



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.

Each year, Congress provides the U.S Department of Energy (DOE) with appropriated funds for national Training and Technical Assistance (T&TA) activities that benefit all Grantees and Subgrantees.

Grantees are encouraged to provide training and technical assistance to staff and contractors at both the Grantee and Subgrantee level. DOE allows up to 20 percent of a Grantee's total funding to be reserved for these activities. Training and Technical Assistance funds support the program's operations by:

- Conducting trainings and developing training curricula.
- Conducting analyses.
- Measuring and documenting program performance.
- Investing in the development of tools and resources.
- Monitoring the state and local agency programs.
- Promoting the application of advanced techniques and collaborative strategies to further improve program effectiveness.

In addition to the 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.

WEATHERIZATION BY THE NUMBERS

There are over

1,500

credentialed Quality
Control Inspectors (QCI)
in the WAP Network.

Guidelines for Home Energy Professionals

The Guidelines for Home Energy Professionals 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. The Guidelines project includes:

- The Standard Work Specifications for Home Energy Upgrades
- Accreditation of Energy Efficiency Training Programs
- Home Energy Professional Certifications

Standard Work Specifications for Home Energy Upgrades

The [Standard Work Specifications \(SWS\)](#) for single-family, manufactured, and multifamily housing describe the minimum acceptable outcomes for weatherization or home performance upgrades — effective, durable, and safe energy-efficient improvements for the specific housing type.

The SWS provides **one universal resource** for all individuals working in the field including trainers and training coordinators, energy auditors, quality control inspectors, home inspectors, crew leaders, and energy efficiency program administrators (Figure 7).

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

Figure 7: Standard Work Specifications Website

The screenshot shows the website interface for Standard Work Specifications. At the top, there is a navigation bar with tabs for: Health & Safety, Air Sealing, Insulation, Heating & Cooling, Ventilation, and Baseload. The main content area features a large header with the title "Standard Work Specifications for Home Energy Upgrades" and a sub-header "Intro". Below the header, there is a text block explaining that SWS are a major component of the Guidelines and define minimum requirements for effective, durable, and safe work. To the right of this text are two callout boxes: "Intro" (with a book icon) and "Maintenance" (with a wrench icon). Below the main content area, there are three sidebar boxes: "Guidelines for Home Energy Professionals Project Resources" with links for "Find Accredited Training", "Get Certified", and "Meet the Quality Work Plan Requirements"; "News & Updates" with a "2016 SWS Maintenance Update" dated October 11, 2016, and a "Call for Applications: Quality Control Inspector Practitioners and Experts" dated February 17, 2016; and "How To Video" featuring a video titled "How to use the Standard Work Specifications (SWS) Online Tool" from INREL.

Accreditation of Energy Efficiency Training Programs

High-quality work requires well-trained workers. Accredited training programs ensure that individuals receive the proper training to become certified Home Energy Professionals and to do the quality work that is defined in the Standard Work Specifications. The difference between **certification** and **accreditation** is an individual gets certified and training providers get accredited.

DOE and the National Renewable Energy Laboratory (NREL) developed **Job Task Analyses (JTAs)** to set a foundation for then accredited training curricula development and execution. The JTAs catalogue the **Knowledge, Skills, and Abilities (KSAs)** that a practitioner needs in order to perform a given job effectively and safely. *The JTAs define what a home energy professional needs to know in order to do the job correctly.*

The JTAs 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 these JTAs ensures that consistent and high quality training programs are now available across the country (see Table 1).

Home Energy Professional Certifications

The **Home Energy Professional (HEP) certifications** validate a worker's capacity to demonstrate concrete and consistent abilities to perform their specified position. These advanced certifications are job-oriented and require a fully trained and experienced professional to demonstrate the comprehensive knowledge, skills, and abilities to be successful in a specific role. Candidates must have upfront job experience as a prerequisite in addition to passing both a written and practical exam.

The Home Energy Professional certifications — funded by DOE, developed by NREL and administered by **International Standards Organization (ISO)** accredited certifying organizations — are intended to complement one another and provide a career lattice in the home energy upgrade industry.

Table 1: Current IREC Accredited Training Centers by HEP Designation

NAME	LOCATION	RETROFIT INSTALLER TECHNICIAN	ENERGY AUDITOR	CREW LEADER	QUALITY CONTROL INSPECTOR
Association for Energy Affordability, Inc. (AEA)	Bronx, NY	✓	✓	✓	✓
Building Performance Center	Bellingham, WA		✓		✓
CHP Energy Solutions, LLC	Christiansburg, VA	✓	✓	✓	✓
COAD Ohio Weatherization Training Center	Athens, OH	✓	✓	✓	✓
Contractors-Laborers Training Fund	Omaha, NE	✓		✓	
Energy Coordinating Agency of Philadelphia, Inc.	Philadelphia, PA	✓	✓		✓
Everblue	Huntersville, 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	✓	✓	✓	✓
National Sustainable Structures Center	Williamsport, PA	✓	✓	✓	✓
New York State Weatherization Directors Association (NYSWDA)	Guilderland, NY		✓	✓	✓
Oklahoma Weatherization Training Center	Edmond, OK	✓	✓	✓	✓
Oregon Training Institute	Salem, OR		✓		✓
Residential Energy Efficiency - Training Initiatives	Frankfort, KY	✓	✓	✓	✓
Santa Fe Community College	Sante Fe, NM	✓	✓	✓	✓
Southface Energy Institute	Atlanta, GA	✓	✓	✓	✓
SMOC/Green Jobs Academy	Framingham, MA	✓	✓	✓	✓
State of Utah	Clearfield, UT				✓
Wisconsin Energy Conservation Corporation	Madison, WI	✓	✓	✓	✓

Standardized Training Curricula

In September 2009, DOE launched development of a standardized training curricula for the Weatherization Network to use and adapt to meet its specific regional or local training needs.

The Weatherization curriculum contains multiple modules covering many fundamental Weatherization topics. It is editable, flexible and offers an experienced instructor a baseline of core content upon which to build robust and compelling coursework. The Standardized Curriculum is aligned with the JTAs and provides a solid foundation for accreditation.

Each curricula module contains multiple chapters with PowerPoint presentations, speaker notes, prop schematics and hands-on props where applicable, lesson plans, quizzes, additional resources, a glossary of key terminology, and either a sample course schedule or a master bibliography and instructions.

Quality Work Plan

The [Quality Work Plan \(QWP\)](#) defines what is required when federal dollars are used to purchase weatherization services and leverages the resources developed through the Guidelines for Home Energy Professionals project. The QWP was created to ensure the Weatherization Network has a common set of expectations for the quality of work and training across the program. Among the goals of the QWP are:

- Consistent expectations at all levels of monitoring.
- Highlight the value of experienced crews.
- Define and encourage high quality training.
- Create consistency in inspection methods.
- Set national standards for work quality.
- Encourage the use of portable and nationally recognized credentials for Weatherization workers.

This QWP not only defines how home energy upgrade work should be done, but it also provides a prescription for communication, training, and the inspection of work throughout the Weatherization Network.

Effective Management | Quality Management Plan

DOE believes in effectively managing the administrative, programmatic, and technical aspects of Weatherization. As such, identifying the Knowledge, Skills, and Abilities (KSAs) necessary to carry out various tasks related to performing the role of a Grantee and Subgrantee are very important. One aspect of effective management is keeping consistent records. [10 CFR 440.24](#) requires, among other specific recordkeeping requirements, Grantees and Subgrantees administering Weatherization keep records for an effective audit and performance evaluation.

In recent years, state and federal monitoring and oversight led DOE to develop a framework to assist Grantees and Subgrantees in how to keep records consistently and how to provide 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 being followed (e.g., eligibility requirements are being followed).
- Appropriate cost effective measures are being installed (e.g., 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 guidance (e.g., Certified Renovator is assigned to lead-paint jobs).
- Inspections are occurring as required (e.g., 100% of the units are inspected and the post-inspection checklist includes the inspection of the audit assessment).

Financial Management | Procurement Toolkit

In recent years, DOE increased the focus on financial management during onsite monitoring visits as a result of Investigator General (IG) reports that identified questionable costs charged to the DOE grants.

To assist Grantees to financial and administration compliance, DOE developed the [Weatherization Financial Toolkit](#). The Toolkit serves as a universal training curriculum to educate weatherization professionals on how to comply with financial regulations governing the Program. The Toolkit is comprised of two sections - Program Regulations and Procurement. Each section contains trainer and participant materials and resources to make it simple for Grantees to provide comprehensive training to their network.

The latest update to the Toolkit reflects the changes from December 26, 2014, wherein the DOE Financial Assistance regulations contained in 10 CFR 600 were superseded by the Financial Assistance regulations contained in [2 CFR 200](#) (with DOE regulations specific to for-profit organizations codified in [2 CFR 910](#)).

Energy Audits Procedures

Regulations published on December 8, 2000, changed the energy audit requirements for Weatherization and established a single audit criterion (*what was formerly referred to as the waiver audit*) as the minimum for energy audits used. To ensure Grantees adopt advanced energy audit procedures of sufficient technical rigor, Grantees must submit their energy audit systems and procedures to DOE for approval **every five years**.

DOE follows an energy audit review process (see Figure 9) to review the energy calculations used by software, as well as the auditing, testing, and installation standards used in the field as well as health and safety protocols.

DOE also sponsored the development of the **National Energy Audit Tool (NEAT)** so that all Grantees would have access to a computerized tool to help select cost-effective measures for single-family houses. However, Grantees are permitted to develop their own software or purchase commercially available software provided that DOE has reviewed and approved the software complies with program

Figure 8: Weatherization Assistance Program - Approved Energy Audit Tools (November 2019)

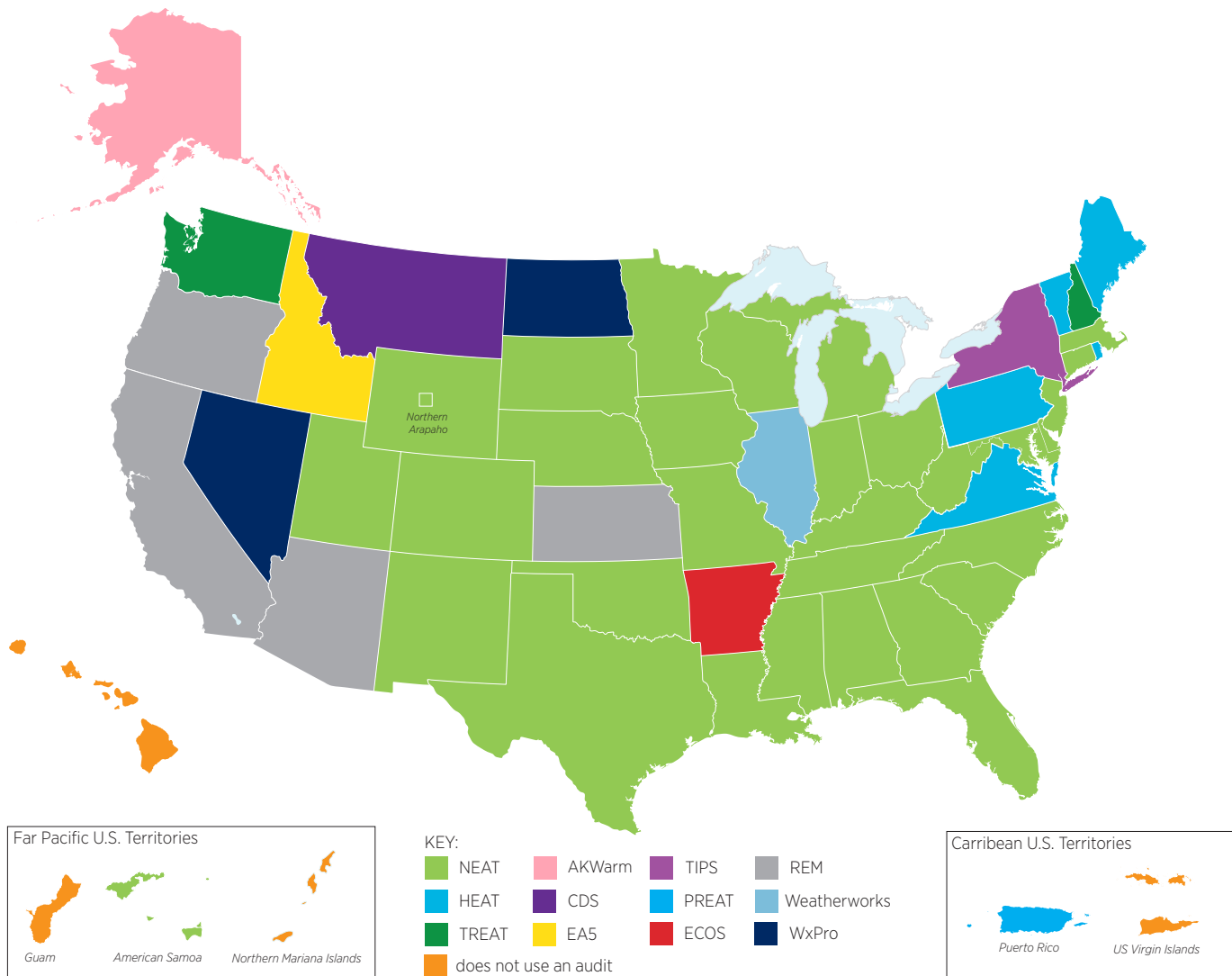


Figure 8: Weatherization's Energy Audit Review Process

