrofit of farmworker housing owned by People's Self-Help Housing in north Santa Barbara county. The project is layering multiple incentive programs including Energy Savings Assistance (ESA) and Low Income Weatherization Program (LIWP) for various components of the project. 3C-REN is installing 197 heat pump water heaters along with other energy efficiency measures such as attic insulation and smart thermostats.

In preparation to expand service to the full tri-county region, CAPSLO is continuing talks with potential subcontractors to implement the program in southern Santa Barbara and Ventura Counties.

2020 Highlights

Virtual Services

With the launch of HES coinciding with state and local stay at home orders, HES, in coordination with CAPSLO, quickly pivoted to researching and developing processes and procedures for providing all virtual services. The virtual services included video assessments, and for customers who either did not have, or were not comfortable with video technology, over-the-phone assessments where Energy Specialists would guide participants through the home to gather data on the age and condition of various appliances and areas of the home.

In addition to the virtual assessments, HES designed Energy Efficiency Starter Packs that could be delivered to, and easily installed by participants themselves. The Starter Packs included up to five LED light bulbs, and up to two smart powerstrips, depending on individual customer needs, as well as educational information.

These services allowed the program to provide immediate energy savings to customers, while building a list of future projects with even more energy savings.

Overall, Starter Packs were delivered to 178 customers, and 284 projects were completed.

Farmworker Housing Upgrade

In October of 2020, HES joined the People's Self-Help Housing (PSHH) and the Association for Energy Affordability (AEA) in a large-scale collaborative energy efficiency upgrade of farmworker housing. The project is leveraging several incentive programs including Energy Savings Assistance (ESA), Low Income Weatherization Program (LIWP), and 3C-REN's Home Energy Savings program.

In addition to installing energy efficiency measures such as LED lighting, attic insulation, smart powerstrips and thermostats, HES will be installing a total of 197 heat pump water heaters, making this project responsible for the vast majority of heat pump installs in the tri-county region.

The conversion from gas storage water heaters to heat pump water heaters will result in significant greenhouse gas emissions reductions, and in order to offset the increase in electricity use due to the conversion, solar PV is also being installed through the LIWP program. This will ultimately result in lower utility bills for residents.

Opportunities in 2021 and Beyond

Looking forward to 2021, a major focus will be undertaking and completing the People's Self-Help Housing farmworker housing project. Installation of two heat pump water heaters was done in late 2020 on two demo units. The full scope of the project will be underway in January and is set to be complete by the end of April 2021. This is also providing a significant training opportunity in the tri-county region to workers on heat pump water heater installation.

3C-REN is also anticipating COVID-19 restrictions to relax in the coming year, which will allow for the expansion of outreach strategies and program activities throughout the entire tri-county region. The program envisioned implementing a neighborhood approach to education and recruiting participants, and looks forward to being able to interact with residents in-person.

HES is looking forward to serving multifamily residents as well, and a major focus will be on the selection of an implementer and launch of a multifamily program. Staff have undertaken research of the multifamily housing stock throughout the region as well as existing multifamily programs to gain an understanding of technical and programmatic differences, characteristics that may be specific to multifamily homes in the tri-county region, and the needs of multifamily residents.

Energy Savings

In 2020, 3C-REN launched and administered one resource program. The Home Energy Savings Program delivered the following energy savings.

Table 2: 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	19,556.35	58,056.89	0.49	2,269.01	12,545.19
Total Portfolio Savings	19,556.35	58,056.89	0.49	2,269.01	12,545.19

Savings by End-Use

3C-REN's Home Energy Savings Program delivered the following savings by end-use in 2020.

Table 3: Savings by End-Use

End-Use Category	kWh	% of Total	kW	% of Total	Therms	% of Total
Appliance or Plug Load	9,314.40	47.63%	0.13	26.95%	(0.04)	0%
HVAC	941.01	4.81%	0	0%	713.83	31.46%
Lighting	0	0%	0	0%	0	0%
Service and Domestic Hot Water	9,300.94	47.56%	0.36	73.05%	1,555.22	68.54%
Annual Portfolio Savings	19,556.35	100%	0.49	100%	2,269.01	100%

Environmental Impacts

Environmental impacts 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 4: 3C-REN 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)
20	129	21	124	0	4

Expenditures

Table 5: 3C-REN 2020 Budget

Program	2020 Budget
Residential	\$3,169,197
Codes and Standards	\$1,814,620
WE&T	\$1,278,805
Program Subtotal	\$6,262,622
EM&V (3C-REN only)	\$71,679
Total 3C-REN 2020 Budget	\$6,334,301

Table 2: 2020 Actuals

Programs	Admin	Direct Implementation	Incentives & Rebates	Marketing & Outreach	Total
Residential DI	\$23,343.26	\$847,173.17	\$25,977.61	\$94,558.46	\$991,052.50
C&S	\$27,886.51	\$685,031.23	-	\$75,827.69	\$788,745.43
WE&T	\$32,311.26	\$872,674.06	-	\$70,398.87	\$975,384.19
Program Subtotal	\$83,541.03	\$2,404,878.46	\$25,977.61	\$240,785.02	\$2,755,182.12
EM&V (3C-REN only)					\$104.50
Total 3C-REN Expenditures	\$83,541.03	\$2,404,878.46	\$25,977.61	\$240,785.02	\$2,755,286.62

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), REN's are not subject to the same cost-effectiveness test that the IOU. However, 3C-REN still works toward delivering cost-effective programs.

Metrics D.18-05-041

Value Metrics

As submitted in 3C-REN's 2021 Annual Budget Advice Letter, 3C-REN proposed new value metrics as required in D.19-12-021. RENs were asked to "propose savings goals and metrics associated with their unique value, as well as a methodology for measuring progress toward their metrics..." (p. 30). The Commission noted that when considering new or renewed REN business plans, the REN must meet the three REN criteria while also "showing new or unique value to the Commission's energy, climate, and/or equity goals" (p. 31). To create "unique" value metrics, 3C-REN defined "unique" as reflecting its local-government-powered regional focus, and targeting populations not served through existing ratepayer-funded programs in the region.

As a relatively new REN, 3C-REN approached the value metrics development from two perspectives: practical implementation, and vision for its future. On the practical implementation side, 3C-REN began by documenting potential opportunities to demonstrate unique value through its existing programs. The process started by reviewing the three criteria for becoming a REN and discussing opportunities to demonstrate unique value while meeting key criteria. 3C-REN's leadership team developed a list of potential metrics that reflect its regional and service focus and continued identifying and discussing additional ideas to demonstrate 3C-REN's merits. These initial potential metrics were used to identify value-oriented themes that have been used to make program decisions and meet 3C-REN's goals. Finally, the team incorporated the 2018 Business Plan Vision and Goals and refined the themes into a set of four unique 3C-REN values below.

- **Diversity, Equity and Inclusion.** Execute program design, procurement, delivery and participant targeting to deliver diverse, equitable, and inclusive participation across the Tri-County region.
- **Service.** Serve Tri-County residents not otherwise served by existing ratepayer-funded programs.
- **Climate Action.** Support Tri-County member agencies in meeting climate goals.
- **Economic Impact.** Positively impact the economic development of the Tri-County region through its built environment and workforce.

These values reflect the programmatic decisions made to date and guide future planning activities. The Metrics and indicators shown below demonstrate progress toward fulfilling these values through 3C-REN activities, while tracking toward specific 3C-REN goals as outlined in the 2018 Business Plan.

1. Goal 1. All Tri-Counties residents will have the access, information and path to achieve deeper energy retrofits.

- Metric: Percentage of event 3C-REN attendees considered hard-to-reach
 - Programs: Codes and Standards, WE&T
 - Target: Percentage of HTR attendees over total number of 3C-REN attendees; timeline to be determined after 2021 baseline established
 - Baseline: Reported in 2021 reporting
 - Methodology: From 3C-REN events, collect HTR criteria qualifiers from all attendees. Calculate the number of attendees considered HTR over the total number of attendees
2. Goal 2. The Tri-Counties Region will substantially increase implementation and adoption of energy retrofits for their residential buildings.
 3. Goal 3. The Tri-Counties will have a profitable workforce capable of delivering buildings at quality and efficiency levels mandated by the State and through building codes.
 - Indicator: Number of jobs and economic value, inclusive of job creation at counties
 - Programs: Codes and Standards, WE&T
 - Target: N/A
 - Baseline: Reported in 2020 reporting
 - Methodology: Administer a survey after trainings and then six months and one year out. The questions asked will align with indicator.
 4. Goal 4. Building Departments will have the necessary tools and resources to increase energy code compliance.
 - Metric: Number of Tri-County member jurisdictions receiving annual 3C-REN data that informs member jurisdictions achievements toward climate action plans GHG emission reduction goals
 - Program: Residential
 - Target: Target and timeline to be determined after 2020 baseline established
 - Baseline: Reported in 2020 reporting
 - Methodology: Share a report that provides jurisdiction-specific estimated GHG emission reductions from 3C-REN programs. Provide to jurisdictions with GHG emission reduction goals to inform Climate Action and Adaptation Plans (CAAP).

3C-REN may propose refinements to its Vision and Goals in future Business Plan filings. As the REN's Vision and Goals mature, so will its unique values and thus its value metrics. Additionally, while these values and subsequent value metrics have been shaped by staff's understanding of community needs, 3C-REN plans to further incorporate additional stakeholder input in future updates

Residential Direct Install: Home Energy Savings

For energy savings and environmental impacts metrics see referenced tables.

Table 2: Net Energy Savings.....	34
Table 3: Savings by End-Use.....	34
Table 4: 3C-REN Environmental Impacts	35

Workforce Education & Training: Building Performance Training

3C-REN continued to provide workforce training opportunities in 2020. The following required metrics were tracked for the BPT program:

- Number of collaborations: 22
- Number of participants: 416
- Percent of participation relative to eligible target population: 2.33%*
- Percent of participants that meet the definition of disadvantaged worker: 3.72%**

* 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.

** DAC zip codes in the tri-county region include 93033, 93030, 93001. Event registration requires a home zip code when participants register to attend 3C-REN events. Percentage of participants is based on a unique event attendee count, meaning a person who attends multiple 3C-REN events is only counted once. The unique BPT attendee count for 2020 was 296.

In addition to above required metrics, 3C-REN also compiled additional performance information:

- Number of organizations represented by BPT participants: 188
- Number of jurisdictions represented by BPT participants: 5
- Percentage of jurisdictions represented by BPT participants: 18%
- Number of training providers: 6

Codes & Standards: Energy Code Connect

As submitted in 3C-REN's most recent Annual Budget Advice Letter, the following metrics were submitted in coordination with BayREN:

Participation in Energy Policy Forums

3C-REN held five energy policy forums in 2020:

- 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%

In addition to the above indicators, 3C-REN also compiled additional performance information:

- Total number of energy policy forum participants: 250
- Total number of jurisdiction staff participating in energy policy forums: 67
- Percentage of energy policy forum attendees that are from jurisdictions: 27%
- Total number of organizations represented by energy policy forum attendees: 108

Energy Policy Technical Assistance

3C-REN launched the Energy Code Coach service for the tri-county region in 2020:

- Number of jurisdictions with staff receiving energy policy technical assistance: 6
- Percent of jurisdictions with staff receiving energy policy technical assistance: 21.43%
- Number of buildings receiving enhanced code compliance support: 51

In addition to above required indicators, 3C-REN also compiled additional performance information:

- Total number of organizations receiving energy policy technical assistance: 30
- Total number of individuals receiving energy policy technical assistance: 40

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:

- Total number of codes and standards training events: 16
- Total number of participants attending codes and standards training events: 271
- Total number of unique participants attending codes and standards training events: 167

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:

- Total number of organizations directly engaged in Codes and Standards activities: 198

- Total number of Codes and Standards services participants: 572

Commitments

Commitments made in the past year (2020) with expected implementation by December 2021. 3C-REN has \$257,802.09 in commitments to carry into future years from 2020. These are commitments for projects that came into the Home Energy Savings Program pipeline in 2020 and will be installed in 2021.