



TRAINING & TECHNICAL ASSISTANCE

Weatherization is an extensive process and requires continual training and support on the technical, management, and programmatic elements to ensure the Program is implemented effectively.

Through congressional appropriations, the U.S. Department of Energy's (DOE) Weatherization Assistance Program (WAP or Program) utilizes Training and Technical Assistance (T&TA) dollars to fund activities that benefit all Grantees and Subgrantees. Grantees are required to provide training and technical assistance to staff and contractors at both the Grantee and Subgrantee levels. DOE allows up to 20% of a Grantee's total funding to be reserved for these activities.

T&TA funds support WAP's operations on the national, state and local levels:

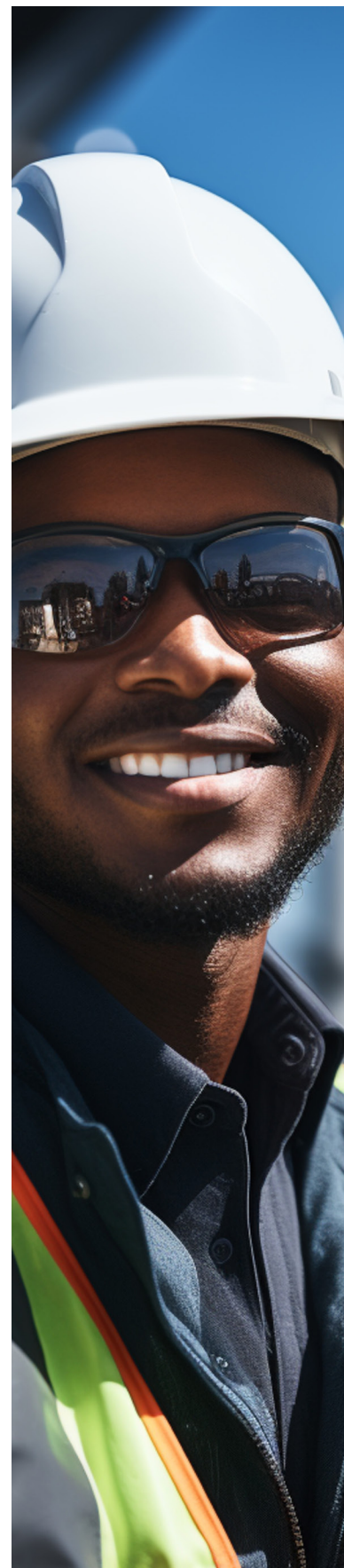
National Level | DOE T&TA Funds

- WAP Network Trainings
- Develop Training Curricula & Resources
- Evaluation Support
- Program Analyses
- Facilitation Services
- Management Analyses
- Management Assistance
- Technical Assistance Analyses
- Technical Support
- Special Reports and Projects
- Grantee Monitoring

State & Local Level | T&TA Funds

- Trainings for Grantee Staff & Local WAP Network
- Investments in Training Tools & Resources
- Technical Assistance to Subgrantees and contractors
- Subgrantee Monitoring
- Program Analyses and Evaluations
- Promotion of Advanced Techniques & Applications

In addition to national support, many Grantees partner with community college networks, state workforce investment boards, apprenticeship programs, and labor union programs to supplement their training resources. DOE seeks to facilitate and help replicate these kinds of partnerships to better engage education and labor organizations capable of providing high quality and consistent weatherization training to a larger audience over the long term.



Guidelines for Home Energy Professionals

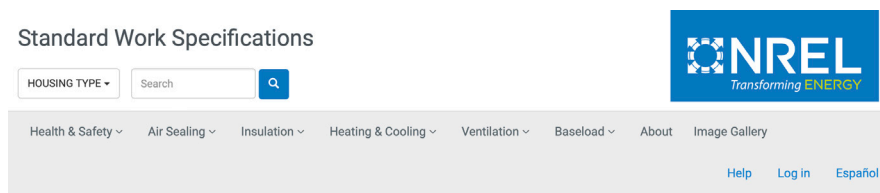
The [Guidelines for Home Energy Professionals \(GHEP\)](#) project is a suite of technical tools and resources developed to support the national residential energy upgrade industry and a skilled and credentialed workforce. The Guidelines were created to provide a high-quality baseline between states, agencies, employers, employees, and homeowners by incorporating input from 2,000 home performance industry members and 40 years of DOE weatherization experience.

GHEP supports and promotes high-quality work within the weatherization and home energy upgrade or home performance industry, based on the whole house approach to energy efficiency. A primary objective of the GHEP project is to create high quality workforce guidelines in accordance with industry best practices. These guidelines help practitioners to effectively optimize the use of taxpayer investment and improve realized efficiency outcomes for low-income Americans participating in WAP. While focused on WAP constituents, GHEP use has the potential to improve weatherization outcomes across efficiency programs. The Guidelines project includes:

- [Standard Work Specifications for Home Energy Upgrades](#)
- [Home Energy Professional Certifications](#)
- [Accreditation of Energy Efficiency Training Programs](#)

Standard Work Specifications for Home Energy Upgrades

The [Standard Work Specifications \(SWS\)](#) are a free online tool and industry guide that defines the minimum acceptable outcomes for home energy upgrades installed on single-family, multifamily, and manufactured housing. These specifications provide objective-based outcomes for energy efficiency measures installed by the home performance industry.



Use the Standard Work Specifications (SWS) tool as an industry guide to ensure work performed during home energy upgrades is effective, durable, and safe.



Maintenance Cycle Status

- Year 1 Stakeholders are encouraged to provide comments on the Redline version.
- Year 2 **Deadline:** Sept. 30, 2024
- Year 3 **Learn More:**
- Year 4 [How SWS are maintained](#)
- Year 5

SWS address a complete set of energy efficiency measures that comprise a whole house energy upgrade, including air sealing, ventilation, insulation, and more. SWS provide the Program with a consistent definition of work quality by increasing the standardization of installation and technical monitoring outcomes across the industry.

By developing industry-approved installation specifications which define quality work, the SWS establishes residential energy upgrades as a national industry and provides a common benchmark against which consumers, financiers, and policymakers can measure performance of home energy-efficiency professionals.

Home Energy Professional Certifications

The [Home Energy Professional \(HEP\) certifications](#) validate a worker's capability to perform their specific job tasks effectively and consistently. The HEP certifications — funded by DOE, developed by National Renewable Energy Laboratory (NREL) and administered by [International Standards Organization \(ISO\)](#) accredited certifying organizations — are intended to complement one another and provide a career path in the home energy upgrade industry.

These advanced certifications are job-specific and require a trained and experienced professional to demonstrate the comprehensive knowledge, skills, and abilities to be successful in a specific role. Candidates must have job experience as a prerequisite in addition to passing both a written and practical exam.

Accreditation of Energy Efficiency Training Programs

High-quality weatherization requires well-trained workers. Although Grantees and Subgrantees can receive excellent, [Specific Training](#) from many different providers, only accredited training programs can provide the [Comprehensive Training](#) required to become a HEP. Comprehensive training must be administered by, or in cooperation with, a training program that is accredited by a DOE-accepted credentialing body for the [Job Task Analyses \(JTA\)](#) being taught.

Currently, the only DOE-accepted credentialing body is the [Interstate Renewable Energy Council \(IREC\)](#). DOE, working with NREL and industry subject matter experts, developed the JTA to set a foundation for accredited training curricula development and execution. The JTA catalogs the Knowledge, Skills, and Abilities (KSA) that a practitioner needs to perform a given job effectively and safely.

The JTA are used by training providers to develop coursework that can be verified and accredited by a third-party organization. Verifying and accrediting training programs based on the JTA ensures that consistent and high-quality training programs are now available across the country (Table 2).



Table 2: Current IREC Accredited Training Centers by HEP Designation

NAME	LOCATION	RETROFIT INSTALLER TECHNICIAN	CREW LEADER	ENERGY AUDITOR	QUALITY CONTROL INSPECTOR
Association for Energy Affordability, Inc. (AEA)	Bronx, NY	✓	✓	✓	✓
Building Performance Center	Bellingham, WA		✓	✓	✓
Community Housing Partners (CHP) Energy Solutions, LLC	Christiansburg, VA	✓	✓	✓	✓
CivicWorks, Inc.	Baltimore, MD	✓			
Clean Energy Center at Penn College	Williamsport, PA	✓	✓	✓	✓
Coalition for Ohio Appalachian Development (COAD) Ohio Weatherization Training Center	Athens, OH	✓	✓	✓	✓
Energy Coordinating Agency of Philadelphia, Inc.	Philadelphia, PA	✓		✓	✓
Everblue	Davidson, NC			✓	✓
FSL Southwest Building Science Training Center	Phoenix, AZ	✓	✓	✓	✓
Indiana Community Action Association (INCAA)	Indianapolis, IN	✓	✓	✓	✓
Indoor Climate Research & Training, University of IL	Champaign, IL			✓	✓
Montana Weatherization Training Center	Bozeman, MT	✓	✓	✓	✓
MiTEC Training and Education Center	Lansing, MI		✓	✓	✓
New York State Weatherization Directors Association (NYSWDA)	East Syracuse, NY			✓	✓
Oklahoma Weatherization Training Center	Edmond, OK	✓	✓	✓	✓
Oregon Training Institute	Salem, OR			✓	
Residential Energy Efficiency - Training Initiatives	Frankfort, KY	✓	✓	✓	✓
Richard Heath and Associates (RHA) Inc.	Chico, CA			✓	✓
Santa Fe Community College	Sante Fe, NM	✓	✓	✓	✓
Slipstream, Inc.	Madison, WI	✓	✓	✓	✓
South Middlesex Opportunity Council (SMOC)/ Green Jobs Academy	Marlboro, MA	✓	✓	✓	✓
State of Utah	Clearfield, UT	✓	✓	✓	✓

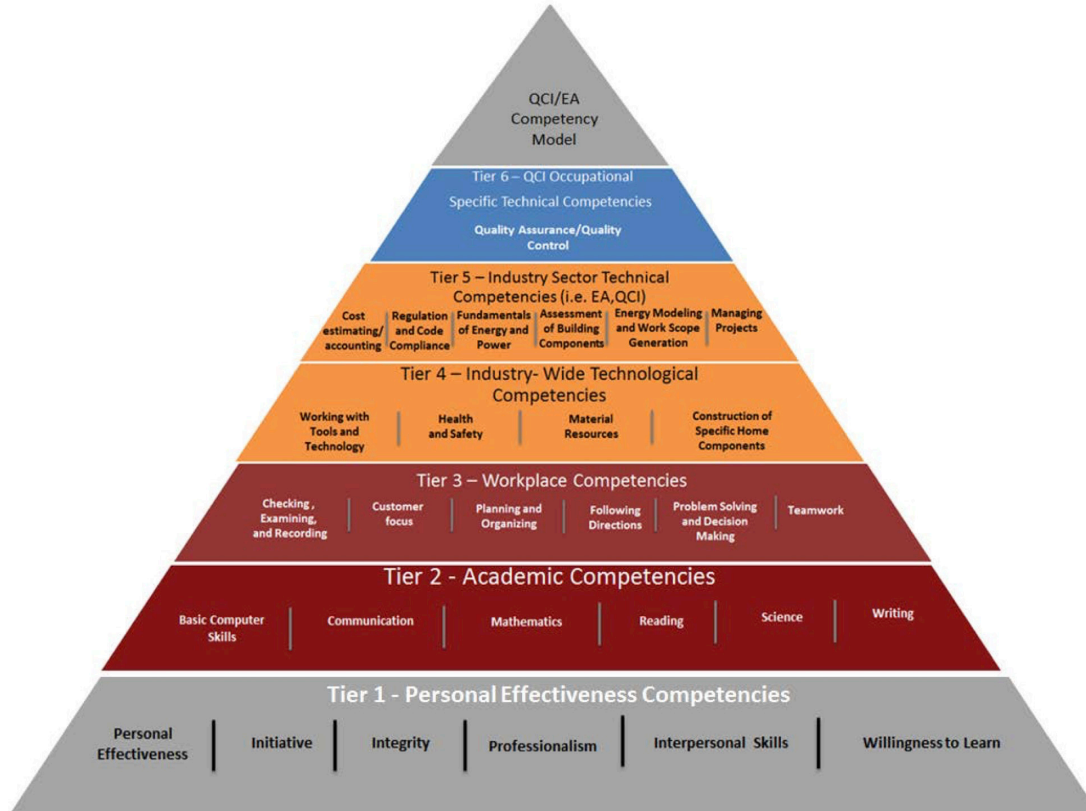
Competency Models

In 2018, DOE collected feedback from the WAP network and home performance industry on the successes and barriers to implementing the Quality Control Inspector (QCI) certification program. The most frequently cited barriers were regarding the QCI JTA, a certification which requires Energy Auditor (EA) certification as a prerequisite. The large range of competencies, required soft skills, and undefined competency levels made it difficult for Weatherization Training Centers (WTC) to develop a curriculum and for the exam developers to create questions that assessed skills adequately.

To assist in the identification of soft skills, foundational competencies, and to define the levels of KSA required to successfully perform the tasks defined in the QCI and EA JTA, DOE developed a QCI and EA Competency Model, drawing from the Department of Labor's (DOL) Competency Model Clearinghouse and aligning with the "Residential Construction Competency Model" and the "Advanced Commercial Building Competency Model" where appropriate.

A competency model is a collection of competencies that together define successful performance in a particular work setting. An illustration of the QCI and EA Competency Model is shown here (Figure 5).

Figure 5: QCI and EA Competency Model



Installer Badges Toolkit

The [Installer Badges Toolkit](#) provides a flexible, customizable, and voluntary approach to training and skills recognition for WAP implementers, utility programs, private-sector workers, and contractors.

In 2018, DOE, along with the Crew Leader scheme committee, determined the Retrofit Installer Technician (RIT) JTA could be eliminated, and its tasks inserted in the Crew Leader JTA. The RIT job tasks became the basis of the Installer Badges.

Currently, there are 25 badges, each representing a different energy efficiency task that an installer could perform on a home. Each badge defines the desired outcome, criteria to verify, applicable material requirements, and references to SWS or other relevant standards.

The badges provide a consistent approach to training by ensuring installers in different regions are learning the same skills nationwide. Organizations can also customize their Badges Program by choosing only those badges that are relevant to their needs.

Weatherization Job Aids

[Weatherization Job Aids](#) are step-by-step visual guides created to assist HEP with effective, durable, and safe energy efficiency upgrades. Job Aids are organized by measures found in single-family and manufactured homes, outlining the individual steps for each job an installer may encounter in attics, subspaces, main floors and more. The Job Aids align closely with the Badges Program, permitting training providers to modularize the training experience, allowing students to learn, and be evaluated in both the field and the classroom.



Quality Work Plan

The [Quality Work Plan \(QWP\)](#) defines what is required when federal dollars are used to perform weatherization services and leverages the resources developed through the GHEP project. The QWP was created to ensure the WAP network has a common set of expectations for the quality of work and training across the program. The goals of the QWP include:

- Standardize expectations at all levels of monitoring.
- Define and encourage high quality training.
- Standardize inspection methods.
- Set national standards for work quality.
- Encourage the use of portable and nationally recognized credentials for weatherization workers.

This QWP defines how home energy upgrade work should be done and provides a prescription for communication, training, and inspection of work throughout the WAP network.

Effective Management | Quality Management Plan

DOE works to effectively manage the administrative, programmatic, and technical aspects of weatherization. As such, identifying the KSAs necessary to perform the role of a Grantee or Subgrantee are crucial.

One aspect of effective management is keeping consistent records. [10 CFR 440.24](#) requires, among other specific recordkeeping requirements, Grantees and Subgrantees administering WAP keep records for an effective audit and performance evaluation.

DOE developed a framework to assist Grantees and Subgrantees in keeping records consistently and providing access to the documentation supporting a weatherized unit.

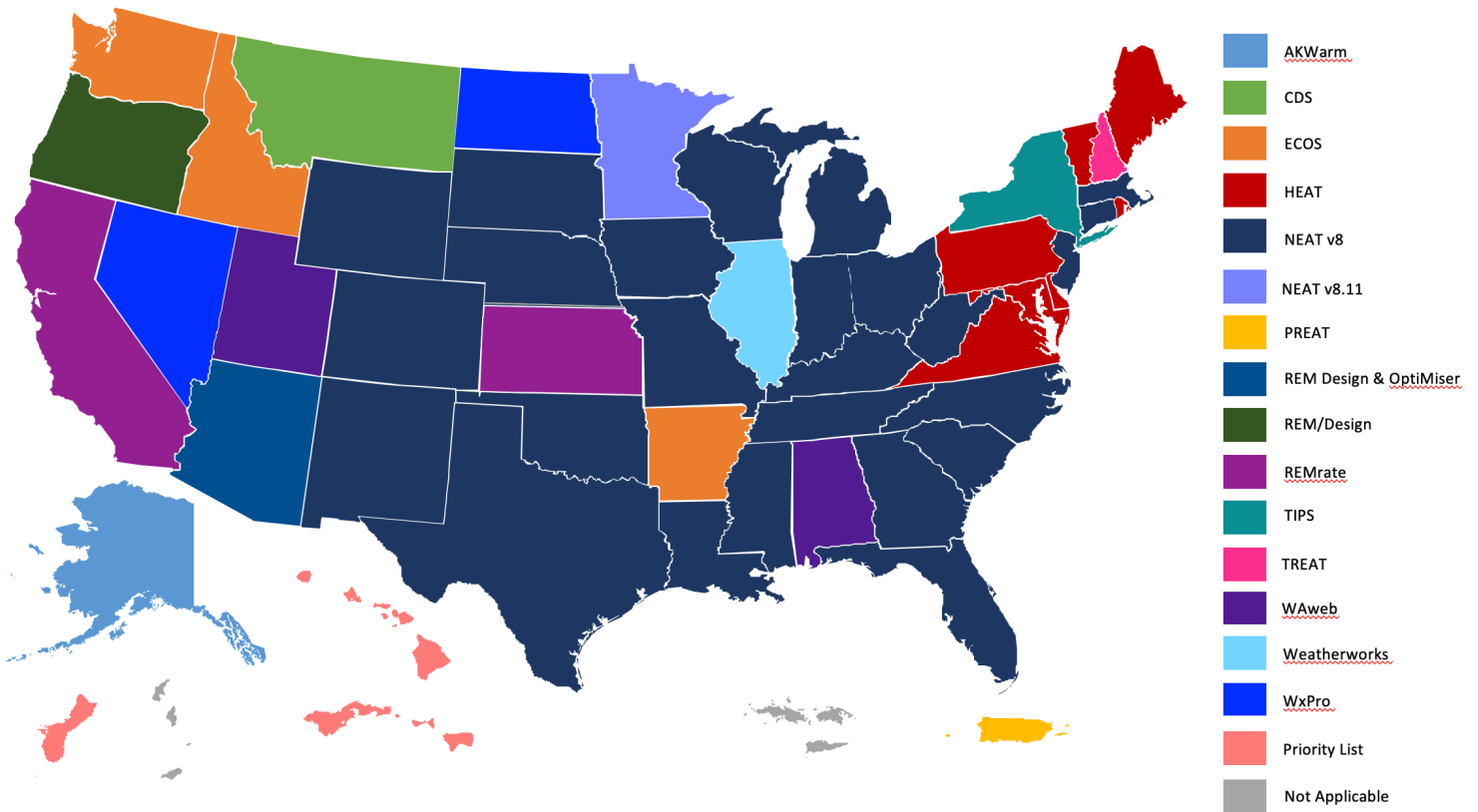
Grantees and Subgrantees continue to execute DOE's expectation of high-quality management and proper documentation of weatherization resources by demonstrating:

- Program rules are followed (e.g., eligibility requirements are being followed).
- Appropriate cost-effective measures are being installed (e.g., energy audit results are consistent with the work order generated and the invoice costs are consistent with those estimated in the audit).
- Health and Safety issues are treated according to program guidance (e.g., Certified Renovator is assigned to lead-paint jobs).
- Inspections occur as required (e.g., 100% of the units are inspected and the post-inspection checklist includes the inspection of the audit assessment).

Procurement Resources

To assist Grantees on financial and administration compliance, DOE released [Memorandum 115: Weatherization Procurement Resources](#) in September 2023. The purpose of the Procurement Resources is to provide examples, for illustrative purposes only, of documents that can be used in purchasing services and/or materials, such as a step-by-step to procurement checklist, Request for Quotation template, and specification examples.

Figure 6: Energy Audit Tools by Grantee, for Single Family Housing Stock



Energy Audits Procedures

DOE requires all WAP Grantees to utilize computerized energy audits specific for single-family, manufactured, and multifamily dwellings to determine the most cost-effective energy conservation measures (ECM) to install. Per [10 CFR 440.21\(i\)](#) and [Weatherization Program Notice 23-6: Revised Energy Audit Approval Procedures, Related Audit and Material Approvals Including Fuel-Switching and Solar PV](#), WAP Grantees are required to obtain approval for their energy audit tools and priority lists **every five years**.

Grantees are permitted to develop their own energy audit software or purchase commercially available software provided that DOE has reviewed and approved the software as compliant with Program rules. In addition, DOE sponsored the development of the Weatherization Assistant Suite of energy audit tools, which includes the National Energy Audit Tool (NEAT), Manufactured Housing Energy Audit (MHEA), Multifamily Tool for Energy Audits (MulTEA), as well as the Health and Safety Audit to provide Grantees with access to a computerized tool to select cost-effective measures for all common housing stock. **Figure 6** identifies which energy audit tool or priority list each state or territory is currently approved to use for single family housing stock (as of October 2023).

Workforce Development

With the addition of the BIL funding, DOE anticipates significant opportunities in attracting, training, and retaining new employees and contractors to WAP. BIL funds provide an opportunity to diversify a high-quality and well-trained WAP workforce.

Grantees are encouraged to attract, retain, or develop a local workforce needed to enable their project goals. This will include partners, unions, community colleges, potential supportive services, and use of [Department of Labor Registered Apprenticeships](#) or other joint, labor-management partnerships training programs, or other high quality training models. Grantee T&TA plans must ensure WAP workers receive comprehensive training on a regular basis, as defined by the Grantee, for the position in which the worker is employed.

DOE will continue to develop resources to address additional barriers and improve ability to increase workforce expansion and diversity. Further, DOE encourages Grantees to braid funds in on-going operations and maintenance, and to increase deployment of additional technologies, workforce expansion, and project construction.

The barriers faced in WAP are complex and the solutions even more so, but DOE is committed to improving program implementation at all levels. Given the project's success in 2019, DOE has worked with NREL to offer additional Continuous Improvement Workshops (currently two to three events each year). These are often virtual events and require admission through an NREL application process.