
# Equitable Solar Communities of Practice Webinar Series

National Community Solar Partnership+

Solar Energy Technologies Office

U.S. Department of Energy

# Recording

**Please be aware that we are recording this presentation.**

This meeting is being recorded and may be posted to the DOE's website or used internally. If you do not wish to have your voice recorded, please do not speak during the call or disconnect now. If you do not wish to have your image recorded, please turn off your camera or participate only by phone. If you speak during the call or use a video connection, you are presumed to consent to recording and to the use of your voice or image.

DOE does not allow AI recordings of our webinars. If you use AI to record this meeting, you will be ejected from the meeting.

# Today's Webinar Speakers

**Bruno Estrada**

Solar Workforce Technical Specialist

*BGS Contractor supporting the Solar Energy Technologies Office, U.S. DOE*

**Nick Hylla**

Executive Director

*Midwest Renewable Energy Association*

**Kenzie Luterbach**

Research Coordinator

*Midwest Renewable Energy Association*

# Solar Energy Technologies Office (SETO) Overview

## MISSION

We accelerate the **advancement** and **deployment of solar technology** in support of an **equitable** transition to a **decarbonized economy no later than 2050**, starting with a decarbonized power sector by 2035.

## WHAT WE DO

Drive innovation in technology and soft cost reduction to make solar **affordable** and **accessible** for all Americans

Enable solar energy to support the **reliability**, **resilience**, and **security** of the grid

Support **job growth**, **manufacturing**, and the **circular economy** in a wide range of applications

# The National Community Solar Partnership+

**NCSP+ is a coalition of stakeholders working to expand access to affordable, distributed solar to every U.S. household**

## NCSP+ Supports:

- Community Solar
- Community-benefitting commercial solar
- LMI residential rooftop solar + storage
- Microgrids
- Distributed solar + storage aggregations such as Virtual Power Plants

## NCSP+ Provides Participants:

- No-cost technical assistance
- Funding opportunities
- Research and analysis
- Peer-to-peer networking
- Online courses and training
- Tools and resources to support equitable scaling

# The Meaningful Benefits of Solar

*These meaningful benefits are embedded in all NCSP+ activities and initiatives:*

**Equitable Access and Consumer Protections**

**Meaningful Household Savings**

**Resilience, Storage, and Grid Benefits**

**Community-led Economic Development**

**Solar Workforce**

# Equitable Solar Communities of Practice

**Project Overview:**

- Officially launched in early 2024
- Supporting the expansion of equitable benefits of solar through stakeholder-led process
- Landscape and gap analysis
- Public convening over the summer
- Report to be published this fall

**Solar United Neighbors**
***Equitable Access and Consumer Protections***

**Clean Energy States Alliance**
***Meaningful Household Savings***

**Clean Energy Group**
***Resilience, Storage, and Grid Benefits***

**Cooperative Energy Futures**
***Community-led Economic Development***

**Midwest Renewable Energy Association**
***Solar Workforce***

Learn more at https://www.energy.gov/communitysolar/equitable-solar-communities-practice

# Equitable Solar Workforce Development Webinar

## DOE Solar Energy Technologies Office Equitable Solar Communities of Practice

**Midwest Renewable Energy Association**

Nick Hylla, and Kenzie Luterbach

midwest renewable energy association

IREC

GRID ALTERNATIVES

Minneapolis Health

green careers

SOLAR ENERGY INTERNATIONAL

Educate. Engage. Empower.

RENEWABLES FORWARD

A Diversity & Inclusion Initiative

# Today's Agenda

- Introduction (5 minutes)

- Solar Workforce Presentation (40 minutes)

  - Defining the meaningful benefit area
  - Metrics to track progress toward the meaningful benefit
  - Landscape analysis & convening findings
  - Best practice examples, case studies
  - Remaining questions and/or pathways forward

- Q&A (15 minutes)

Introduction and Overview

# Equitable Solar Workforce Development

# Midwest Renewable Energy Association

Promoting renewable energy, energy efficiency, and sustainable living through education and demonstration since 1990.

Together with partners around the Midwest, we work to expand renewable energy adoption through innovative programs, renewable energy training, and educational events.

**Nick Hylla**
MREA Executive Director

mrea
midwest renewable energy association

# Equitable Solar Communities of Practice

- The U.S. Department of Energy, Solar Energy Technology Office (SETO) launched the Equitable Solar Communities of Practice (CoP) program to support the expansion of equitable benefits in solar adoption.


- MREA was selected to lead the Solar Workforce Development CoP
- It focuses on ensuring that solar jobs are accessible to workers from all backgrounds, providing prevailing wages and benefits, and offering pathways for union membership.

# Equitable Solar Communities of Practice

- **Core Team Members**:
  - GRID Alternatives, Renewables Forward, Solar Energy International (SEIA), Interstate Renewable Energy Council (IREC), American Federation of Government Employees (AFGE), City of Minneapolis, Green Careers Exploration Program.



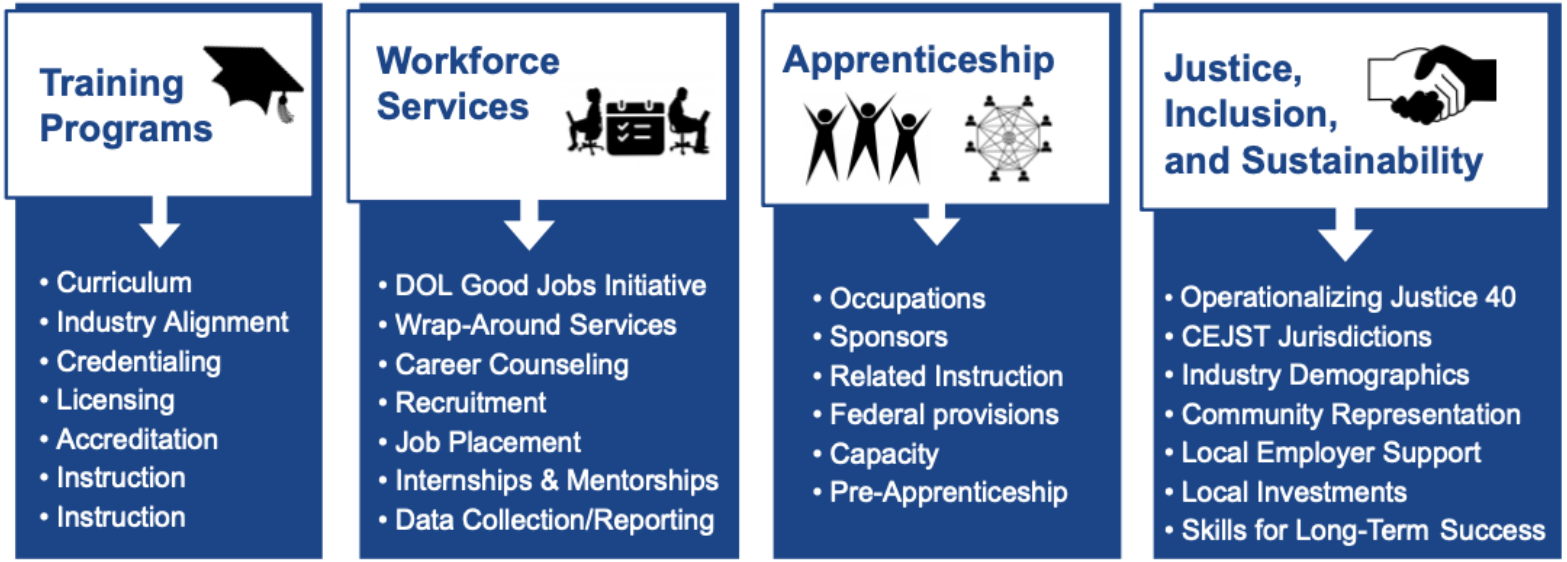



Meaningful Benefits

# Equitable Solar Workforce Development

# Defining Equitable Solar Workforce Development

*All individuals, regardless of background, have equal and fair access to quality jobs, training programs, workforce services, and career pathways that equip them with the skills and opportunities needed for sustainable employment and long-term advancement in the solar industry.*



# Identifying Metrics for the Meaningful Benefit Area

- Target performance and metrics to track progress toward the meaningful benefit areas of 1) Employment Opportunities, 2) Accessible and Employer-Responsive Training, and 3) Career Advancement.
- To achieve equitable solar workforce development, the target performance metrics should help us:

  (a) Define – What, specifically, are we evaluating?

  (b) Require – What is the minimum level of performance?

  (c) Guarantee – What is the proof of attainment?

  (d) Verify – Who is evaluating?

  (e) Communicate – How are the results provided?

# Employment Opportunity

**Gap:** Opportunities for employment upon completion of training program.

**Target:** Training providers maintain relationships with employers and provide open job vacancies to students.

**Metrics:**

- Industry participation in program advisory group
- Consistent employer participation in professional development activities
- Documented method for promoting professional development opportunities to students

# Employment Opportunity

**Gap:** Opportunities for employment upon completion of training program.

**Target:** Workforce partners provide financial support to students/employers to facilitate job placement through probationary period.

**Metrics:**

- Documented partnership between training providers and workforce organizations to support job placement
- Agreements with employers to financially support job placement, include evaluation and reporting requirements.
- Tracking and reporting of job placement, financial support, employer evaluation results, employee evaluation results

# Employment Opportunity

**Gap:** Opportunities for employment upon completion of training program.

**Target:** Workforce partners support employer mentorship programs to onboard and provide continued education to new employees from target demographics.

**Metrics:**

- Formal documentation of mentorship program including employer budget allocation, program purpose, and staff responsible.
- Evaluation of program includes workforce partner review and recommendations.

# Employment Opportunity

**Gap:** Apprenticeship program capacity to meet solar industry workforce needs.

**Target:** Pre-apprenticeship programs are locally available to facilitate interest and preparedness for apprenticeship.

**Metrics:**

- Documented recruitment partnership with apprenticeship sponsors
- Demonstrated placement rates with apprenticeship sponsor
- Entry-level apprenticeship test pass rates when applicable

# Employment Opportunity

**Gap:** Apprenticeship program capacity to meet solar industry workforce needs.

**Target:** Apprenticeship programs support workers that serve the residential and commercial solar markets.

**Metrics:**

- % of residential and commercial solar business activity for participating employers
- # of residential and commercial solar businesses hosting apprentices
- % of apprentices taking related technical instruction that are majority time working in residential and commercial solar

# Accessible and Employer-Responsive Training

**Gap:** Data on related employment demand, training availability, and job placement in priority jurisdictions as identified by the Climate and Environmental Justice Screening Tool (CEJST).

**Target:** State-level tracking & reporting of solar employment and training availability with specific data on CEJST.

**Metrics:**

- Data on solar-related employment by census tract
- Training enrollment and job placement data by census tract
- % participation from CEJST areas

**Target:** Training provider tracking and reporting of demographics, credential attainment, and job placement.

**Metrics:**

- Data tracking for enrollment, completion, and job placement

# Accessible and Employer-Responsive Training

**Gap:** Coordinated recruitment and career support services with participation from secondary schools, employers, local workforce boards, and post-secondary training providers.

**Target:** Training provider & employer recruitment coordination.

**Metrics:**

- Documented support for annual recruitment activities
- Participation in recruitment events including annual evaluation of recruitment outcomes

**Target:** Employers and training providers are integrated into state/local workforce agency programming.

**Metrics:**

- Agreements with workforce boards, economic development agencies, workforce agencies, business associations.

# Accessible and Employer-Responsive Training

**Gap:** Training program instructors with technical experience & instructional competency.

**Target:** Instructors possess 5+ years of related professional experience and maintain continued relationships in the industry.

**Metrics:**

- Experience requirements specified in instructor handbook and/or other internal guidance documents
- Documented verification of instructor experience through formal application process
- Public facing information about program instructors and experience on website and specific course promotions

# Accessible and Employer-Responsive Training

**Gap:** Training program instructors with technical experience & instructional competency.

**Target:** Training providers have a formal instructor evaluation and development process that supports professional networking, continuing education, and professional certification.

**Metrics:**

- Documented instructor evaluation and development process
- Annual evaluation with participation from individual instructors including professional development goals
- Documented investment in instructor professional development

# Accessible and Employer-Responsive Training

**Gap:** Training program instructors with technical experience & instructional competency.

**Target:** Training providers recruit & train instructors representing populations served.

**Metrics:**

- Track and report instructor demographics
- Participant evaluation results demonstrate instructor capability and student satisfaction
- Documented investment in workforce training, recruitment, and instructor development in CEJST areas

# Accessible and Employer-Responsive Training

**Gap:** Availability of support services for at-risk students.

**Target:** Workforce partners provide career counseling and soft skills training to support training program placement.

**Metrics:**

- Agreement with skills training agency
- # of students receiving support

**Target:** Workforce partners offer stipends to support travel, childcare, and other needs during the training program.

**Metrics:**

- Formal application and review process for approving student support
- Documented delivery and student evaluation of support services

# Accessible and Employer-Responsive Training

**Gap:** Availability of support services for at-risk students.

**Target:** Workforce partners offer coaching and tutoring services to support training program completion and credential attainment.

**Metrics:**

- Training program policies that define student evaluation processes, requirement for credential attainment, and support available to students.
- Training program offers introductory, review, and preparation courses/sessions for students to improve student success rates.
- Training provider offers open office hours and one-on-one mentorship to support students.

# Career Advancement

**Gap:** Training programs support worker advancement through clearly defined career pathways in the solar industry for each state.

**Target:** Workforce partners support student attainment of licenses and credentials needed to meet projected state workforce needs.

**Metrics:**

- Training aligned to industry recognized job task analysis with pathway to third party license, credential, and/or certification
- Tracking and reporting of student/employee credential attainment
- Evaluation of student/employee attainment rates and documented interventions to improve attainment rates

# Career Advancement

**Gap:** Training programs support worker advancement through clearly defined career pathways in the solar industry for each state.

**Target:** Workforce partners support worker continuing education and attainment of advanced credentials to meet local, state, and national demand for skilled workers.

**Metrics:**

- Employers incentivize employee credential attainment
- Annual review of employer and state data with recommendations for training updates and credential alignment

Overview of Findings

# Equitable Solar Workforce Development

# Landscape Review Findings

- As of 2022, the solar industry employed more than **263,000 workers** at more than 10,000 companies in every U.S. state
- **Looking back**, the solar industry saw a 167% growth in employment over the past decade
- **Looking forward**, the IRA will cause solar industry employment to nearly double reaching 478,000 by 2033
- For solar to reach 30% of electricity generation by 2030, the solar and storage industries' workforce **will need to triple** to keep up with the industry growth

# Landscape Review Findings

- In 2022, 44% of solar industry employers said it was **"very difficult" to find qualified applicants**
- **Wages for solar workers** are similar to wages for U.S. workers in similar occupations. The median wage for solar PV installers is $21.75/hour
- Approximately 10.5% of solar workers are **represented by a union**, collective bargaining agreement, and/or project labor agreement
- Solar installer is **not currently recognized as "apprenticeable"** by the U.S. Department of Labor
- Several **demographic groups continue to be underrepresented** in the solar industry, which is currently 69% male, and 73% white

# Community Convening Findings

The MREA leveraged IREC's National Clean Energy Workforce Alliance to host our virtual community convening. Nearly 200 attendees posed questions, engaged in discussion, and provided insights. After the convening, we distributed a form to collect feedback:

- **Expand apprenticeship opportunities in solar-adjacent fields (i.e. electricians)**
- **Expand national apprenticeship programs to include non-current employees**
- **Integrate apprenticeships into solar training programs and get unions to play a role**
- **Leverage educational licenses and update curriculum to enhance training**
- **Need mentorship and training programs for underserved and younger populations**
- **Increase the number of licensed electricians**

# Core Team Feedback

- **Need standardization** across the industry, particularly in training requirements, job descriptions, and wages
- Create **varied pathways to equitable access** in the industry, especially for disadvantaged communities
- A **comprehensive strategy** that includes entry-level access, training, career progression, entrepreneurship, and **tailored approaches** across the entire spectrum of career development
- **Need training opportunities** for middle and high schools, two-year colleges, and four-year degree programs
- **More collaborative approach** among stakeholders, as the solar industry often suffers from fragmented efforts
- Include an **explicit definition of workforce well-being** and use metrics like worker satisfaction, pay increases, and benefits
- Track the **development of key partnerships** between industry and training providers, and encourage employers to **focus on investing** in training

Best Practices

# Equitable Solar Workforce Development

# Best Practices Prioritization Matrix (Work Ongoing)

- **Goal**: Prioritize our best practices so that we can focus efforts on the most effective, actionable, goal-oriented and evidence-based recommendations that reflect the priorities of key stakeholders.
- We distributed the matrix to about 100 individuals and have 12 responses. We asked them to assign a rating from 1-5 for each best practice under the following criteria:
  - **Impact**: The potential of the practice to improve solar workforce development outcomes.
  - **Feasibility**: The ease with which the practice can be implemented and scaled, considering resources, time, costs, stakeholders, etc.
  - **Goal Alignment**: How well it aligns with the goals of equitable solar workforce development.

| Category | Number | Percent |
|---|---|---|
| Training Provider | 4 | 33% |
| Job Seeker | 0 | 0% |
| Employer | 4 | 33% |
| Other | 4 | 33% |
| Total | 12 | 100% |

** = Top 5 highest rated for that category*

# Best Practices Rating (To Date)

The following list prioritizes the best practices that offer the greatest potential for impact, are the most feasible to implement, and align most closely with our goals.

| Rank | Best Practice | Impact | Feasible | Goals | Total |
|---|---|---|---|---|---|
| 1 | Workforce partners support student attainment of licenses and credentials needed to meet local, state, and national demand for skilled workers. | **4.82 *** | **4 *** | **4.91 *** | 13.73 |
| 2 | Training providers maintain relationships with employers and provide job vacancies to students. | **4.58 *** | **3.58 *** | **4.58 *** | 12.75 |
| 3 | Workforce partners provide career counseling and soft skills training to support training program placement. | 4.5 | **3.92 *** | 4.08 | 12.5 |
| 4 | Training providers recruit and train instructors that represent the populations served. | **4.67 *** | 3.33 | 4.33 | 12.33 |
| 5 | Workforce partners offer stipends to support travel, childcare, and other needs during the training program. | **4.58 *** | 3.5 | 4.25 | 12.33 |

** = Top 5 highest rated for that category*

# Best Practices Rating (To Date)

| Rank | Best Practice | Impact | Feasible | Goals | Total |
|---|---|---|---|---|---|
| 6 | Apprenticeship programs support workers that serve the residential and commercial solar markets. | **4.64 *** | 3.09 | 4.36 | 12.09 |
| 7 | Pre-apprenticeship programs are locally available to facilitate interest and preparedness for apprenticeship. | 4.45 | 3.36 | 4.27 | 12.09 |
| 8 | Training providers have a formal instructor evaluation and development process that supports instructor professional networking, continuing education, and professional certification. | 4.25 | **3.75 *** | 4.08 | 12.08 |
| 9 | Instructors have 5+ years of related professional experience and maintain continued relationships in the industry. | 4.42 | **3.75 *** | 3.83 | 12 |
| 10 | Workforce partners provide financial support to employers/ students to facilitate job placement through probationary period. | 4.42 | 3.08 | **4.5 *** | 12 |
| 11 | Training provider and employer coordination on recruitment strategy and activities. | 4.25 | 3.33 | **4.42 *** | 12 |

** = Top 5 highest rated for that category*

# Best Practices Rating (To Date)

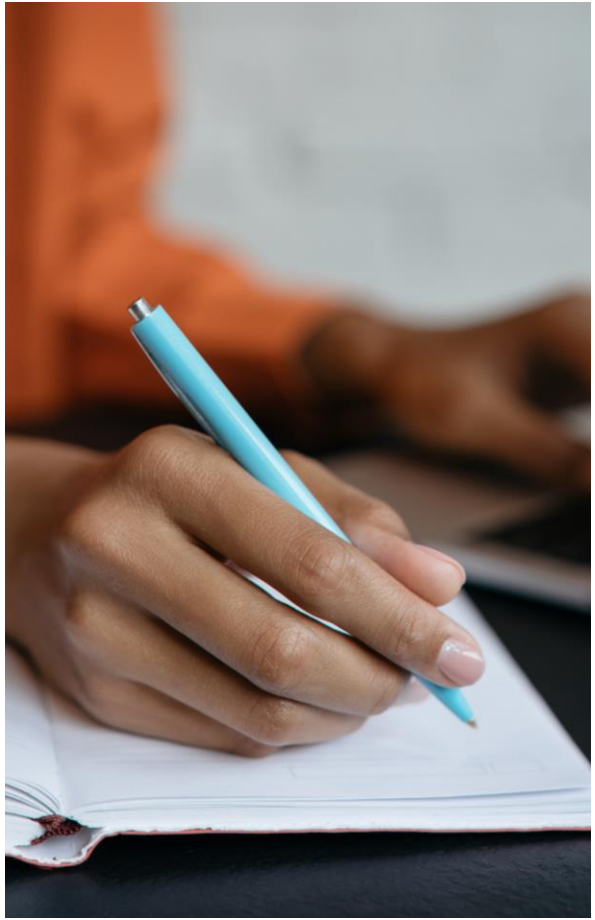
| Rank | Best Practice | Impact | Feasible | Goals | Total |
|---|---|---|---|---|---|
| 12 | Training provider tracking and reporting of training participant demographics, credential attainment, and job placement. | 3.83 | 3.42 | **4.5 *** | 11.75 |
| 13 | Workforce partners offer coaching and tutoring services to support training program completion and credential attainment. | 4.17 | 3.25 | 4.17 | 11.58 |
| 14 | State-level tracking and reporting of forecasted solar employment demand, and training provider availability with specific data on CEJST priority census tracts. | 4.17 | 3.08 | 4.17 | 11.42 |
| 15 | Integration of employers and training providers into state and local workforce agency programming. | 3.75 | 3.33 | 4 | 11.08 |
| 16 | Workforce partners support employer mentorship programs to onboard and provide continued education to new employees from target demographics. | 3.73 | 3 | 4 | 10.73 |

Remaining Questions

# Equitable Solar Workforce Development

# Areas for Additional Research

- Underlying **reasons for hiring difficulty** in the solar sector
- Examine **data collection methods** to address concerns about underreporting of utility-scale solar installation workers
- More in-depth examination of **existing** mentorship and apprenticeship **programs**
- A more nuanced analysis that includes **state-level data**
- **Input from underrepresented perspectives** such as the utility-scale sector, labor unions, environmental justice communities, and potential employers and students
- **Differing perspectives** between labor unions and employers
- Implications of the **'apprenticeable' status** of solar installer
- The **capacity of organized labor** to meet industry needs
- Challenges relating to **skills gaps** in the solar workforce




Q&A

# Resources


Electrical Joint Apprenticeship and Training Committee. (n.d.). *Renewable energy*. Retrieved from https://ejatt.com/renewable-energy/

Interstate Renewable Energy Council. (2022). *National Solar Jobs Census 2022*. Retrieved from https://irecusa.org/programs/solar-jobs-census/

Interstate Renewable Energy Council. (2022). *National Solar Jobs Census 2022: Executive Summary*. Retrieved from https://irecusa.org/census-executive-summary/

Interstate Renewable Energy Council. (2023). *Cultivating a diverse and skilled talent pipeline for the equitable transition*. Retrieved from https://irecusa.org/wp-content/uploads/2023/02/Alliance-Report-2.23-Interactive-compressed.pdf

Interstate Renewable Energy Council. (n.d.). *IREC credentials: How to apply*. Retrieved from https://irecusa.org/clean-energy-training/credentials/irec-credentials-how-to-apply/

Interstate Renewable Energy Council. (n.d.). *Workforce Development*. Retrieved from https://irecusa.org/census-workforce-development/

International Brotherhood of Electrical Workers. (2023, October 14). *Local 569 celebrates its role in largest solar project in North America*. Retrieved from https://www.ibew.org/media-center/Articles/23Daily/2310/231014_three

Laborers' International Union of North America. (n.d.). *Renewable energy*. Retrieved from https://www.liuna.org/renewable-energy

National Center for Construction Education and Research. (n.d.). Retrieved from https://www.nccer.org/

# Resources Continued


National Renewable Energy Laboratory. (2023). *Solar PV workforce report*. Retrieved from https://www.nrel.gov/docs/fy23osti/83652.pdf

Northeast Energy Efficiency Partnerships. (n.d.). *Equitable workforce best practice guidance*. Retrieved from https://neep.org/sites/default/files/media-files/equitable_workforce_best_practice_guidance.pdf

Solar Energy Industries Association. (n.d.). *The impact of the Inflation Reduction Act*. Retrieved from https://www.seia.org/research-resources/impact-inflation-reduction-act

The White House. (n.d.). *Justice40*. Retrieved from https://www.whitehouse.gov/environmentaljustice/justice40/

U.S. Department of Energy. (2022). *Advancing an equitable solar workforce webinar - Slides*. Retrieved from https://www.energy.gov/sites/default/files/2022-08/Advancing%20and%20Equitable%20Solar%20Workforce%20Webinar%20-%20Slides.pdf

U.S. Department of Energy. (n.d.). *Solar workforce development*. Retrieved from https://www.energy.gov/eere/solar/solar-workforce-development

U.S. Department of Energy Office of Scientific and Technical Information. (n.d.). *Solar installer apprenticeships info session*. Retrieved from https://www.osti.gov/servlets/purl/1839053

U.S. Environmental Protection Agency. (n.d.). *EJSCREEN Tool*. Retrieved from https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5

Appendix

# Equitable Solar Workforce Development

# Gap Analysis

**Accessible and Employer-Responsive Training**

- **Gap:** State-level data on related employment demand, training availability, and job placement with specific focus on jurisdictions as identified by the Climate and Environmental Justice Screening Tool
- **Gap:** Coordinated recruitment and career support services with participation from secondary schools, employers, local workforce boards, and post-secondary training providers.
- **Gap:** Training program instructors with sufficient industry and instructional experience.
- **Gap:** Availability of support services for at-risk students.

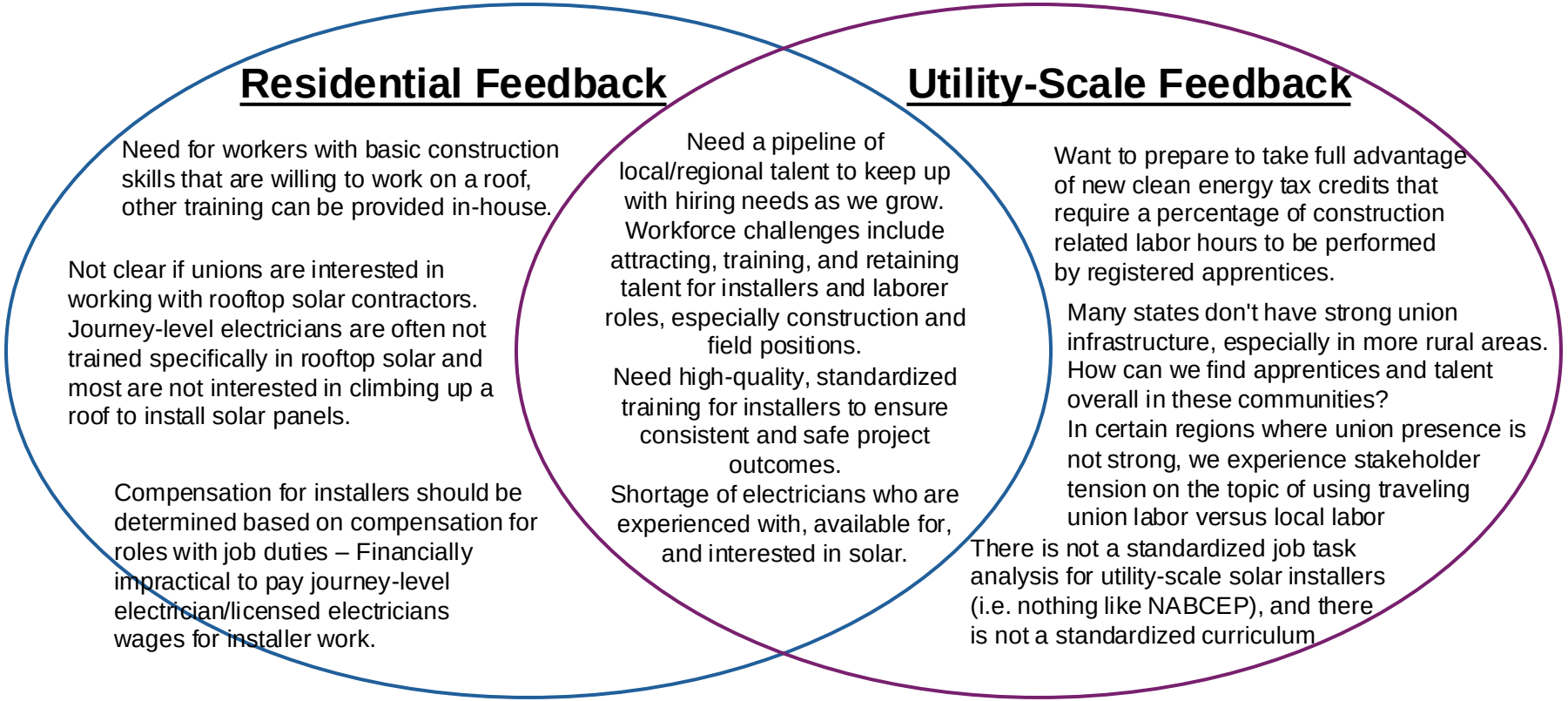
**Employment Opportunities**

- **Gap:** Opportunities for employment with defined pathways for advancement upon completion of training program.
- **Gap:** Apprenticeship program capacity to meet solar industry workforce needs.

**Career Advancement**

- **Gap:** Training programs support worker attainment of credentials and experience related to clearly defined career pathways in each state.

# Existing Feedback (SEIA Research)



# Existing Recommendations (IREC Research)

- **Training Programs**
  - Invest in credentials and industry standards
  - Deploy industry-vetted and standardized curricula
  - Prioritize training program funding

- **Workforce Services**
  - Develop workforce ecosystems at all levels
  - Develop and promote inclusive career pathways
  - Make career exploration resources more available
  - Prioritize job quality

- Provide support to **develop & expand apprenticeship** programs
- **Foster connectivity** between organized labor and the industry
- Include **workforce provisions** in climate and energy policy
- **Improve coordination** of state and federal resources

# Best Practice Case Studies

## Equitable Solar Workforce Development

# Freedom Forever – Workforce Development Partnerships

- Freedom Forever strives to elevate the solar sector through strategic partnership and community engagement, ensuring comprehensive training, safety, and a better experience for both workers and customers.

**Initiatives**:

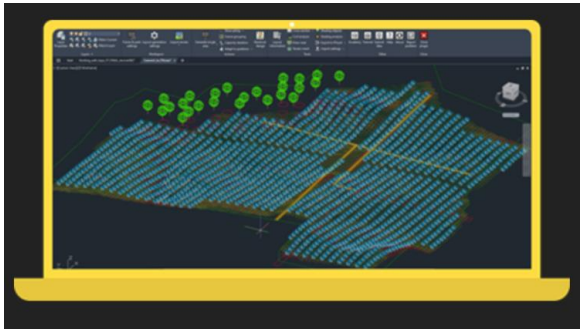
- Prioritize recruitment from underserved communities
- Provide training to individuals who have historically lacked access to such options
- Visiting training centers to present to students
- Participating in job fairs and career events
- Serving on advisory board committees to help shape solar training programs

**Successful Partnerships Include:**

- Urban League, YouthBuild, IL Central College, Workforce Community Centers, Tribal community Programs, IREC and the ACE Network, and more

# PVcase – Bridging the Renewable Energy Skills Gap

- PVcase partnered with Enery & the University of Applied Sciences Upper Austria to address the high demand for skilled professionals capable of designing and implementing utility-scale solar projects.



- **Innovative Training Program:**
  - PVcase Ground Mount integrated into lectures
  - On-site lectures from industry experts at Enery
  - Access to online resources via PVcase Academy
  - Hands-on experience in utility-scale solar planning and design
  - Targets students in the Sustainable Energy Systems master's program
- **Impact:**
  - 22 students participated in the 2023 pilot, and 35 students enrolled in 2024
  - 21 students used PVcase Ground Mount for their master's thesis
  - The program expanded to top universities, reaching over 10,000 students globally

# RE-volv's Solar Ambassador Fellowship Program

- **Goal**: The academic year-long fellowship offers college students hands-on experience in solar project development by leading solar initiatives for community-serving organizations near their campuses.

**Program Activities:**

- Training in solar energy, project management, technology, sales and finance, and event planning
- Organizing solar events and outreach to nonprofits
- Gaining mentorship from industry professionals
- Connecting with top companies in solar & sustainability fields
- Career preparation, mentoring, resume support, and more

**Impact**:

- 440+ Solar Ambassadors at 46 Universities across the US
- 16 Nonprofits successfully solarized
- 77% employment rate for 2023-2024 cohort so far

# Solar Landscape – Workforce Development Program

- **Initiatives:**
  - **Step-Up**: Solar installation job training for individuals facing barriers to employment
  - **Train-the-Trainer**: Training for career and technical education HS teachers to incorporate solar installation into their curriculum
  - **Green Ambassador Program**: Virtual solar energy education course, classroom visits, and annual $20,000 scholarship challenge
- **Impact**
  - Step-Up initiative has 2,200+ trainees
  - Train-the-trainer initiative has trained 75 teachers
  - Green Ambassador Program has engaged 2,300 students
  - In Chicago, their industry-led training model trained over 65 community members, with 70% of participants from a recent session securing employment in solar or related fields.

# Elevate – Workforce Solar Training Methodology and Approach

- Elevate designs and implements programs to ensure that everyone has clean and affordable heat, power, and water in their homes and communities – no matter who they are or where they live and prioritizing frontline communities.
- **Solar Training Program**:
  - 4-16 week solar training program that combines virtual, in-person, and hands-on labs
  - Students participate in job shadows, field trips, and high-end training
  - Students receive certifications such as OSHA, NABCEP, and more.
  - Wrap around services like childcare, transportation, and employment assistance

# City of Minneapolis Green Careers Exploration Program and MREA – Solar & Building Electrification Training & Career Placement

- **Goal:** Equip youth from Black, Brown, and Indigenous communities with essential skills for careers in the solar industry and environmentally friendly career paths, addressing urgent climate concerns while promoting diversity.

**Customized Training to Meet Local Needs:**

- Regional Apprenticeship Training Center (RATC)
- Pathways to the NABCEP PV Associate credential
- Mobile solar training labs for hands-on experience
- No-barriers-to-entry introductory solar training program

**Impact:**

- 219 students participated in solar training at the RATC
- 23 students secured paid internships
- 20 students were hired full-time by six solar companies

# Solar United National – Development & Workforce Training

- **Goal**: Focus on developing and training the solar workforce and enhancing rural energy access and community power solutions through various innovative projects to address the growing needs of the solar, electric vehicle, and energy auditor workforce.

**Initiatives:**

- Focus on rural and energy justice communities
- Train individuals and provide them with careers in the clean energy economy
- Partner with technical colleges and middle and high schools to show a career pathway towards apprenticeships for electricians, EV electricians, EV and solar service technicians, and energy auditor and weatherization installers

# Take Aways from Successful Programs

- **PROVIDE WORKFORCE SERVICES**
  - Provide career preparation resources, mentorship opportunities, resume support, and more
  - Have programs that lead to industry-relevant credentials/certifications that give individuals a competitive edge in the clean energy workforce (NABCEP, OSHA, etc.)
  - Provide wrap-around services like childcare, transportation, and employment assistance
  - Refer and connect trainees with employers and/or registered apprenticeship programs
- **TARGET YOUTH**
  - Participate in job fairs and career events
  - Give students opportunities to participate in job shadowing, field trips, and high-end training
  - Train high school teachers to incorporate solar into their curriculum
  - Provide students with mentorship from industry professionals
  - 100% of Solar Ambassadors said they were more interested in a solar career after beign in the program

# Take Aways from Successful Programs

- **PARTNERSHIPS ARE CRITICAL**
  - Every organization specified that their partnerships were critical to the success of their programs, emphasizing the critical need for partnerships
  - Build partnerships with local CBO's and workforce organizations
  - Serve on advisory boards committees to help shape solar training programs
- **LIMIT BARRIERS TO ENTRY**
  - Prioritize recruitment from underserved communities'
  - Provide training to individuals who have historically lacked access to such options
  - Offer customized training to meet local needs
  - Stipends and scholarship opportunities
  - Mix of training delivery methods: on-site lectures, hands-on experiences, online recourses, etc
  - No-barriers-to-entry introductory solar training program