



2024

Energy Workforce Gaps Assessment Summary Report

Prepared by:



Introduction

I-REN has commissioned a regional energy workforce and training market assessment, which is summarized in this document. The report aimed to analyze workforce gaps within the energy sector in Riverside and San Bernardino counties, identify training needs, and address job accessibility issues to strengthen the local workforce and meet growing energy sector demands.



Components of I-REN's Energy Workforce Gaps Assessment



Regional Energy Industry Analysis

Current industry and forecasted changes, based on primary and secondary data on the region's energy industry



Energy Employer Survey

Engagement (virtual and in-person) and a survey to collect employer and stakeholder feedback on energy employers' needs and challenges



Regional Training Assessment

Analysis of training accessibility, workforce gaps, and current and future employment opportunities

The findings in these three components highlight challenges faced by energy employers, job seekers, and stakeholders in building a skilled workforce. Based on these findings, The Energy Coalition (TEC), who developed this report, has compiled four recommendations for I-REN to strengthen the local workforce and meet growing energy sector demands.



Regional Energy Industry Analysis

The Inland Empire is projected to grow rapidly in the coming years. The youth population (ages 16-24) is projected to grow by 13.1%. This growing population presents an opportunity to meet the energy industry's growing needs by engage young people in energy careers through training and apprenticeships.

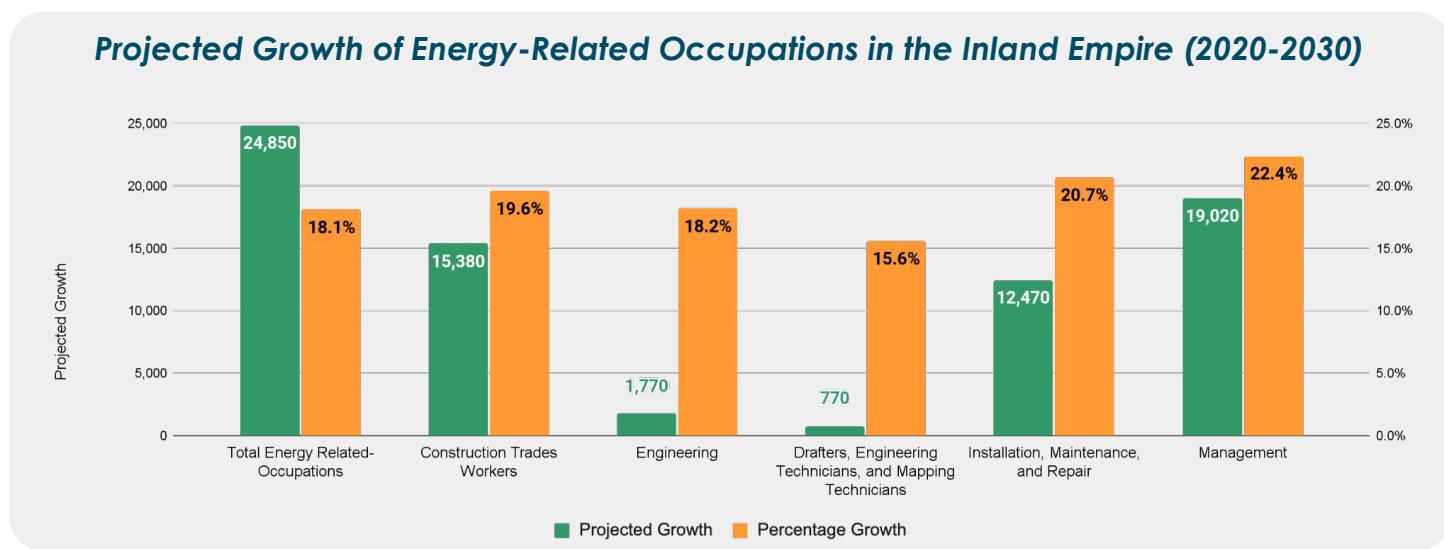
► **54%**

Residents identifying as Hispanic/Latino, making culturally-relevant outreach and training programs essential.

► **83%**

Population with high school diploma, opening opportunities for entry-level jobs, apprenticeships, and certifications.

Projected Growth of Energy-Related Occupations in the Inland Empire (2020-2030)



Meanwhile, retirees (ages 55+) are projected to grow by 10.3%. The region will need enhanced training, certification, and knowledge transfer to retain a skilled workforce in high-demand energy sectors as large numbers of workers retire. Energy-related occupations are projected to see an average 25% retirement rate and 57% transfer rate of skilled workers from 2020-2030. This poses a significant challenge for maintaining a skilled energy workforce.

► *Over 75% of workers in critical energy-related roles are projected to retire or transfer between 2020 and 2030, highlighting the need for immediate recruitment and retention strategies.*

Energy-related occupations, which will require a skilled workforce, are projected to grow by an average of 20% through 2030. Significant job growth is expected in energy-related fields, such as solar photovoltaic installers (81.3%), electricians (22.3%), engineers (19.8% -25%), and maintenance workers (16.4%-35.4%).



Energy Employer Survey

The survey, conducted from May to November 2024, received **385 responses**, 28.9% of respondents were from community-based organizations (non-profits, education, local governments, consultants), and 71.1% were from energy employers in the electrical, mechanical, construction, and HVAC sectors.



Employers who identified retention challenges as a barrier to maintaining a stable and skilled workforce



Employers who provide or pay for training, focusing on safety requirements and essential technical skills

Energy employers perceive a **shortage of relevant industry experience and insufficient training or certifications** among potential hires. Survey respondents indicated that job applicants and employees lack technical, workplace, and interpersonal skills equally. This indicates the importance of addressing workforce skill gaps in the region's energy sector with a multifaceted approach.

Employers emphasized the importance of a combination of foundational education, specialized certifications, and hands-on experience when looking to hire new employees. They often prioritize experience over formal education, which limits their ability to fill job openings locally.

QUESTION

What's driving employee retention challenges in the energy industry?

ANSWER

- Limited financial and career growth opportunities
- Skill gaps
- Competitive labor market
- Retirements

QUESTION

What's keeping employees and job seekers from accessing certifications/ training?

ANSWER

- High training costs
- Limited access to relevant programs
- Insufficient opportunities to address skill gaps

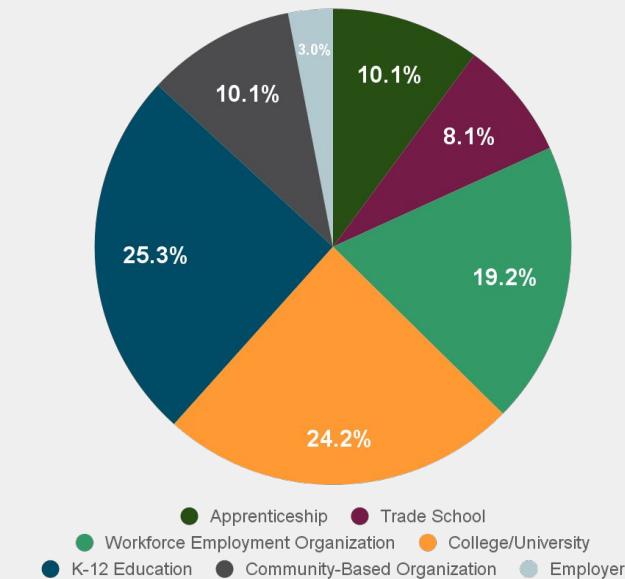


Regional Training Assessment

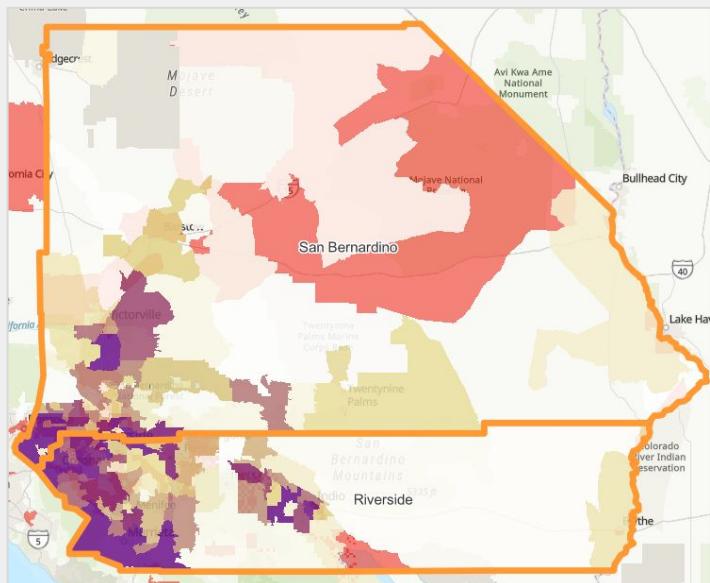
The assessment identified over 100 training providers offering 360 energy-related training opportunities in Riverside and San Bernardino counties. Collaboration between these training providers, workforce development agencies, community organizations, labor unions, and employers is crucial for developing a skilled energy workforce.

Most training programs concentrate on technical and foundational skills in traditional energy sectors such as welding, electrical work, construction, and HVAC, with limited offerings in advanced clean energy technologies.

Identified Trainings in the Inland Region by Type



I-REN regional equity map and energy-related employer heat map



Rural regions have limited energy employment opportunities and fewer training programs.

To meet the growing demand for energy-related jobs, more training and updated curricula is needed in the clean energy sector, including energy storage, EV infrastructure, energy auditing, green building standards, and other clean energy skills.

Most regional energy training (57%) is delivered in person, which presents challenges related to travel, time commitment, and costs, particularly for rural workers. Only 10-13% of regional training is offered online or through self-paced courses, which can be flexible, but lacks hands-on experience and can have access barriers depending on technology requirements. Training access in underserved communities must be expanded.



Recommendations



1. Connect job seekers to training providers

Job seekers—particularly in underserved and rural areas—face significant barriers in acquiring the necessary skills, training, and certifications to secure stable employment in the energy industry.

Recommended I-REN Actions

- Build partnerships** with leading training providers and local labor unions
- Integrate third-party training providers, **offering flexible learning formats** to connect job seekers to workforce education and training (WE&T) programs.
- Organize job fairs and informational sessions** to raise awareness about training opportunities.
- Develop a **clear, data-driven framework** to measure the **effectiveness of training programs and partnerships**.



2. Provide support services to make training and certification more attainable

Job applicants often need more skills/certifications to meet the region's energy workforce needs but they face barriers to obtaining the required certifications.

Recommended I-REN Actions

- Collaborate with trainers and employers to offer financial support for energy sector training and certifications. For example:
 - subsidizing certification costs
 - offering training stipends
 - paying for materials and exams fees
 - covering transportation costs
- Support employers in developing specific incentives or initiatives for underserved communities.





3. Strengthen the regional education and training pipeline from K-12 to energy employment

I-REN should collaborate with K-12 educational institutions to create a seamless education-to-career pipeline, offering localized training programs that focus on the skills needed for in-demand energy roles.

Recommended I-REN Actions

- Collaborate with educational institutions to **enhance or develop new energy-related CTE pathways**.
- Introduce **certification programs** in high school education.
- Create **mentorship** opportunities where experienced employees guide new hires.
- Incorporate **entrepreneurial skills and business development** into **K-12 training**.
- Develop **internships and career fairs** to connect students with energy industry jobs.



4. Strengthen collaboration between employers and workforce development organizations to assess training effectiveness

There are currently few opportunities for key training stakeholders to collaborate directly on building an energy-focused workforce. I-REN should foster stronger partnerships to ensure training programs align with regional industry needs.

Recommended I-REN Actions

- Organize regular **meetings with employers, workforce development organizations, and educational institutions**.
- Engage energy employers, workforce organizations, and educational institutions to develop and improve training programs.
- Develop and monitor clear, measurable metrics** to evaluate and improve the effectiveness of energy-related training programs.



Thank you!

Thank you to the community-based organizations, educational institutions, local governments, consultants, and energy industry employers who contributed their experiences and input to develop this report. For questions or request for additional information based on this report summary, please contact Tyler Masters at tmasters@wrcog.us.

What Comes Next?

On January 21, 2025, the I-REN Executive Committee reviewed the key recommendations developed in the I-REN Energy Workforce Gaps Assessment and approved the following prioritization:

Priority Recommendations:

4. Strengthen collaboration between employers and workforce development organizations to assess training effectiveness
3. Strengthen the regional education and training pipeline from K-12 to energy employment

Secondary Recommendations:

1. Connect job seekers to training providers
2. Provide support services to make training and certification more attainable

This prioritization of recommendations will inform the development and/or expansion of I-REN's Workforce, Education, and Training programming within the Inland Empire.

On the same date, the I-REN Executive Committee received recommended I-REN explore entering into contracts with both Riverside and San Bernardino County Workforce Development Departments (WDDs) to implement workforce programs related to clean/green careers.



The Coachella Valley Association of Governments and San Bernardino Council of Governments have partnered with the Western Riverside Council of Governments to develop I-REN to serve the cities and communities of our region.

