

Building Regional Resilience: Energy Workforce Partnerships in the Inland Empire

Tyler Masters, Inland Regional Energy Network
Jennifer Aguilar, DrPH, Inland Regional Energy Network
Jasmine Pineda, The Energy Coalition
Bryan Miranda Quintana, The Energy Coalition

ABSTRACT

With energy-related occupations projected to grow by an average of 20% through 2030 in the Inland Empire, the Inland Regional Energy Network (I-REN) aims to address this through its workforce, education, and training (WE&T) programs to strengthen energy career pathways within Riverside and San Bernardino counties. In partnership with The Energy Coalition, I-REN created an Energy Workforce Gaps Assessment in 2024, which identified energy-related employer training needs and workforce trends and four key recommendations for expanding workforce resilience within Inland Empire communities. The assessment examines regional energy industry data, direct employer feedback, and a comprehensive training analysis.

The recommendations from the assessment informed I-REN that collaboration among key regional stakeholders is essential in connecting job seekers with training providers and available resources that lack visibility and accessibility to the workforce. To build a strong education and training pipeline, regional entities must regularly assess the effectiveness of existing workforce programs to ensure they are meeting the energy industry's needs. As a result, I-REN has partnered with and is working closely with the Riverside and San Bernardino County workforce development divisions, each receiving \$1.5 million to expand and enhance existing energy-related workforce programming, pathways, and resources, and address the assessment's four key recommendations. Each county is diligently working to create partnerships with regional employers and training providers, increasing opportunities for both incoming and incumbent energy workers.

Introduction to the Region

As California leads the transition to a clean energy future, the Inland Empire, despite a history of underinvestment, is well-positioned to advance energy infrastructure. In recent decades, Riverside and San Bernardino counties have been known for booming industries such as logistics, manufacturing, and construction that dominate the region. More recently, the energy sector has become increasingly relevant, offering significant job opportunities as it ties into other major industries. The Inland Empire is at a pivotal period, where rapid economic growth and opportunity position the area to benefit from and contribute to the state's larger energy goals. The energy industry is rapidly accelerating the deployment of clean energy and energy efficiency across renewables, storage, and general infrastructure. With this, an aging, traditional workforce requires attention to ensure skill gaps are addressed and that the incoming workforce is continually evaluated.

Although Riverside and San Bernardino counties make up the Inland Empire, each county has its own unique energy makeup, opportunities, and challenges. Riverside County is

known for its large-scale solar and wind projects, such as the Blythe Mesa Solar Power Project and the San Geronimo Pass wind farm, which features over 600 turbines in a historic wind zone. The City of Riverside also has its own municipal utility, Riverside Public Utilities, which sources a significant percentage (~46%) of its energy from renewable sources (City of Riverside 2023). San Bernardino County hosts large solar and renewable energy projects, such as the Kramer Junction Solar Plant and the upcoming Soda Mountain Solar Project, anticipated to generate 300 megawatts of renewable energy and include battery storage for the same capacity (California Energy Commission 2026). Overall, San Bernardino ranks highly in statewide electricity generation, mostly from solar, and has a broader utility-scale solar asset portfolio, indicating strong grid-connected renewable contributions. Both counties operate differently and have exciting projects that contribute to modernizing energy systems in the region, and they will need to jointly adapt and prepare their communities to build the energy workforce needed.

Each county has individual contributions to the larger energy infrastructure. The City of Riverside, within Riverside County, has partial municipal control through Riverside Public Utilities, which allows for more localized control and energy plan options for residents, including renewable energy. San Bernardino County relies on investor-owned utilities, such as Southern California Edison, for connection to the larger state grid and plays a big role in planning, siting, and regulatory support, and is more closely tied to statewide and regional energy transmission systems to deliver renewable power across the state. Both counties, although operating independently in many ways, rely on each other to collaborate on addressing a transformative energy landscape, all the while reaping the same benefits and opportunities to build a resilient energy hub. The region collectively faces challenges adapting to local energy infrastructure changes and to the effects of industry changes on Inland Empire communities, particularly regarding workforce development. Instead of working separately, both counties can collaborate to provide resources, enhance training pathways, and build employment opportunities that will support regional job seekers and prepare the energy workforce to meet regional energy demands. Programs for communities and local leaders are stepping up to steer this growth in the Inland Empire.

The transition to a clean and sustainable energy future depends on a strong, resilient local workforce. This means easier access to more high-quality, sustainable jobs that strengthen the regional economy. The energy sector is emerging as one of the fastest-expanding industries in California, creating opportunities to modernize infrastructure, strengthen the electric grid, and support long-term economic development. Most importantly, the local workforce requires specialized efforts to ensure they are equipped to step into existing and new energy roles. The current workforce ecosystem is ill-equipped to prepare energy workers, especially as demand for skilled workers to build and maintain energy systems is growing rapidly in an evolving energy landscape. This paper examines the current state of the energy workforce in the Inland Empire, identifies gaps and opportunities, and ultimately explores strategies to align local training programs with the shifting energy economy.

Case Study: I-REN Energy Workforce Gaps Assessment

The Inland Regional Energy Network (I-REN) is a California ratepayer-funded Energy Efficiency Public Purpose Program under the authority of the California Public Utilities Commission (CPUC) and is one of seven Regional Energy Networks throughout California serving over 90% of the state's population. I-REN, comprised of Western Riverside Council of

Governments (WRCOG), San Bernardino Council of Governments (SBCOG), and Coachella Valley Association of Governments (CVAG), serves as a regional convener that connects workforce, education, and industry stakeholders as Riverside and San Bernardino counties respond to increasing demand for energy infrastructure. With a growing population of 4 million, the Inland Empire is well-positioned to leverage the energy sector as a pathway to stable, well-paying careers. By 2030, energy-sector jobs are projected to grow by 20%. The time to understand workforce gaps and how to recruit, train, and retain skilled energy workers, is now.

To better understand how the Inland Empire can meet this growing demand, I-REN partnered with The Energy Coalition (TEC) to conduct a comprehensive Energy Workforce Gaps Assessment. The assessment focused on current and future workforce needs across the energy sector, examining in-demand occupations, projected job growth, and the capacity of existing education and training systems to prepare workers for these roles. It also explored challenges employers face in recruiting and retaining skilled workers, as well as barriers that limit access to training, certifications, and career pathways for community members, particularly those from underserved communities.

As part of the assessment, TEC conducted an employer survey to gather direct input from energy-sector employers, workforce development organizations, and educational institutions operating throughout the region. The survey was designed to capture information on hiring needs, workforce challenges, required skills and certifications, and perceptions of the region's training pipeline. A total of 385 responses were received. The survey included 13 questions addressing challenges related to hiring qualified candidates, workforce retention, and required skill sets. It also examined gaps in training resources, education levels, and certifications needed for energy roles, barriers to accessing training, employer in-house training capacity, and levels of collaboration with local workforce and education partners. Results from the survey highlight key trends related to workforce readiness, experience gaps, and certification needs, which are discussed in the following sections.

Survey findings indicate that employers across the region face challenges in hiring and retaining qualified workers. Nearly half of respondents (44.2%) identified "difficulty finding qualified candidates" as their primary hiring challenge, particularly for positions requiring specialized technical skills or industry-recognized certifications. Employers also reported a lack of relevant hands-on experience (36.6%), and insufficient or misaligned training (31.9%) contribute to hiring difficulties. Workforce retention emerged as a significant concern, with 79.5% of respondents reporting challenges related to turnover. Competition for skilled labor was cited most frequently, followed by employees leaving for higher wages (38.4%). Together, these findings point to the need for stronger alignment between training programs and employer expectations, as well as expanded opportunities for workers to gain practical, job-related experience.

The assessment also examined the landscape of training providers offering energy-related programs across the Inland Empire. More than 100 training providers were identified, collectively offering approximately 360 energy-related training and certification opportunities. These programs span a wide range of skill levels and career pathways, including solar installation, electrical trades, energy efficiency, heating, ventilation, and air conditioning (HVAC), engineering, and maintenance. As depicted in Figure 1 below, these trainings are delivered through colleges, trade schools, apprenticeships, workforce training organizations, and community-based organizations. While the number and diversity of programs provide a strong foundation for workforce development, the assessment identified several challenges: limited

program capacity, program costs, uneven geographic access, limited awareness among job seekers, and gaps in alignment with employer needs, particularly related to certifications, hands-on experience, and evolving industry standards. Addressing these issues will require greater coordination among stakeholders and clearer connections between training and employment opportunities.

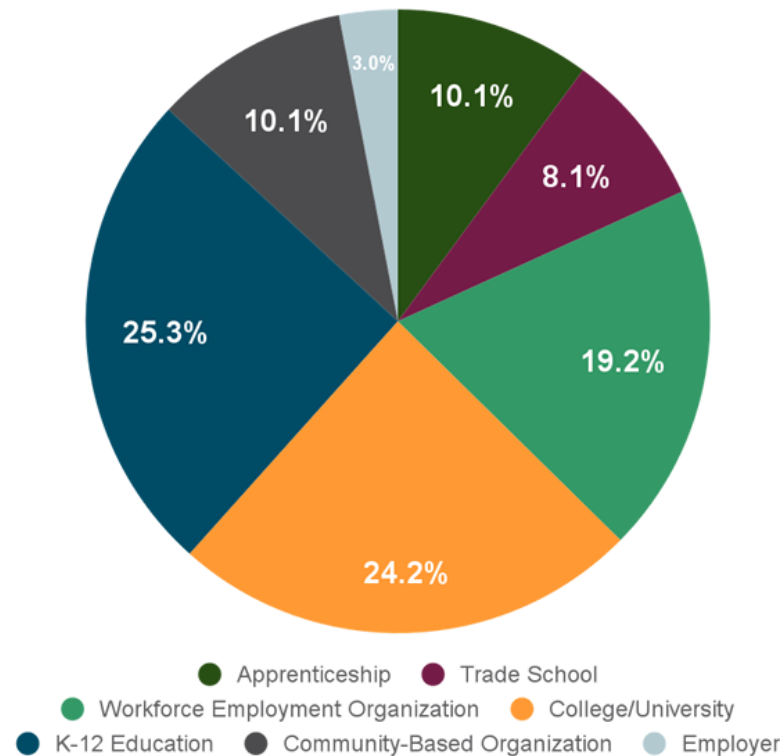


Figure 1. Training providers identified in the region by institution type.

Labor market analysis further illustrates the scale and urgency of workforce demand in the region's energy sector. Between 2020-2030, energy-related occupations are projected to experience an average retirement rate of 25% and an occupational transfer rate of 57% among skilled workers, including electricians, HVAC mechanics, plumbers, and photovoltaic installers. Combined, retirements and occupational transfers are expected to account for more than 75% of workforce turnover in critical energy-related roles by 2030, creating substantial replacement demand. Significant job growth is anticipated for solar photovoltaic installers (81.3%), electricians (22.3%), engineers (19.8% to 25%), and maintenance and repair workers (16.4% to 35.4%), as displayed in Table 1. Employment estimates for energy occupations are based on data from the Bureau of Labor Statistics (BLS) Employment Projects by Occupation (2020-2030). BLS develops these projections using a multiple-step process that analyzes the labor force, economy, demand, industry output, and job openings to provide consistent, comprehensive forecasts. This assessment uses regional data for the Riverside-San Bernardino metropolitan area. These trends indicate that the region must prepare new workers to enter the energy workforce while also supporting retention and advancement for existing workers.

Table 1. Riverside-San Bernardino estimated 2020 - 2030 employment and projected employment growth by energy-related occupations¹

Energy-related construction trades workers occupations	Employment estimate 2020	Employment estimate 2030	Projected growth 2020-2030	Percentage growth 2020-2030	Median annual wages
Total regional occupations in construction trades workers	78,600	93,980	15,380	19.60%	
Solar photovoltaic installers	910	1,650	740	81.30%	\$49,590
Electricians	7,210	8,820	1,610	22.30%	\$63,365
Construction laborers	16,180	19,590	3,410	21.10%	\$47,310
Structural iron and steel workers	1,300	1,530	230	17.70%	\$64,572
Roofers	2,110	2,480	370	17.50%	\$60,713
Plumbers, pipefitters, and steamfitters	4,080	4,790	710	17.40%	\$62,024
Carpenters	19,250	22,560	3,310	17.20%	\$60,548
Sheet metal workers	1,130	1,310	180	15.90%	\$59,609
Total regional occupations in engineering	9,740	11,510	1,770	18.20%	
Materials engineers	120	150	30	25.00%	\$92,069
Industrial engineers	1,040	1,280	240	23.10%	\$84,775
Civil engineers	2,920	3,590	670	22.90%	\$103,402
Electrical engineers	1,160	1,390	230	19.80%	\$101,165
Total regional occupations in drafters, engineering technicians, and mapping technicians	4,940	5,710	770	15.60%	
Surveying and mapping technicians	370	450	80	21.60%	\$59,155
Architectural and civil drafters	940	1,130	190	20.20%	\$62,626
Calibration and engineering technologists and technicians, except drafters, all other	730	850	120	16.40%	\$53,920
Civil engineering technicians	640	740	100	15.60%	\$70,810
Mechanical engineering technicians	130	150	20	15.40%	\$60,357
Total regional occupations in installation, maintenance, and repair	60,340	72,810	12,470	20.70%	

¹ Data from the Bureau of Labor Statistics' Employment Projections by Occupation 2020-2030 Riverside-San Bernardino-Ontario, CA Metro Area

Maintenance workers, machinery	480	650	170	35.40%	\$61,355
Industrial machinery mechanics	2,300	3,010	710	30.90%	\$62,110
Mechanical door repairers	190	240	50	26.30%	\$47,220
Millwrights	180	220	40	22.20%	\$65,282
First-line supervisors of mechanics, installers, and repairers	4,720	5,690	970	20.60%	\$79,592
Electrical and electronics repairers, commercial and industrial equipment	510	610	100	19.60%	\$72,215
Riggers	110	130	20	18.20%	\$47,323
Heating, air conditioning, and refrigeration mechanics and installers	5,600	6,610	1,010	18.00%	\$48,284
Automotive service technicians and mechanics	8,950	10,420	1,470	16.40%	\$50,124
Total regional occupations in management	84,750	103,770	19,020	22.40%	
Construction managers	4,590	5,740	1,150	25.10%	\$104,247
Architectural and engineering managers	1,360	1,620	260	19.10%	\$156,251
Industrial production managers	1,640	1,900	260	15.90%	\$100,920

The assessment highlights a disconnect between the rapid growth of energy-related occupations and the region's current workforce-preparation systems. Ongoing hiring and retention challenges; substantial workforce replacement needs and continued growth; and the training provider landscape show that while many programs exist, gaps remain in alignment, accessibility, and awareness. Addressing these challenges will require coordinated, regionally-aligned strategies that connect job seekers to relevant training, support employers in developing skilled talent, and strengthen pathways from education to employment.

The primary takeaways from the assessment emphasize the need to build a resilient workforce capable of meeting industry demand while expanding access to stable, high-quality jobs for local communities. The Inland Empire is supported by a strong foundation of more than 100 training providers offering approximately 360 energy-related training and career pathways. However, the assessment indicates that job seekers often require additional support to navigate available resources, build awareness of energy career options, and understand the skills, certifications, and training required for specific roles. Strengthening connections between job seekers, training providers, and employers is essential to fully leverage existing resources and improve workforce outcomes.

Table 2: Growing careers within the clean energy sector and anticipated duties²

Industry	Job title	Anticipated duties
Clean energy development	Solar photovoltaic (PV) installers	Installing and maintaining solar panels for residential, commercial, and industrial purposes
	Wind turbine technicians	Servicing and repairing wind turbines
	Hydroelectric plant operators	Managing small-scale hydroelectric systems
Energy storage and grid modernization	Battery engineers and technicians	Developing and maintaining energy storage systems
	Smart grid specialists	Designing and managing advanced electrical grids
	Energy systems analysts	Analyzing and optimizing energy systems to ensure efficiency and reliability
Sustainable construction and building retrofits	Green building designers	Specializing in design practices, prioritizing the use of sustainable materials and techniques
	Energy auditors	Evaluating energy efficiency in buildings and providing recommendations for improvements
	Leadership in Energy and Environmental Design (LEED) specialists	Overseeing and certifying that construction projects meet energy efficiency and environmental standards
Electrification and transportation	Electric vehicle (EV) technicians	Maintaining and repairing electric cars, buses, and trucks
	Charging infrastructure specialists	Planning, installing, and maintaining EV charging networks
	Engineers	Advancing technological developments for changing energy infrastructure

² Department of Energy, United States Energy & Employment Report 2024 and University of Pennsylvania, Powering the future: explore the rise of clean energy jobs.

As the region expands its local industries to include emerging and growing energy careers in the energy-efficient and clean energy sector, the demand for training and filling these roles increases. In Table 2, we can see a breakdown of the list of careers in clean energy, energy storage and grid modernization, sustainable construction and building retrofits, and electrification and transportation as growing industries that contribute to the rise of clean energy jobs (U.S. Department of Energy 2024). It is essential to consider how emerging energy industries reshape labor demand, economic opportunity, and equity within the labor force. The expansion of career options increases local job seekers' opportunities to consider new occupations and transform traditional roles. As workforce organizations consider newer energy industries, they can reduce skills mismatches within training programs and specialize training pathways to align with in-demand jobs that are growing rather than declining. By incorporating employer input, labor market data, and regional stakeholder perspectives, the assessment establishes a data-driven foundation for coordinated workforce strategies and provides four actionable recommendations to strengthen energy workforce pathways in the Inland Empire.

Four Recommendations For Building A Resilient and Inclusive Energy Workforce

In order to take action on the recommendations from the assessment, I-REN partnered with both the Riverside County Workforce Development Division and the San Bernardino Workforce Development Department to strengthen workforce pathways that respond to the current labor-market needs, emerging energy-sector needs, and the projected retirement and transfer of its current experienced energy workforce. While the Inland Empire supports a wide range of industrial activity, energy-related training opportunities have historically been less visible or accessible, despite their growing relevance across multiple sectors.

Through joint planning and coordination, both counties are working with I-REN to align existing workforce development strategies with recommendations from the assessment and with employer needs in traditional and non-traditional, emerging energy occupations, including EV technologies, solar installation, energy efficiency, EV transportation, and related clean technologies. This work is informed by regional labor market data and employer feedback, which have consistently identified barriers to training, including high certification costs, limited geographic access to programs, and gaps between available training and job-specific skill requirements.

Recommendation 1: Connect job seekers to training providers. The assessment revealed that a fundamental component of any workforce development program is alignment between employer and industry demands. Workforce outcomes are stronger when employer input is consistently incorporated into training design and curricula that reflect real-world, in-demand job roles. Training standards should align with current industry needs and integrate technical competencies alongside workplace and interpersonal skills critical to success on the job. Training pathways should also be regularly evaluated and updated to ensure they prepare participants for existing job openings and evolving industry requirements.

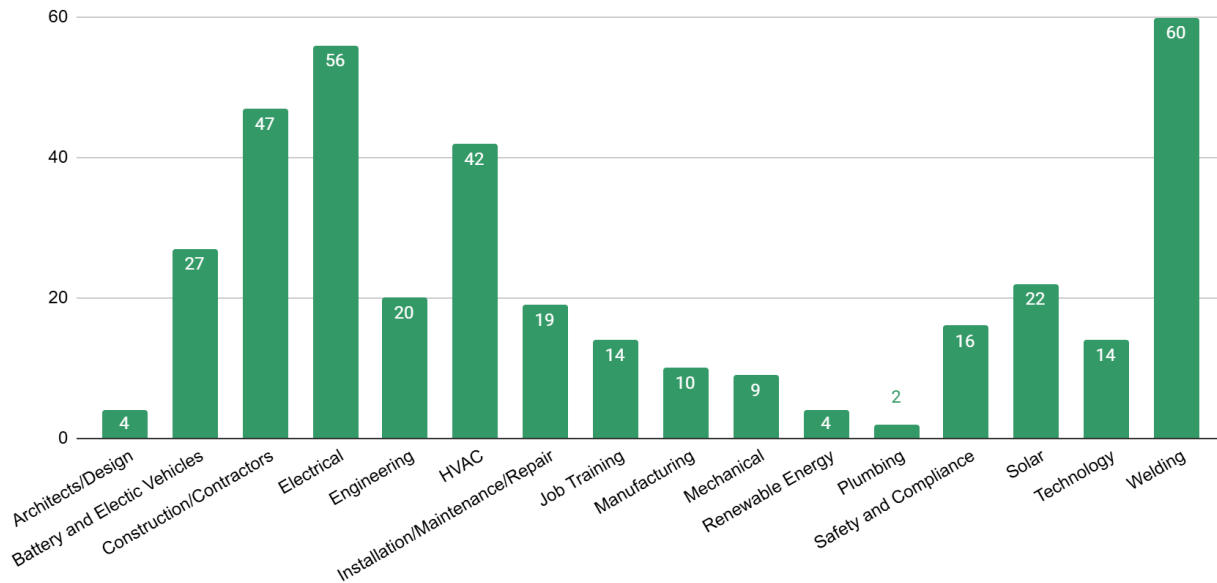


Figure 2. Count of training pathways available in the region by subject matter.

Regional coordination across county lines among the county workforce divisions is important to this partnership and to ensuring job seekers can access relevant training opportunities. Although Riverside and San Bernardino counties serve communities within their jurisdictions, their partnership with I-REN provides an opportunity to jointly enhance energy workforce programming in the region through workforce grants, establishing partnerships with local training providers, and promoting their shared mission of supporting local workers in securing sustainable employment.

I-REN's partnership with the Riverside Workforce Development Division and San Bernardino Workforce Development Department is essential in establishing strong connections among job seekers and training providers. The county's workforce development department and division are key regional organizations that plan, fund, and coordinate efforts to help community members access employment resources and support employers in finding qualified workers. They actively assess labor market needs, including growing and declining industries, high-demand skills, and talent shortages, to ensure that training investments align with regional demand. County workforce teams also heavily influence the design and funding of training programs, including job training, reskilling or upskilling programs, apprenticeships, work-based learning, and certification pathways in priority sectors, such as the energy sector in this case. These entities receive funding from federal, state, and local sources, which is then distributed to training providers and employers to utilize for their workforce programming initiatives.

In Figure 2, the breakdown of available training pathways by energy industry informs workforce stakeholders that there are existing training opportunities available for traditional and emerging energy industries. With ample training providers in the region offering energy-related training opportunities, this cross-county collaboration allows participants to access programs based on location and availability. This approach helps maximize existing resources while improving equity and access for job seekers throughout the region. At the same time, both counties are actively exploring partnerships with training providers and employers to expand program delivery methods and geographic reach. This includes developing new training

programs, enrolling individuals, aligning career technical education (CTE) pathways, and identifying emerging roles in clean energy and decarbonization technologies.

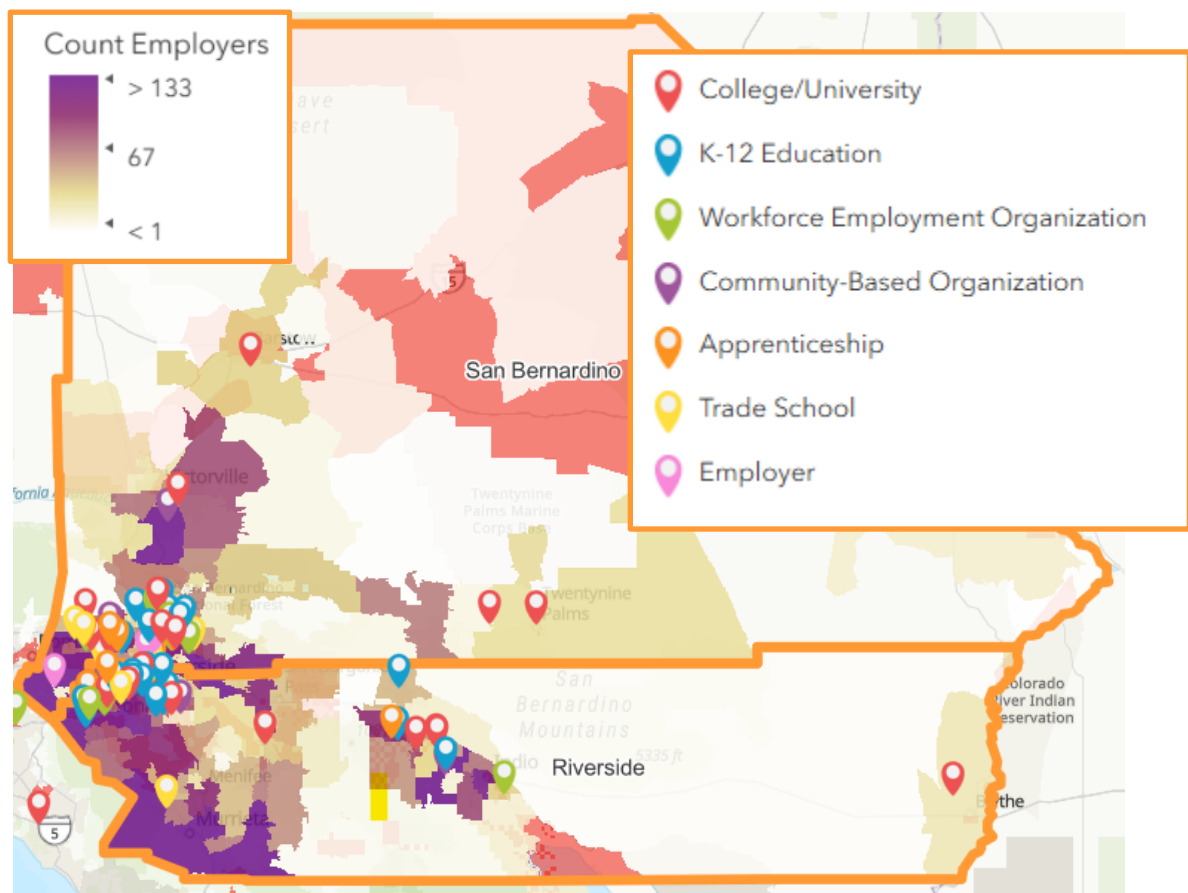


Figure 3. Updated I-REN regional equity map³ with an energy employer heat map and training provider pinpoints.

³ Inland Regional Energy Network (I-REN), *Regional Equity Maps*, accessed June 9, 2026, <https://www.iren.gov/177/Regional-Equity-Maps>

Recommendation 2: Provide support services to make training and certification more attainable. In regions with a high cost of living, such as California, the average job seeker often can't afford the full cost of training or dedicate significant time to an unpaid opportunity. Especially within the energy sector, hands-on paid training pathways such as apprenticeships, pre-apprenticeships, and on-the-job training increase accessibility to receiving skills, certifications, and career preparation necessary to step into the industry. Collaboration amongst workforce organizations increases support services, such as training stipends and financial support for training materials. As seen in Figure 3, employer and training provider hubs exist in larger cities and metropolitan areas, and there is less accessibility to job opportunities and training providers moving into the less populated and rural areas within both counties. The figure represents I-REN regional equity maps, created to demonstrate regional trends and challenges in providing energy efficiency programs to hard-to-reach or underserved customers and disadvantaged communities as defined by the CPUC.

A key focus of I-REN initiatives in partnership with the county workforce boards is expanding access to careers that meet the program's definition of an energy-related occupation. These roles may span energy efficiency, electrification, energy infrastructure, building technologies, and related sectors. I-REN funding will often function as a supplemental resource to federal and state-wide funding, helping to bridge financial gaps that may otherwise prevent enrollment or completion of training programs. To address these challenges, the counties collaborate with training providers, workforce centers, and employers to expand access to education and work-based learning opportunities. The Eligible Training Provider List (ETPL) is a state-approved list of training providers that lead training, courses, or apprenticeships, with full or partial funding for training supported by the Workforce Innovation and Opportunity Act (WIOA). As a result of the counties' partnership with I-REN, three energy-related training providers have been added to the ETPL list, increasing access for both counties and enabling them to reach a wider audience across county lines.

These support services may include occupational training programs such as on-the-job training, industry-recognized certifications recommended by employers, current job openings, credential attainment, and general workforce-aligned skill development. Various training models include pre-apprenticeships, incumbent worker training, and transitional employment. These approaches allow participants to gain practical experience while developing skills aligned with real-world job requirements. This is particularly important in emerging careers where work-based learning is needed to close technical experience gaps.

The county workforce teams also coordinate closely through their respective America's Job Center of California (AJCC) locations, case managers, workforce development specialists, and employer engagement departments. Individuals who access services through the AJCC are first guided through a standardized intake process. This process includes general eligibility verification and background screening to determine qualification for federally and state-funded workforce programs, such as WIOA, as well as for our I-REN-funded programs.

The intake assessment enables case managers to evaluate an individual's employment status, education level, work authorization, and potential eligibility for priority populations. There is designated support for individuals entering the workforce, re-entering, advancing their careers, upskilling, and more. This assessment provides a comprehensive review of the individual's employment history and transferable skills. By identifying existing competencies and prior work experience, potential career pathways are suggested that align with the applicant's interests and professional career goals.

AJCC participants represent a diverse cross-section of the workforce. Many individuals may be recently unemployed due to layoffs or industry shifts. Others may lack specialized skills or industry-recognized credentials necessary to compete in today's labor market. Some may have been out of the workforce for several weeks, months, or even years. Because circumstances vary significantly, case management services are individualized to reflect each participant's background, employment goals, and readiness for training.

Many participants face structural barriers that impact their ability to enter or complete training programs. A common challenge is limited access to training providers within their geographic area. In such cases, supportive services may include transportation assistance, such as public transit passes or mileage reimbursement, to ensure attendance at programming in areas that are more difficult to access. Regarding equipment, counties can support the purchase or reimbursement of required tools that aren't included in the program's tuition. Personal protective equipment, work uniforms, or required materials such as computer access or specialized learning platforms (CAD or design software) are needed for the program completion and career technical expertise. All support services are evaluated to ensure they are directly connected to training participation or employment placement and are necessary to overcome documented barriers.

Recommendation 3: Strengthen the regional education and training pipeline from K-12 to energy employment. A resilient workforce ecosystem requires cross-sector collaboration to strengthen the education and training pipeline from K-12 to energy employment.

Early exposure to energy careers helps youth explore career pathways that lead to sustainable, well-paying jobs. There should be strong partnerships with K-12 institutions, such as local county offices of education and school districts that develop or enhance energy-related (CTE pathways, increase energy career visibility at job fairs, and integrate transferable training or certification programs in high school. Youth can also benefit greatly from mentorship opportunities that connect students with industry professionals who can provide valuable perspectives on entering the energy workforce.

To establish a productive energy workforce pipeline, regional entities must clearly define priority industries and occupations that will serve as the focal point for workforce programming in the region. The workforce pipeline comprises key stakeholders and contributors across its various phases, including educational institutions, training providers, energy employers, and community members. The creation of a productive workforce ecosystem requires active participation from pipeline contributors to agree upon the skills, training, and competencies needed for local energy jobs. I-REN, in particular, serves as a bridging partner for many workforce organizations that are actively developing resources and pathways. Most importantly, I-REN is working to build a strong workforce pipeline by ensuring alignment across both counties and sub-regions, avoiding duplication, and prioritizing the enhancement of existing workforce programming efforts.

As part of I-REN's regional efforts to increase energy career awareness among youth, I-REN partnered with EcoHero, a team that provides environmental education, including school assembly presentations and engaging curricula, to raise awareness of energy careers among K-6 students. By 2027, I-REN hopes to conduct 100 school assembly presentations to schools across the region, providing early exposure to energy careers to tens of thousands of students. Additionally, I-REN partners with the Science Technology Education Partnership to host annual conferences and summer learning labs for students, educators, and counselors. These resources increase visibility of energy career pathways and encourage youth to explore opportunities

beyond traditional roles. I-REN's connection with K-12 educational institutions, such as the Riverside County Office of Education (RCOE) and the San Bernardino County Superintendent of Schools (SBCSS), is essential for assessing existing initiatives that connect youth groups to exposure to energy industry career pathways. Although I-REN is in its early stages of connecting with K-12 workforce partners, conversations are underway to develop or enhance energy-related CTE pathways that include project-based learning, energy-focused career days, and mentorship programs that connect youth with energy professionals.

In an active effort to engage with regional stakeholders, I-REN began hosting workforce roundtables in early 2024 and has continued hosting a series of quarterly roundtables across the three jurisdictions I-REN covers, Western Riverside, Coachella Valley, and San Bernardino, to the present day. The goal of the workforce roundtables is to convene local members of workforce organizations who can provide insight and perspectives on behalf of the audiences they serve and their areas of expertise. At the start of the roundtables, I-REN used the sessions to present key findings and takeaways to participants, sharing labor market data and encouraging discussion of gaps and challenges in supporting the workforce pipeline to inform the assessment. Future roundtables focused on topics that allowed for brainstorming and the sharing of resources to take actionable steps to address the challenges outlined in the assessment after its completion. The roundtable members have evolved throughout the years; however, attendees include individuals from colleges and universities, energy employers, county representatives from economic and workforce departments, and many more. The workforce roundtables provide an opportunity for individuals at various stages of the workforce pipeline to contribute to productive discussions focused on strengthening workforce programming to create sustainable training-to-employment pathways for the region.

Recommendation 4: Strengthen collaboration between employers and workforce development organizations to assess training effectiveness. The foundation of a resilient workforce ecosystem requires a shared vision to address regional workforce gaps and clear stakeholder roles in creating accessible jobs. Local employers, workforce development organizations, and educational institutions must strengthen collaboration to continuously update and refine existing training opportunities, ensuring they remain effective and aligned with evolving industry needs. Stakeholders must meet regularly to discuss continued workforce demand, emerging technologies, hiring trends, and the challenges faced by both employers and job seekers. Currently, we have regional convenings of industry leaders, training providers, and workforce practitioners to share their invaluable insight. These roundtables serve as a forum to review existing career pathways, identify skill gaps, validate program relevance, and coordinate hiring pipelines. By fostering direct language between employers and training institutions, counties are better positioned to align program design with relevant real-time labor market needs.

As we are currently in the initial stages of building partnerships with training providers and establishing training cohorts, incoming program participants are beginning to enroll in training programs and will then proceed to explore job placement. In the interim, each county's business engagement team plays a critical role in identifying placement opportunities. These teams work directly with employers to match graduates with open positions. Our goal is to establish an ecosystem in which program participants have a direct pipeline to employers, while also gathering qualitative employer feedback on skill readiness, the relevance of credentials, and overall training effectiveness.

In parallel, counties are proactively collaborating with colleges and universities to establish new training programs and structured cohorts for emerging careers and technologies that are not yet widely represented on the ETPL. Rather than relying solely on existing course offerings, counties are encouraging the development of industry-informed training that anticipates advancements in areas of electrification, distributed energy resources, energy efficiency, and sustainable infrastructure. For this reason, it is important to establish an employer-informed feedback system that will serve as a mechanism for evaluating program impact and guiding post-completion survey evaluations.

The Riverside County Workforce Development Division has supported adding training providers to the regional ETPL list. Examples of currently supported or recently added training providers include the Center for Employment Training's Green Building Construction program; ConSol's Energy Technician Certification program, which prepares individuals for careers in the home energy rating systems; GRID Alternatives for solar installation and construction; Logitech Energy for training related to EV infrastructure installation, maintenance and diagnostics; Voltu Motors for manufacturing and field maintenance of EV trucks; Airstreams Renewables and Communication Towers technician; and furthering development in emerging technologies through the University of California, Riverside Extension program.

Similarly, in San Bernardino County, a variety of existing training programs such as on-the-job training as a Wastewater Treatment Operator with the Victor Valley Wastewater Reclamation Authority; Residential Electrical Technician training at RTC College; Heartland Coalition's construction pre-apprenticeship program; incumbent worker training focused on sales and product knowledge at Cal-Duct, an underground utility supply distributor; Welder certification through California Welding Institute; solar technology manufacturing training with American Made Power Solutions; incumbent worker training with MC Electric Pro focused on energy systems and EV infrastructure; Multi-Craft Core Curriculum training including GPRO Fundamentals of Building Green; entry-level machinist training from Machinist Career College; industrial electrical and mechanical pre-apprenticeship programs through Chaffey Community College; HVAC technician training through California State University, San Marcos Extended Learning; and two programs to be offered by San Bernardino Community College District, the Green Economy Pathbuilder and EV Charging Station Maintenance Technician.

Collectively, these partnerships demonstrate a coordinated and regional approach to workforce system alignment. One that integrates employer demand, educational program design, traditional roles, and the emerging energy workforce. Through ongoing collaboration, counties will be able to refine the I-REN programming to create a closed-loop system that enables employers to find a qualified, equipped workforce while providing program participants with long-term careers. These training investments translate into measurable employment outcomes that address industry gaps and program alignment.

Conclusion

The Inland Empire is at a critical moment in its clean energy transition, marked by rapid industry growth, workforce turnover, and evolving skill demands. The partnership between I-REN and the county workforce departments reflects a shared commitment to building a resilient, inclusive workforce that supports the Inland Empire's evolving economy. One that prepares workers not only for today's jobs, but for energy careers shaping the region's future and the State

of California’s transition to a decarbonized economy. Riverside and San Bernardino counties are poised to contribute significantly to the state’s broader energy goals while building a strong energy workforce pipeline to meet demand for energy-related roles across major industries. The current workforce is composed of individuals nearing retirement, and the incoming workforce lacks visibility and interest in pursuing careers in the energy sector. Therefore, there is an urgency to address rapid developments in energy infrastructure and to successfully contribute to the transition to a clean, energy-efficient economy.

Most importantly, as workforce organizations and stakeholders consider programming, training, and resources to enhance and build a strong workforce, strong alignment and collaboration are central to success. Transformations in the energy landscape are long-term and will continue to grow as the population grows and energy demand increases, as stated within the Energy Workforce Gaps Assessment. The region benefits from ample training providers and growing employer demand, but intentional alignment among workforce, education, and training partners is essential to closing existing gaps.

Through I-REN’s role as a workforce regional convenor, strategic partnerships with San Bernardino and Riverside counties will move the needle by taking meaningful steps to improve access to training, reduce barriers to employment, and ensure programs align with regional labor market needs. The strengthening of education-to-employment pipelines, the expansion of support services, and the ongoing gathering of employer and stakeholder input position the Inland Empire to build a resilient and inclusive energy workforce. As workforce development continues to evolve, collaboration, evaluation, and investment will be critical to sustaining momentum and meeting current and future energy workforce demands.

References

California Energy Commission. “Soda Mountain Solar Project.” *California Energy Commission — Power Plant Siting & Compliance*, accessed March 2, 2026.

www.energy.ca.gov/powerplant/solar-photovoltaic-pv-battery-energy-storage/soda-mountain-solar-project

City of Riverside, Office of Sustainability. “Renewables.” *City of Riverside*, accessed March 2, 2026. riversideca.gov/sustainability/renewables.

U.S. Bureau of Labor Statistics. *Employment Projections by Occupation, 2020–2030: Riverside-San Bernardino-Ontario, CA Metropolitan Area*. U.S. Bureau of Labor Statistics, Employment Projections program. Accessed March 2, 2026.

www.bls.gov/emp/data/occupational-data.htm

U.S. Department of Energy. *United States Energy & Employment Report 2024*. U.S. Department of Energy, Office of Energy Jobs, 2024. hdl.handle.net/1813/116780.

University of Pennsylvania. “Powering the Future: Explore the Rise of Clean Energy Jobs.” *Penn LPS Online*, April 29, 2024. lpsonline.sas.upenn.edu/features/powering-future-explore-rise-renewable-energy-jobs.