



September 25, 2023

California Energy Commission  
Docket Unit, MS-4  
Docket No. 23-DECARB-01  
715 P Street  
Sacramento, California 95814  
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**Subject: Comments submitted by California Climate and Energy Collaborative on behalf of its network in response to Contractor Training for Inflation Reduction Act Residential Energy Rebate Programs RFI (23-DECARB-01)**

The California Climate and Energy Collaborative (CCEC) welcomes the opportunity to provide comments in response to the California Energy Commission's (CEC) [Request for Information on the IRA Contractor Training Program](#) (23-DECARB-01).

[CCEC](#) is a program of CivicWell (formerly known as the Local Government Commission) that supports California local governments and their partners in their efforts to save energy, reduce greenhouse gas emissions, and accelerate climate action by building knowledge and networks amongst practitioners. CCEC works to understand and support the needs and priorities that our extensive network of thousands of California local government staff, officials, and supporting organizations have shared with us. In doing so, we are working to foster better two-way communication between State, federal, and local agencies to better reach mutual energy and climate goals, and are excited to continue facilitating greater collaboration with the CEC, a global leader in energy and climate action.

We are honored to have been invited to collaborate with CEC several ways in the last several years, including through our annual Forum and through the execution of regional workshops and community outreach efforts to ensure local voices and needs are reflected in the 2022 IEPR Update and the Equitable Building Decarbonization program. We are also grateful for the ongoing informal web meeting with CEC, that began in January 2023, on new programs like the U.S. Department of Energy's (DOE) Home Energy Rebate Programs. As requested during these meetings, CCEC has facilitated the development of an evolving [working draft write-up](#) providing a summary of relevant background and local and regional insights and recommendations that can help inform CEC's approach to residential-focused energy programs. Examples and knowledge shared in the working draft may be relevant to consider for this RFI. We appreciate the opportunity to continue engaging with CEC, and respectfully compile additional comments from our network on the related Contractor Training RFI below.

The comments below pertain to each of the eight questions posed in the RFI. They were compiled primarily from a discussion that took place during the CCEC's [Local Energy Resources Network \(LERN\)](#) meeting on September 12, 2023 (meeting recording and slides can be accessed [here](#)). This meeting was attended by almost 80 members of our network consisting primarily of staff from local governments, regional & State agencies, and their partners in nonprofit and private sector

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companies. This meeting featured an interactive input session on the California Energy Commission's (CEC) Contractor Training Request for Information. This input session followed a presentation by Carol Schmitt, Rebates & Incentives Supervisor with the Reliability, Renewable Energy & Decarbonization Incentives (RREDI) Division of the CEC. Comments shared during this input session were captured directly in [this Jamboard](#), as well as in the chat and verbally.

- 1. Please provide information on available state and federal residential energy contractor training and similar programs in California, including a list of organizations currently providing training, credentialing, and/or wrap around services. Please include references on:**

**a) Residential (single-family and multifamily) energy auditor availability and readiness:**

Members of the CCEC network identified the following programs:

- **Programs Led by State or Federal agencies**
  - [California's Solar on Multifamily Affordable Housing \(SOMAH\) Program](#)
  - [TECH Clean California - Electrification Knowledge Hub](#)
- **Programs Led by Local Governments**
  - Many local governments gained relevant lessons on contractor engagement and workforce development during and since ARRA. Regional Energy Networks (RENS) currently offer training for contractors and other building professionals that include certifications and knowledge building in technical skills and code compliance. RENS have distinct processes to enroll participating contractors and other service providers qualified to help residents make home energy improvements.
    - [SoCalREN Workforce Education and Training Program](#)
    - BayREN
      - [Home+ Program](#)
      - [Green Labeling Program](#)
      - [New Statewide Home Energy Score Program](#)
      - New Climate Careers Program
      - [5 part on-demand series on heat pumps](#)
    - 3C-REN: [On-demand Trainings](#)
    - I-REN Home Energy Rating System (HERS) Program
    - Recently adopted [REN business plans](#) describe workforce education and training programs
  - Los Angeles County University has a building Operator Certificate
  - The Department of Economic Opportunity (DEO) delivers equitable workforce services - LA County
  - Silicon Valley Clean Energy has a 5 hour video course
- **Programs Led by Community Colleges**

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- Community College Programs - Diablo Valley College has program in partnership with one of the unions (IBEW I believe) for training of its union members primarily
- **Programs Led by Nonprofit Organizations**
  - [Rising Sun Center for Opportunity](#)
    - [Bay Area High Road Training Partnership](#)
    - Primary point of contact: [Chiara Arellano](#)
  - [Grid Alternatives](#)
  - [Work2Future](#)
  - [SunWork](#) provides free hands-on installation training experience in HPWHs and solar PV
  - [Building Performance Institute Certified Professionals](#)
  - Sierra Business Council is working on standing up a [Truckee Tahoe Building Decarbonization Pilot Program](#), which will include a workforce education piece for electrification
  - [Emerald Cities Collaborative E-Contractor Academy](#)
  - [Building Performance Institute Certified Professionals](#)
  - Los Angeles Cleantech Incubator (LACI) workforce coordinator  
Daniel@LAIIncubator.org
- **Programs Led by Trade Unions**
  - [Building & Construction Trades Contractors Associations](#) provide contractor training and support services for signatory contractors
    - IBEW and other trades
  - [Cypress Mandela Training Center](#)
- **Programs Led by For-profit Companies**
  - [CalCERTS Whole House Rater](#)

***b) Available skills assessment reports for existing education and training programs, such as on new energy technologies, latest best practices, or newly launching programs.***

Members of the CCEC network identified forthcoming industry analysis research from [Rising Sun Center for Opportunity](#) through the [Bay Area High Road Training Partnership](#). Also developing a workforce training and access guide.

***2. If IRA Contractor Training funds are used to supplement existing workforce development programs in California, which programs are most closely aligned with the goals of the IRA Contractor Training Program?***

The CCEC network appreciates the stated goals of the program and the effort to attract a diverse set of local workers into the emerging market to help increase the uptake of home energy efficiency and electrification projects and related incentives (both existing and new). We believe that many of the locally and regionally administered programs identified under Question 1 above are closely aligned

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IRA Contractor Training program goals to reduce training costs, provide testing and certifications, and partner with nonprofit organizations. A few examples are provided below.

- BayREN is actively conducting community outreach for contractors in Northern California. Its Climate Career's program will be starting in 2024 and will be implemented by Rising Sun. BayREN has a 5 part on-demand series on heat pumps. Partner with supply houses and green building suppliers, manufacturers for contractor incentives.
- SoCalREN as a variety of contractor [training programs](#). These are not certificated programs at this point. SoCalREN programming strengthens the EE workforce & small businesses, and it increases the number of workers by offering free training to contractors. Outreach to small contractors of color is prioritized.
- In the past through [Sonoma County Joblink](#) the salary for entry level employees to obtain on-the-job skills for 6 months.
- Electric Vehicle Infrastructure Deployment Plans (EVIDPs) - certification program in partnership with non-profits that set standards for green energy projects

### **3. *What gaps in existing workforce development programs in California can be addressed through the IRA Contractor Training Program? What is the current supply of qualified skilled energy efficiency workers compared to the projected future demand?***

Despite mature workforce development programs in CA, participants relayed that there are still many gaps related to training and certification, equity, access, and addressing other barriers like licensing and permitting. Some relayed concern that workforce in their area may not yet be ready to implement new, large scale federal electrification and decarbonization programs.

- Training and certification gaps
  - Gap in knowledge of whole building improvements to be made; Wrap-around/whole home expertise
  - Electrification certification does not yet exist
  - Lack of basic business sense for young workers
  - Educational gap to help contractors move away from like for like replacements and get comfortable with recommending heat pumps
  - Understanding of how heat pumps work and are different from gas systems, so that they are sized right and set up correctly
  - Electrical Service Panel Optimization Analysis and Planning
  - Building envelope optimization and HVAC load reduction
  - Understanding watt dieting and right sizing equipment
  - Load calculation.! Subsidize proper equipment sizing based on actual loads, consider subsidizing to make it no-cost to the home-owner.
  - Energy efficiency and electrification project planning, very, very limited supply of auditors/project planning liaisons available.

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- Training related to equipment & installation, but also training related to business models, incentive programs
- Healthy Homes Tools, helping upgrade swamp coolers to heat pumps, need training on assessing readiness for homes. Need assistance training installers
- Past workforce or incentive programs have trained for specific program participation but haven't always led the workforce towards lasting or translatable industry recognized credentials
- Equity and access gaps
  - Low-income communities don't have the resources to take classes or exams
  - Low capacity for contractors, especially small businesses, to afford to gain industry recognized credential that help them take advantage of incentive programs
  - Need to provide a path for more gender diversity in the workforce
  - Gaps are different in different parts of the state. Not a homogenous set of needs throughout the state.
    - Some urban areas have a large and mature energy workforce, while less densely populated areas very few contractors able to conduct energy work
    - CCAC conducts in-home EPA assessments across the Valley. Finding contractors simple installs in the regions means a 2-3 month wait, outside the metro are common.
    - There are gaps in the workforce/workforce development programs in rural regions (thinking about Truckee/Tahoe/Sierra Nevada specifically here).
    - Lack of contractors in rural areas to work on electrification and oftentimes still some hesitancy around electrification in general
    - Registered energy auditors are concentrated in a few areas (for example, only one available within 50 miles of our valley)
    - Less populated jurisdictions have lower rates of qualified installers.
  - Need to help contractors, especially small businesses, afford to gain industry recognized credentials that help them take advantage of programs
  - Difficult to get small contractors who have enough business with gas equipment to come to training. Pay small (or all) contractors to attend?
  - Need to reach and incentivize small contractors working out of their truck.
- Other gaps
  - Many contracting professionals are unlicensed
  - Barriers to licensing is a concern
  - Permitting is overly burdensome for many contractors and can be streamlined
  - Need trainings on simplified permitting training for tech's and small businesses.

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- Insurance (costs, specific policies) also comes up as a barrier to joining some programs
- HVAC contractors may want and need support to expand their business into plumbing to install HP DHWs.

The CCEC network also shared recommendations to address these gaps.

- Provide easy to access stipends or mini grants to contractors for trainings such as a) HVAC installer training, b) panel and pump electrification training, and c) installation and maintenance. Stipends could also help cover the costs of revenue gaps during training, onboarding or HR
- Trainings needs to be tailored to fit the target and objective for the program, which isn't yet clear. For example, if the objective is to get as many incentives out the door in a short period of time, you may want to give advanced trainings to help quickly grow the State's most capable energy contracting companies, though this will not support equitable market transformation. If the objective is to expand the marketplace of qualified contractors and improve coverage statewide, including under-resourced communities, to ensure uptake of upgrades and incentive programs in the long term, we may need to target small existing contractors in less urban areas to upskill them with industry recognized credentials.
- Oregon has a water heater replacement contractor entry certificate program. (a lot easier than a C-36 contractor license)
  - Oregon [onboards new workforce](#) into water heater installers
- Conduct a focus group to find out what these contractors need that could help them take this leap and get licensed
- Collaborate with industry to help design contractor training programs
- Provide supports to contractors who are interested in getting licensed. Since we need a more robust, trained workforce, this may be one way to find these workers.
- Tie a requirement to Home Energy Rebate Programs
- Include special criteria or outreach/support for small businesses in DACs
- Encourage and incentivize unlicensed contractors to become licensed, due to high barriers for some communities to become licensed (\$, language, etc)
- Incentives might include waiving fees, providing language appropriate coaching, and free exam preparation courses.
- Trainings on performing assessments of what a home needs regarding electrification/decarb
- A major way to assist contractors is to streamline permitting processes
- Develop inventory of remote trainings available for rural access
- Design a program for formerly incarcerated to receive basic EE training and to connect to eventual jobs & entrepreneurial opportunities.

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- Fund internships or fellow programs
  - Energy Analysts/Auditors/ Data Analytics - Climate Fellowship Program
  - [SEI Workforce Programs](#)
- Host job fairs to pair workers with contractors
- Partner with forward-thinking businesses who will help facilitate the training for in-person, hands-on supplements to the training.
- Explore alternative models to provide trainings, including trainings outside of standard working hours, online trainings, working closely with EDD
- Consider dispersing funds directly to rural communities
- Recommend that course work include modules that reinforce consumer protection, high standards and ethical behavior, and that enhance skills for marketability

**4. What certifications should be funded through contractor training for residential energy rebate programs in California to support the purpose of this funding and lead to good-quality jobs?**

See training and certification gaps under Question 3. In addition, members of the CCEC network suggested looking at the following certification programs:

- [Building Operator Cert by the Northwest Energy Efficiency Council \(NEEC\)](#), [HERS Home Energy Rating Systems](#) (SoCal Gas) and [Energy Star by DOE](#).
- California CSLB could honor the [Oregon Water Heater installer license](#) holders while it starts working on standing up a CA version.
- [DOE's Home Energy Professional credentials](#) which include the Energy Auditor (EA) and Quality Control Inspector (QCI)
- [ACCA HVAC Training for Technicians](#)
- [BayREN Green Labeling Program](#) is looking into existing certifications. Would suggest reaching out to them and asking about their findings if you haven't already.
- [BPI](#), [Home Energy Score](#), [NGAT certifications](#). How HERS and CEAs impact the HVAC industry.

Members of the CCEC network also provided the following recommendations for future certification programs.

- Train folks for "Panel Optimization" where homes can be fully electrified by efficient devices and controls without needing workforce to upsize electric panels.
- Electrical Service Panel Optimization and Planning/Building Envelope Optimization for reduced heating and cooling loads.
- Retrofit Installer Badges, and the Crew Leader job task analysis (JTA).

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- Keep it simple and think about it from the contractor's perspective before establishing new requirements
- Definite line between contractors that do new construction vs. Replacements = different ways to reach them.
- Could be helpful to differentiate between training for people entering the workforce for the first time and training for those already in the workforce

**5. What data is available to demonstrate that the proposed certifications in your response to Question 4 align with the skills and needs of California, meet energy workforce demands, and prepare that workforce to deliver energy efficiency, electrification, and clean energy improvements?**

Members of the CCEC network suggested the following data sources.

- [HVAC Excellence Process](#)- industry recognized cohesive approach, including connecting workers with contractors
- [HES score assessments](#)

**6. What performance metrics and numerical targets should California use to measure impact throughout the 48-month period of performance of DOE funding sought by the CEC to provide contractor training for the IRA residential energy rebate programs?**

Members of the CCEC network suggested the following metrics and targets.

- The obvious one: Number of contractors trained at each level/type of training offered
- Number of contractor organizations to which the CEC presented information about the trainings (why and what)
- How many contractors participate that represent/belong to underrepresented groups
- Perhaps separate metrics for small and large contractors? This should be tracked even if it's not a reported metric or target
- [REN Business Plans](#) include metrics and target examples for workforce education and training programs
- Distributor registered HP-HVAC, HPWH's, Smart Electric Panels, HP pool heaters, etc. sold in state per month, IOU res. service upgrades.

**7. In the Community Benefits Plan required as part of the CEC application for DOE funding for contractor training for IRA residential energy rebate programs, how should the program ensure the delivery of measurable community and jobs benefits, and:**

**1) support meaningful community and labor engagement;**



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**2) invest in America's workforce;**

**3) advance diversity, equity, inclusion, and accessibility; and contribute to President Biden's goal that 40 percent of the overall benefits from certain federal investments flow to disadvantaged communities under the Justice40 Initiative.**

This question was somewhat addressed in the gaps and recommendations offered in Question 3. Members of the CCEC network made additional suggestions related to ensuring measurable community and job benefits below.

- Recommend that CEC seek funding to expand the technical, financial, & organizational capacity of small & disadvantaged contractors to acquire and perform Energy Efficiency project
- Capacity building program and a regional energy management training program - California's High Road Training Partnership model
- Provide funding for quality in-person/online trainings specific to servicing rural areas
- Establish a fully funded apprenticeship program for high school age students from low-income communities. Training can take years and lots of resources.
- Provide higher training incentives for professionals working in/near DAC's(J40) communities and make sure the incentives are prioritized for smaller jurisdictions
- Establishing regional Clean Energy HUBS that connect contractors with workers on info., training, resources, and job opps.

The CCEC network recognizes that the federal investments to the State of California through the Inflation Reduction Act and other sources in programs like Home Energy Rebates and the Contractor Training program can meaningfully elevate priorities related to decarbonization, climate change, equity, and environmental justice in line with federal, State and local goals. We share CEC's desire to foster effective, on-the-ground implementation of equitable emission reduction solutions in coordination with regions and communities throughout California. In fact, CCEC hosts our [Annual Statewide Climate & Energy Forum](#) for approximately 400 local climate and energy practitioners, as well as several State leaders, where communities across the state present their innovative approaches to advancing local and regional climate and energy initiatives, including those related to training and engaging qualified contractors, in an inclusive, conscientious way without leaving anyone behind. We are very happy to continue collaborating with CEC to help programs advance diversity, equity, inclusion, and accessibility, among other community benefits.

### **8. Input on other topics welcomed**

Members of the CCEC network provided the following additional input.

- Need simple statewide streamlined existing bldg decarb permitting and permitting/inspection fee caps. Cost of permitting to access incentives is a BIG barrier!
- Demonstrating their deep knowledge on the realities of implementing EE and electrification contractor engagement and workforce development, 3C-REN and

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BayREN submitted full comments to DOE's recent RFI on "Preparing Workers and Businesses to Deliver Energy Efficiency and Building Electrification Measures," which can be valuable for the CEC to consider as it develops this program, and can be found [here](#).

- Members of the network would like to see that new trainings complement rather than confuse or detract from their ongoing training programs.

CCEC believes that cities, counties, special districts, regional municipal organizations, and local energy-focused consortiums like Regional Energy Networks (RENs), regional climate collaboratives, and Community Choice Aggregation (CCA) programs - and their community partners - are in a key and irreplaceable position to continue pushing California towards a 100 percent clean energy and climate-stable future for all. However, local agencies often lack the necessary internal resources and capacity to match the enormity and urgency of the growing need for clean energy and climate solutions, as well as to meet the targets and goals established by State or federal agencies. We appreciate that new funding opportunities like the Home Energy Rebate Programs and the Contractor Training Program can help California communities unlock vast untapped potential to lower emissions at the local level, especially if designed and deployed in collaboration with local administrators.

Thank you for the opportunity to relay comments from our statewide network. We greatly appreciate your time in considering our comments and recommendations and welcome further discussion. We look forward to working in partnership with CEC leadership and staff to support the advancement of residential energy improvements and related contractor training. Please do not hesitate to reach out to Angie Hacker at [ahacker@civicwell.org](mailto:ahacker@civicwell.org) if you have any questions.

*Respectfully submitted by Angie Hacker, CCEC's Statewide Best Practices Coordinator, and John Vandevort, CivicWell Climate & Energy Project Manager, on behalf of the California Climate and Energy Collaborative (CCEC).*