State-Based Home Energy Efficiency Contractor Training Grants Webinar

September 21, 2023

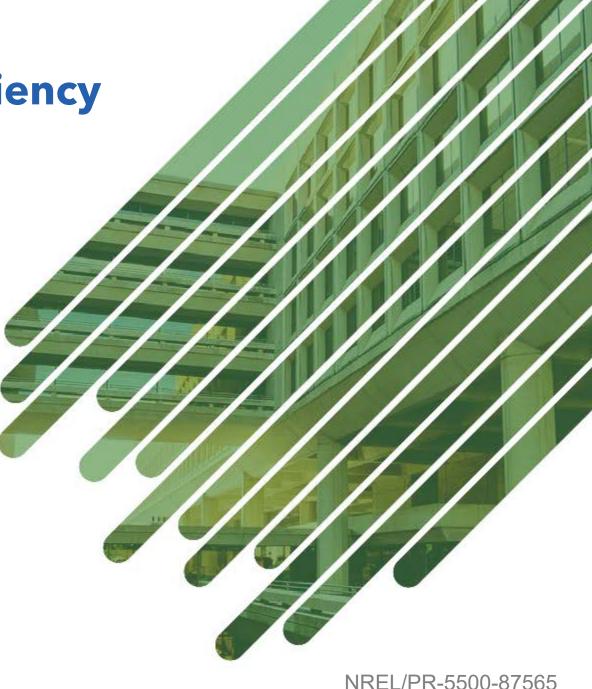
Allison Moe, Sarah Truitt, Taylor Ryan (NREL) Jeff Wanner (PNNL)

Mary MacPherson (SCEP)





STATE & COMMUNITY ENERGY PROGRAMS



Webinar Agenda

- 1. Overview & General Recommendations
- 2. State Workforce Development Plan (Part A)
 - Component 1a: Statement of Need
 - Component 1b: Programs for which funds will be used
 - Component 1c: Identifying Existing Programs
 - Component 1d: Labor Market Information
 - Component 1e: Energy Auditor Availability
 - Component 1f: Skills Assessment Report.
- 3. Support Resources for ALRD Responses
- 4. Q&A



State-Based Home Energy Efficiency Contractor Training Grants **Overview** State programs awarded under this ALRD will use funding appropriated by the IRA to: (1) reduce the cost of training contractor employees; (2) provide access to workforce development tools for contractors including, but not limited to, testing and certification; and (3) partner with nonprofit organizations to develop and implement an equitable state program.

AI RD

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Allowable Activities Under ALRD

Allowable Activities

(for any of these, funds can be used to create new programs or support existing ones)

- ✓ Hard skills training*
 - Training new and upskilling existing workers
- ✓ Soft skills training
- ✓ Testing and certification*
- ✓ Entrepreneurship and business development support
- ✓ Workforce readiness and job placement
- ✓ Career and industry awareness efforts
- ✓ Promote job quality
- ✓ Support underserved communities.

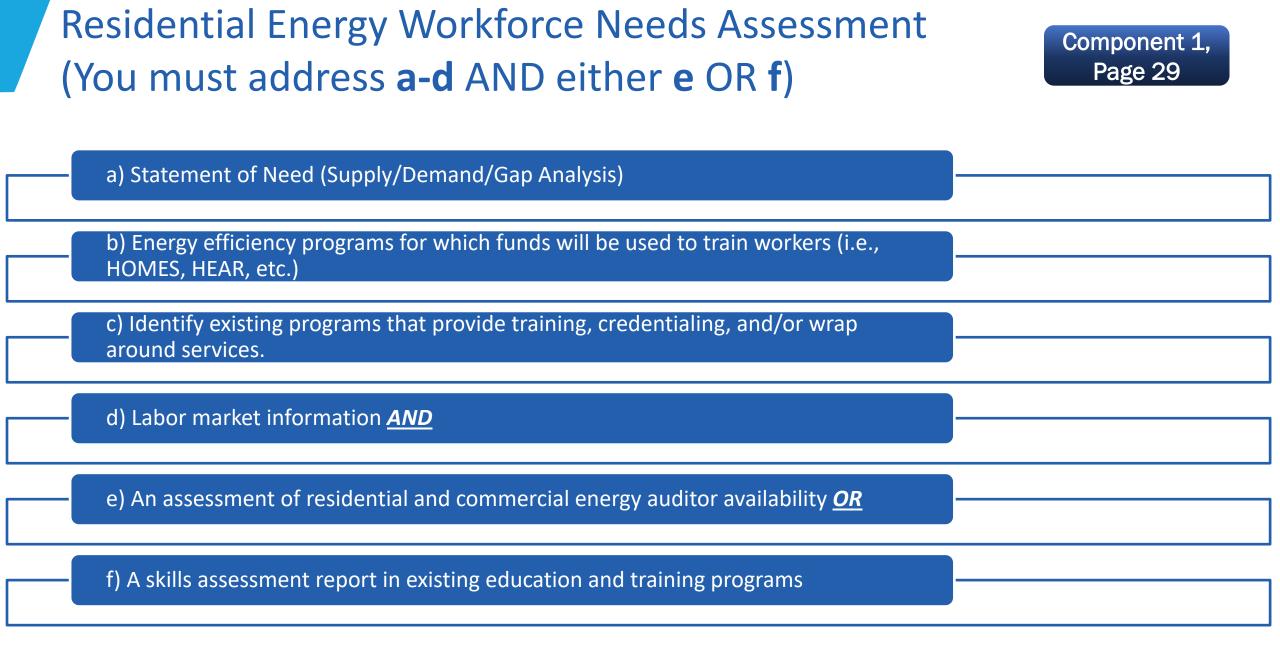
* Requires DOE recognition through <u>https://bsesc.energy.gov/submit-recognition</u>

ALRD Page 8

ALRD Overview



U. S. DEPARTMENT OF ENERGY | OFFICE OF STATE AND COMMUNITY ENERGY PROGRAMS



Support Materials for Grant Development & Submission

Pacific Northwest National Lab is preparing

- Compiled refences as best-practice examples of existing workforce programs.
- Narrative Document Template that can be used as framework for ALRD Submissions

DOE's **Building Science Education** Solution Center (<u>https://bsesc.energy.gov/</u>) develops and curates training modules that can be leveraged to bolster training programs.

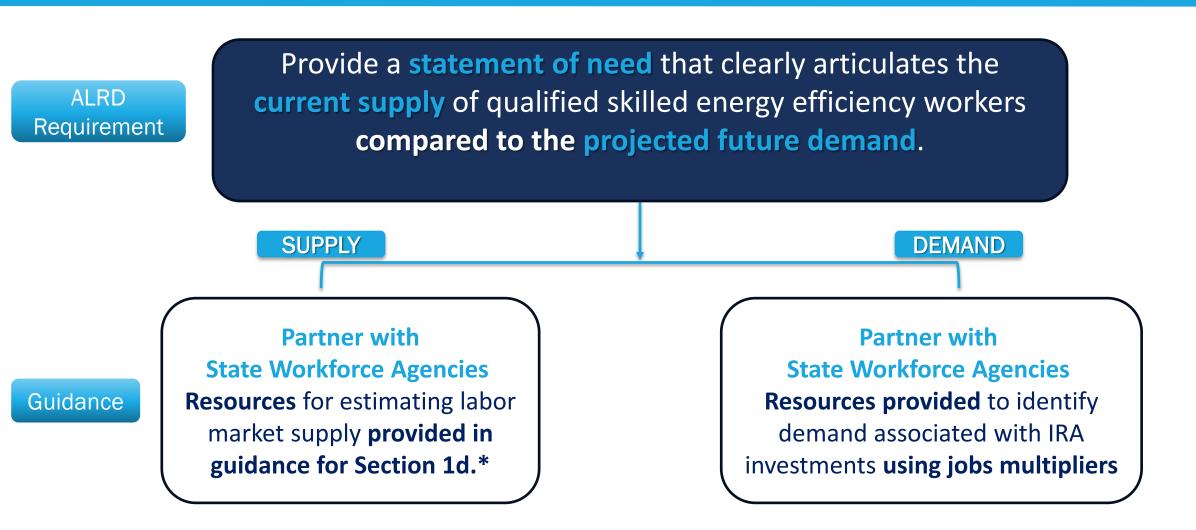
In addition, Building Science Education recognizes exemplary curricula that can be incorporated into your Contractor Training Grant submissions.

Related questions reach out to BSESC@pnnl.gov

Component 1: Residential Energy Workforce Needs Assessment

1a) Statement of Need: Supply/Demand/Gap Analysis

ALRD Details



***NOTE:** You must complete section 1d to fully answer 1a.

Approach to Estimate Demand

- 1. Estimate total building energy efficiency/electrification investment anticipated in your state
 - HOMES & HEAR allocations
 - Consumer contributions
 - Any additional/leveraged funds (utility, state/local programs, etc.)
- 2. Divide by 1 million
- 3. Multiply by your state's energy efficiency jobs multiplier
 - As published an NREL report, *State-Level Employment Projections for Four Clean Energy Technologies in 2025 and 2030,* Appendix C

This calculation provides a rough estimate of the **total** number of **direct** jobs leveraged by the rebate investment in your state.

Things to consider:

- How many jobs do you expect to be supported **each year**?
- How many jobs do you expect to be new jobs versus existing jobs that may require upskilling
 - Consider investment in envelope vs electrification projects (HOMES vs HEAR)
- What types of occupations will be supported by your IRA investments?
 - Refer to <u>ICF analysis</u> of occupations related to ResStock upgrades

Component 1: Residential Energy Workforce Needs Assessment

1b) Programs for which funds will be used

ALRD Details

ALRD Requirement Indicate the program(s) for which the state will use Contractor Training Grants funding to prepare a skilled energy efficiency workforce.

✓ IRA Home Energy Performance- Based, Whole House Rebate Program (HOMES)

✓ IRA Home Electrification and Appliance Rebate Program (HEAR)

✓ Other federal, state-, and utility-funded incentives and financing programs.

Guidance

NOTE: NREL is not providing guidance on 1b; states will need to determine which programs they intend to use grant funding for.

Component 1: Residential Energy Workforce Needs Assessment

1c) Identify Existing Programs

ALRD Details

ALRD Requirement Identify existing programs, within a state's jurisdiction, that meet residential energy contractor and worker needs, including a list of organizations that currently provide training, credentialing, and/or wrap around services.

Guidance

Resources provided to identify and engage with existing organizations/programs

Workforce Ecosystem



Focus for ALRD:

- ✓ Certifying/testing/training agencies
 ✓ Local community college and trade schools
 ✓ Labor unions
- ✓ General workforce/wraparound services
- ✓ Economic development agencies.

https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/Career%20Pathways%20Fact%20Sheet Final map.pdf

Identify Partners in Your State

https://airtable.com/appCJKowPLSWm40zL/shrdkGzo5uKsbSJmE

	Organization Type \vee	Organization ~	Link
1	ALRD – Training and Certification Organizations	ASHRAE Test Centers	https://www.ashrae.org/professional-development/ashrae-certification/certification-types/beap-building-energy-assessment-professional-certi
2	ALRD – Training and Certification Organizations	AEE- Certified Energy Auditor Certification	https://www.aeecenter.org/aee-training/training-partners/
3	ALRD – Training and Certification Organizations	BPI Testing and Training Centers	https://www.bpi.org/bpi-test-centers
4	ALRD – Training and Certification Organizations	RESNET Training Providers	https://www.resnet.us/providers/accredited-providers/accredited-rater-training-providers/
5	ALRD – Training and Certification Organizations	Home Energy Score Trainers	https://betterbuildingssolutioncenter.energy.gov/home-energy-score/become-assessor
6	ALRD – Training and Certification Organizations	North American Technician Excellence (NATE) testing locations	https://natex.org/locate-a-training-organization
7	ALRD – Training and Certification Organizations	ESCO Accredited Programs	https://www.escogroup.org/accreditation/programs/accredited.aspx
8	ALRD – Training and Certification Organizations	AOSmith	https://university.hotwater.com/onlinecertifications/
9	ALRD – Training and Certification Organizations	Rheem	https://www.rheemacademy.com/
10	ALRD – Training and Certification Organizations	Bradford White	https://www.bradfordwhite.com/training/
11	ALRD – Training and Certification Organizations	Regional Energy Efficiency Organizations (REEOs)	https://eepartnership.org/about/regional-energy-efficiency-organizations-network/
12	Other Training Organizations	Community Colleges/Technical Schools/Colleges and Universities	https://nces.ed.gov/collegenavigator/
13 📒	Other Training Organizations	Searchable database of HVAC training and education providers	https://www.hvacclasses.org/
14	Other Trade Organizations	United Association of Journeymen and Apprentices of the Plumbing and Pipefittin	https://ua.org/
15	Other Trade Organizations	Sheet Metal, Air, Rail and Transportation Union (SMART)	https://smart-union.org/
16	Other Trade Organizations	Plumbing, Heating, Cooling Contractors Association	https://www.phccweb.org/
17	Other Trade Organizations	Insulators Union	https://www.insulators.org/union-directory
18	Other Trade Organizations	International Brotherhood of Electrical Workers (IBEW)	https://www.ibew.org/Tools/Local-Union-Directory
19	Community/Workforce/Economic Development Organizations	WIOA and Workforce Services	https://www.careeronestop.org/LocalHelp/AmericanJobCenters/american-job-centers.aspx; https://www.careeronestop.org/LocalHelp/Employ
20	Community/Workforce/Economic Development Organizations	EDA Economic Development Directory	https://www.eda.gov/economic-development-directory
21	Community/Workforce/Economic Development Organizations	Nonprofit (web search)	National organizations that may provide workforce services include United Way, Goodwill Industries
22	Community/Workforce/Economic Development Organizations	Small Business Development Centers (SBDC)	https://www.sba.gov/local-assistance/resource-partners/small-business-development-centers-sbdc

Engaging with Potential Partners

Before reaching out, identify the role and level of commitment you envision.

Potential roles for partners could include:

- Develop curriculum
- Provide training (hard and/or soft skills)
- Support with advertising/recruiting, especially to specific populations
- Provide supportive/wraparound services
- Support program evaluation
- Connect trainees to jobs
- Employ trainees.



For training/certifying/industry organizations:

- What challenges would you have in ramping up training quickly to meet new demand?
- How do you approach recruitment?



https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/StrategiesandApproachesforDevelopingHands-OnTraining.pdf

For workforce/wraparound service providers:

- Do you have existing partnerships with construction/HVAC/Energy employers or training providers?
- What populations does your organization work with?



https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/StrategiesandApproachesforDevelopingHands-OnTraining.pdf

For nonprofit/community partners:

- Does your organization have the capacity to support us in any of the following ways?
 - Advertising training and employment opportunities
 - Recruiting
 - Providing wraparound or support services to trainees.



For employer partners:

- How many staff do you employ?
- How many new staff do you intend to bring on in the next 12 months (breakdown by occupation)?
- What is your starting wage for new hires?
- How do you currently train your staff?



https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/StrategiesandApproachesforDevelopingHands-OnTraining.pdf

Component 1: Residential Energy Workforce Needs Assessment

1d) Labor Market Information (supply)

ALRD Details

ALRD Requirement Present labor market information produced by federal or state departments of labor including 1) current rates of employment in key occupations and 2) forecasts of growing or declining industries and 3) wage distributions across relevant occupations.

Guidance

Resources provided to identify occupation-specific data available from the US Bureau of Labor Statistics (BLS).*

*NOTE: BLS provides current employment and wage data by state, but forecasts are only available nationally.

Current Employment and Wage Data by Occupation (State level)

- 1. Select "Multiple occupations for one geographic area"
- 2. Select "State" pick your state
- 3. Select SOC codes (see next slide)
- 4. Select data types
- 5. Employment, Annual Mean/Median Wage, Location Quotient
- 6. Select release date and format

https://data.bls.gov/oes/#/home

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<u>**Current Employment and Wage Data**</u> by Occupation (State level)

Section 6.4, Pages 25-26

SOC CODES

Under "Construction and Extraction Occupations"

- Electricians: 47-2111.00
- Plumbers: 47.2152.00
- Insulation Workers: 47-2131.00
- Mechanical Insulation Workers: 47-2132.00

Under "Installation, Maintenance, and Repair Occupations"

• HVAC Contractors: 49-9021.00

<u>Current</u> Employment and Wage Data by Occupation (State level)

Occupational Employment and Wage Statistics Query System

Occupational Employment and Wage Statistics

(For more information or help)

OEWS 🔜

Multiple occupations for one geographical area

Back to Inputs

Area: Colorado Period: May 2022

Occupation (SOC code)	Employment(1)	Annual mean wage(2)	Annual median wage(2)	Location Quotient		
Electricians(472111)	16500	59280	58990	1.28		
Plumbers, Pipefitters, and Steamfitters(472152)	9560	61750	61180	1.19		
Construction and Building Inspectors(474011)	4000	68700	66170	1.66		
Heating, Air Conditioning, and Refrigeration Mechanics and Installers(499021)	6990	59370	57450	1.00		
Footnotes: (1) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers. (2) Annual wages have been calculated by multiplying the corresponding hourly wage by 2,080 hours.						
SOC code: Standard Occupational Classification code see http://www.bls.gov/soc/home.htm						

Data extracted on August 16, 2023

Example query for Colorado

<u>Current</u> Employment and Wage Data by Occupation (State level)

CONSIDERATIONS BLS data is not available for Energy Auditors (although they have a SOC code) Only a portion of these workers work on residential buildings

Location quotient compares the share of jobs for each occupation within the selected geography compared to the share of jobs for the entire country.

Employment <u>Projections</u> by Occupation (National Level)

Find **2021-2031** National Employment Projections by Occupation

Search by Occupation Title or Code (one by one)

,	tions Data				
mployment in thousands.					
etailed information about t	the variables displayed here is available in the <u>Employmer</u>	nt Projections Data Overview. Files	containing these data are available fo	or download at https://www.bls.gov/emp/data/occupational-	<u>-data.htm</u> .
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All + 1					
how All 🖌 entries	M (1)		à		
Occupation Title	Occupation Code	Employment 2021	Employment 2031	Employment Change, 2021-2031	Employment Percent Change, 2021-2031
Search	47-2111				
Total, all occupations	00-0000	158,134.7	166,452.1	8,317.4	
Electricians Show/hide Example Job	47-2111	711.2	761.4	50.2	
Titles					
<u>Titles</u>	filtered from 832 total entries)				< Previous 1

Employment <u>Projections</u> by Occupation (National level)

CONSIDERATIONS

Is your state economy similar to the national economy for the identified occupations?

- One place to look is location quotient, which compares the share of jobs for each occupation within the selected geography compared to the share of jobs for the entire country. Ex: For a given occupation, an LQ of 1 means that that occupation shows up as frequently in the region's total jobs as it does in the nation. An LQ below 1 indicates these jobs are less prevalent in the state economy than they are nationally, and an LQ above one indicates those jobs are more prevalent in the state economy than they are nationally.
- States will need to make decisions about whether they believe their region may expect lower or higher rates of change compared to the country as a whole.

Component 1: Residential Energy Workforce Needs Assessment

1e) Energy auditor availability & readiness

Provide an assessment of residential and commercial energy ALRD Requirement auditor availability and readiness. **Resources provided to roughly estimate energy** Guidance auditor availability by State

NOTE: You can respond to either 1e OR 1f.

Search for Certified Energy Auditors/Assessors

- ASHRAE Certified Building Energy Assessment Professionals
- <u>AEE Certified Energy Auditors</u> (select certification type)
- **BPI** Certified Energy Auditors & Energy Analysts (select certification types)
- **RESNET** Certified Home Energy Raters
- Home Energy Score Assessors
- Talk to utilities/auditors to understand availability, readiness and wait times in your state.

NOTE: Starting in 2024, homeowners looking to claim the <u>Energy Efficient Home Improvement Credit (Section 25C)</u> for home energy audits can also use a company that has met these training requirements (except Home Energy Score Assessors).

Component 1: Residential Energy Workforce Needs Assessment

1f) Skills assessment report

ALRD Requirement Provide a skills assessment report in existing education and training programs, such as on new energy technologies, latest best practices, or newly launching programs.

Guidance

 Determine the skills and technologies that existing energy efficiencyrelated education and training programs in your state address.
 Identify gaps that new programs could fill.

NOTE: You can respond to either 1e OR 1f.

Support Resources for ALRD Responses
Developed by PNNL

Grant Submission Support Materials

Best-practice examples of state-based workforce programs.

- Guidance document with exemplary programs and related content.
- Could be expanded from other agencies in your state or mirrored mponent 1. Residential Energy Workforce Needs Assessment a. Provide a statement of need that clearly articulates the current supply of gualified

Narrative Document Template

that can be used as submission framework.

6.4.a Performance Metrics

Metric Targets

Fill in the below table with targets for each performance metric. The project design must address the full purpose of the ALRD within the 48-month period of performance. States shoula consider all parts of the proposed Project Narrative, Community Benefits Plan; Workforce Development Plan; including the project design, recruitment and outreach activities, identified target audience(s), training type and length of training offered, and other factors relevant to the achievement of each of the targets for performance metrics.

nt.		Perform	nance Metric	Target Audience(s)	Planned Numeric Target for the Period of Performance
		Numbo	r of individuals and/or businesses enrolled in the training	New workers	
		program		Existing workers	
s in		program		Contractor firms	
				New workers	
		The per	rcentage of individuals that completed the training program.	Existing workers	
				Contractor firms	
onent 1. Residential Energy Workforce Needs Assessment Provide a statement of need that clearly articulates the current supply of qualified The number of individuals that				New workers	
			ber of individuals that received a certification.	Existing workers	
skilled energy efficiency workers compared to the projected future demand (DO					
encourages States to partner with State Workforce Agencies to conduct a gap ar to identify the labor supply needed to meet the labor demands):	analys	is 🔽	and type of industry-recognized skill or business certifications through program assistance. of underserved or underrepresented populations by type, phics, and zip code	New workers	
				Existing workers	
				Contractor firms	
				New workers	
Indicate the program(s) for which the State will use CTG funds to prepare a skilled energy efficiency workforce. Programs could include the following:			urning citizens, veterans, residents of disadvantaged *ies, transitional youth, or displaced or at-risk energy members)	Existing workers	
□ Inflation Reduction Act Home Energy Performance-Based, Whole House Re	bate				-

de labor market information produced by Federal or State departments of labor, as other sources, including current rates of employment in key occupations and

Other existing or planned Federal, State-, and utility-funded incentives and financing

c. Identify existing programs, within a State's jurisdiction, that meet residential energy contractor and worker needs, including a list of organizations currently provide training,

□ Home Electrification and Appliance Rebate Program (HEAR)

Programs (HOMES)

programs, as resources exist:

credentialing, and/or wrap around services:

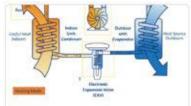
Workforce Training Resources

DOE's Building Science Education Solution Center (<u>https://bsesc.energy.gov/</u>)

- Provides curated and free training materials on building science.

Instructor Resources: Lecture notes, Problem sets. Slide decks, and Other resources Topical Content Training Modules such as:

- o Intro to Heat Pumps
- o Smart and Dual-Fuel Thermostats
- <u>Electrical Panel Assessment</u>



HVAC - Introduction to Heat Pumps



Introduction to heat pump systems, including heat pump basics, sizing and design, and customer and...



HVAC - Cold Climate Heat Pump Sizing

Sizing and selection practices for air source heat pumps specified to operate efficiently in cold...

- Introduction to Heat Pump Water Heaters
- o Installation of Heat Pump Water Heaters
- o Decision Guidance on Heat Pump Water Heaters



HPWH - Introduction to Heat Pump Water Heaters

Introductory level information on heat pump water heaters.



HPWH - Load Shifting



Educational content on heat pump water heater load shifting and the devices that enable it.

DOE-Recognized Training Programs

Building Science Education

In support of developing a strong Building Systems Workforce, this effort recognizes training certifications that align with DOE goals.

Through this effort, DOE recognizes

- Heat Pump Programs (<u>bsesc.energy.gov/heat-pump-programs</u>)
- Heat Pump Water Heater Programs (<u>bsesc.energy.gov/heat-pump-water-heater-programs</u>)
- Energy Assessment Programs (<u>bsesc.energy.gov/energy-assessment-programs</u>)

Each provide open-source content that any program could use. Existing training programs are recognized based on meeting scoring criteria for job scopes.

Any training program can submit for recognition through the website or email directly to BSESC@pnnl.gov

QUESTIONS?

https://www.energy.gov/scep/state-based-homeenergy-efficiency-contractor-training-grants-questionsand-answers

Upcoming Office Hours – Register on Zoom

Office Hours for ALRD Guidance Webinar #1

- September 28
- October 5, 3-4 p.m. EDT

ALRD Guidance Webinar #2

October 26, 3-4 p.m. EDT

Office Hours for ALRD Guidance Webinar #2

- November 2
- November 16, 3-4 p.m. EDT



Thank you!

Email questions to <u>eeworkforceprograms@hq.doe.gov</u>



Appendix

Additional Questions for Potential Partners

For training/certifying/industry organizations:

- What challenges would you have in ramping up training quickly to meet new demand?
- How do you approach recruitment? Do you/have you done targeted outreach to certain parts of the state, certain populations, etc.? Do you conduct outreach or training in languages other than English?
- What data do you currently collect for your trainees/participants?
- Would you be willing to adjust your enrollment/application forms to include questions we need data for?

https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/StrategiesandApproachesforDevelopingHands-OnTraining.pdf

For workforce/wraparound service providers:

- Do you have existing partnerships with construction/HVAC/Energy employers or training providers?
- What populations does your organization work with?
- What type of supportive services does your agency provide?
 - Job readiness (help with resumes, interview preparation)
 - Work clothing stipends
 - Transportation assistance
 - Childcare assistance
 - Training/employment reimbursement
- Does your organization need access to our program data for your own tracking or reporting? What specific data points will you need?

https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/StrategiesandApproachesforDevelopingHands-OnTraining.pdf

For nonprofit/community partners:

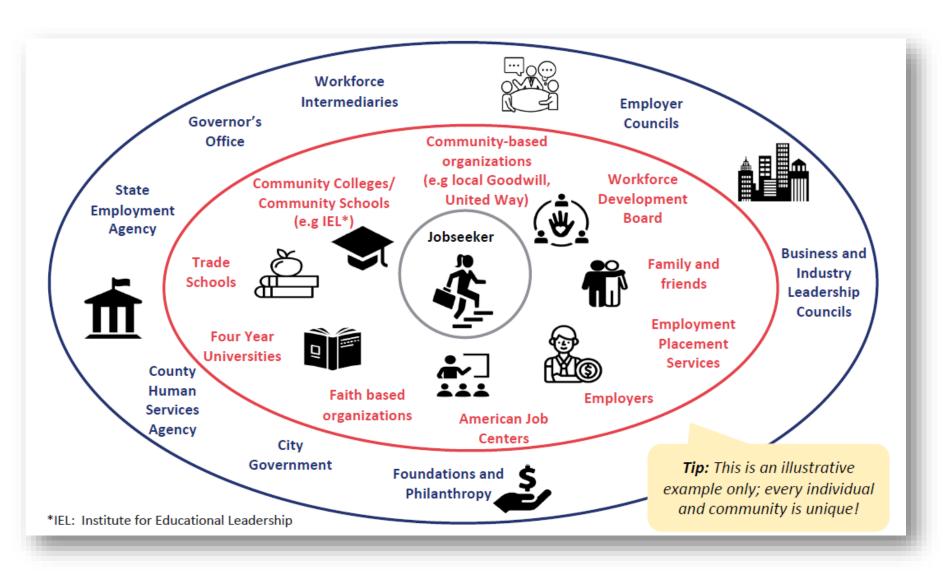
- What populations does your organization work with?
- What challenges do you/the people you work with face regarding accessing training and connecting with jobs?
- Does your organization have the capacity to support us in any of the following ways?
 - Advertising training and employment opportunities
 - Actively recruiting training participants
 - Providing wraparound or support services to trainees
- Does your organization need access to our program data for your own tracking or reporting? What specific data points will you need?

https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/StrategiesandApproachesforDevelopingHands-OnTraining.pdf

For employer partners:

- How many staff do you employ?
- How many new staff do you intend to bring on in the next 12 months (breakdown by occupation)?
- What is your starting wage for new hires?
- Would you be interested in hiring short-term trainees that have been screened and trained?
 - Would you be willing to pay for this short-term employment?
 - Would you be able to make staff available to help mentor these trainees?
- Would you be interested in engaging with trainees in other ways?
 - Meet and greets (virtual or in person)
 - Job shadowing or "ride-alongs"
- Would you be able to share data about any trainees you hire, including wage info?

Workforce Ecosystem – Alternative Graphic



https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/Career%20Pathways%20Fact%20Sheet Final map.pdf