

Weatherization Assistance Program Update



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Weatherization Assistance Program

**Weatherization Plus Health
Regional Conference
San Diego, CA
November 16-18**

The Weatherization Assistance Program: Defining Quality

30 years of innovation in building science, retrofit technology and workforce training.

This foundation and what we built during the Recovery Act is a why we need to ***continue to invest*** in this program.

- 25,000 people employed
- Best trained workforce in the field
- Guidelines efforts to help them transition into other areas
 - Ex: qualified auditor and QC inspector jobs that can be replicated in the greater construction industry

- Consistent funding gives the WAP the ability to take on long term projects and partnerships that support the entire industry.
 - Audit Tools
 - Lab Research
 - Building Science Case Studies
 - Training Network
 - Coordination with Federal agencies: HUD, EPA, USDA
- Leveraging
 - WAP has always been the catalyst. The consistent source of resources that allows other opportunities to grow

Guidelines for Home Energy Professionals: Putting Experience on Paper

This project leverages all of the WAP's experience and leadership to create a set of tools to benefit the entire Home Performance Industry

- Building Science Experts
- Home Performance Training Specialists
- Industry Partners
- National Laboratories

EPA's Healthy Indoor Environment Protocols for Home Energy Upgrades

Guidelines for Home Energy Professionals: SWS for Multifamily Buildings

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



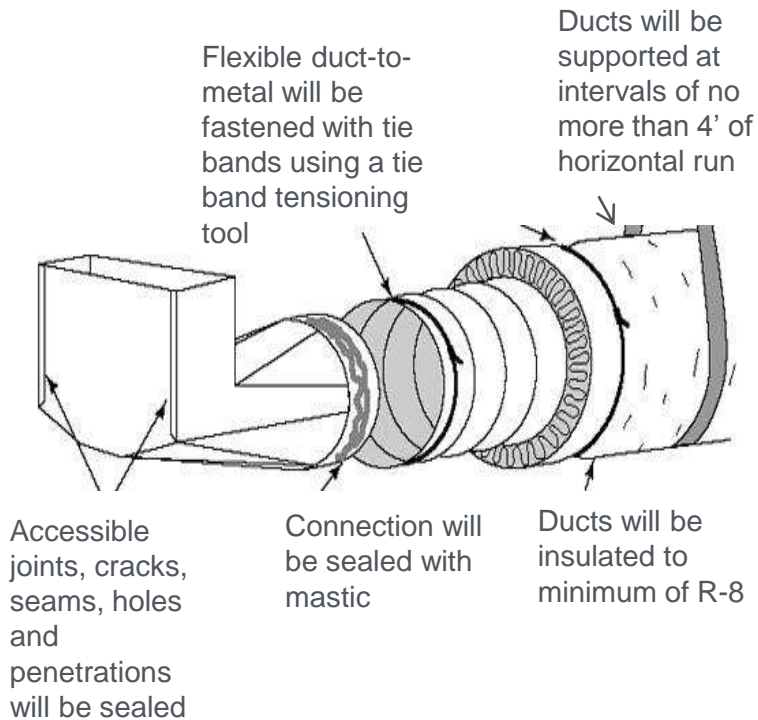
Development Event

September 15th Chapel Hill, NC



QUALITY WORK

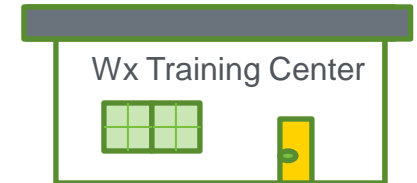
Standard Work Specifications



Reference Technical Standards

QUALIFIED WORKFORCE

Accreditation of Training Programs



Certification of Workers



Knowledge,
Skills, Abilities

Job Task
Analysis

Standard Work Specifications

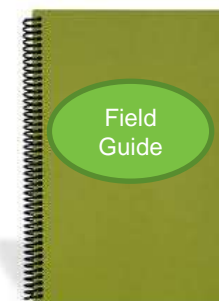
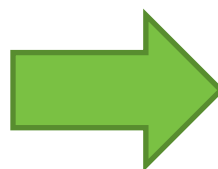
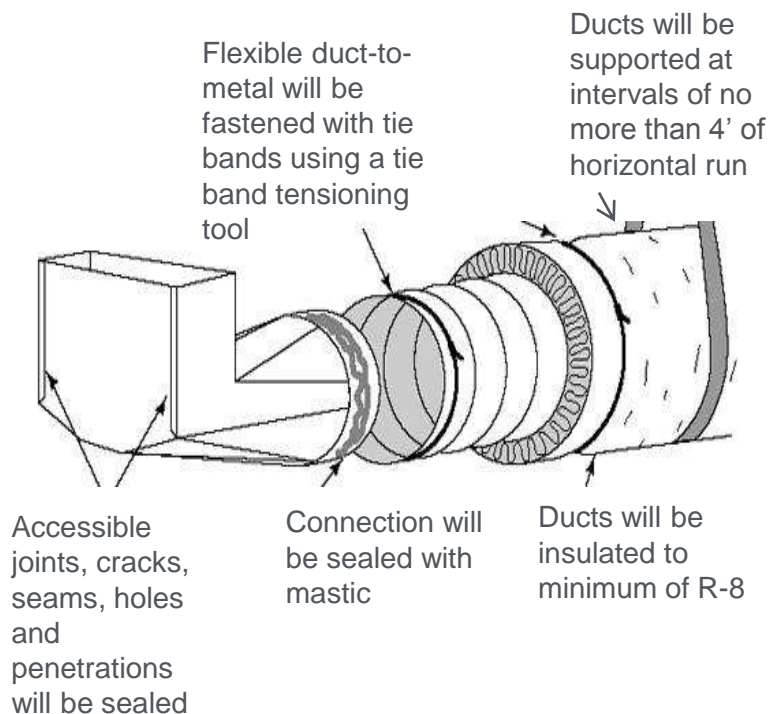
Define the minimum requirements for high-quality work and the conditions necessary to achieve the desired outcomes of a given energy efficiency retrofit measure

Topic: Attic Subtopic: Knee Walls 12) Detail Name: Preparation for Batt Insulation Desired Outcome: • Airtight cavity and properly insulated knee wall			
Row	Title	Specification(s)	Objective(s)
1	Knee wall prep for batts	All knee walls will have a top and bottom plate or blockers installed using a rigid material All joints, cracks and penetrations will be sealed in finished material including interior surface to framing connections	Eliminate or move results Prevent air leakage through the top or bottom of the knee wall ³³
2	Installation	Insulation will be installed using one of the following methods: New batts will be installed All existing batted insulation will be adjusted to ensure it is in full contact with the interior cladding and top and bottom plates	Eliminate misalignment of existing insulation
3	Backing knee wall	If rigid material is used, material will be installed to cover 100% of the surface of the knee wall If foam sheathing is used, sheathing will be listed for uncovered use in an attic, or covered with a fire barrier	Prevent insulation settling or movement

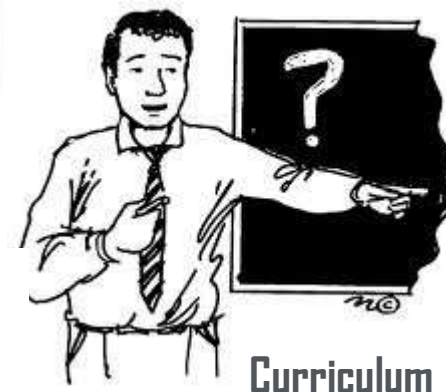
Attic Insulation Prep: Detail - Knee Wall

The SWS define the minimum standards for a quality job

They can be used to develop many important tools and resources



**Best Practices/
How-To Manuals**



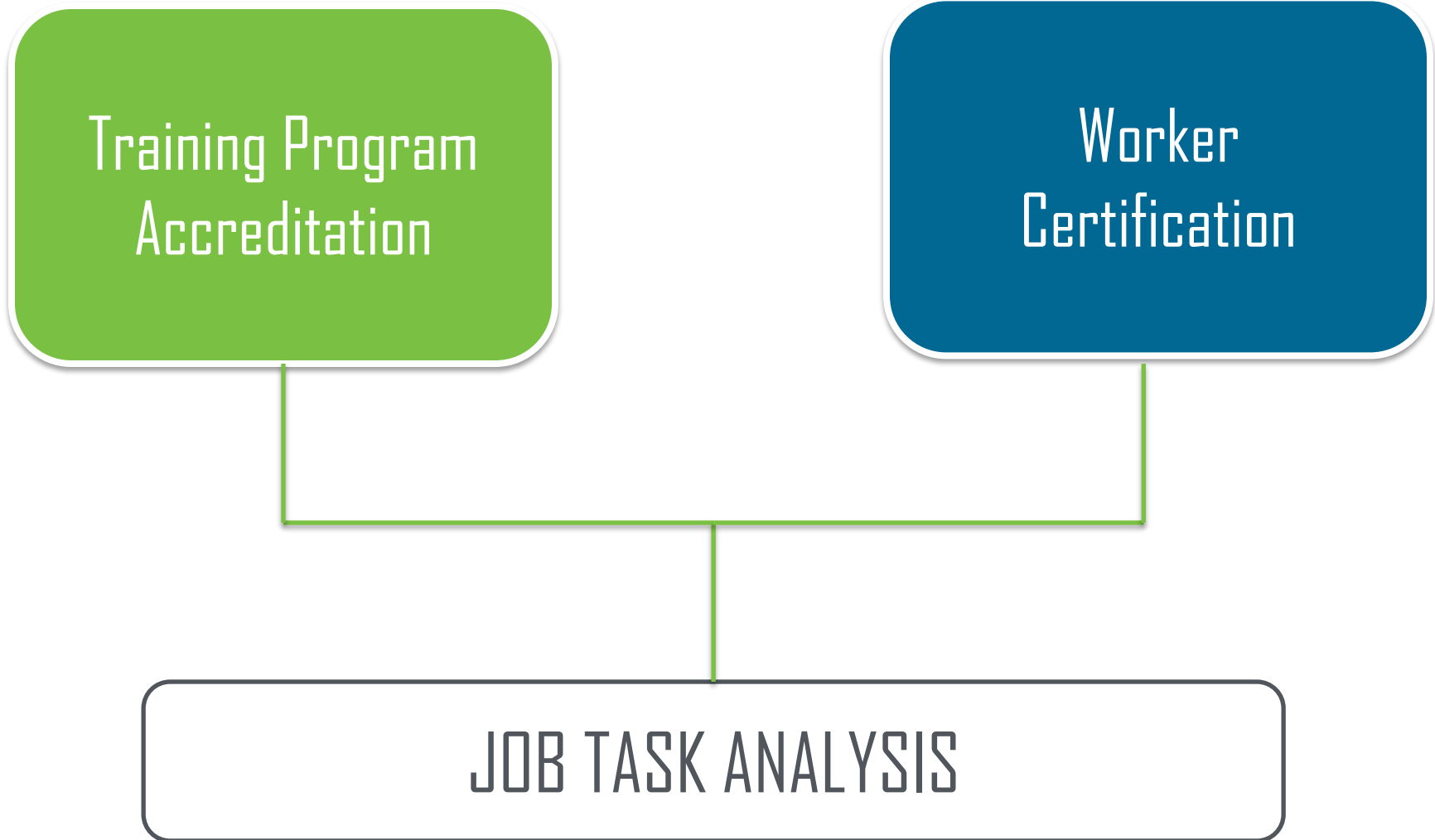
**Inspection
Standards**

**Policies and Procedures
For Work Quality**

Topic: Exhaust

Subtopic: Components

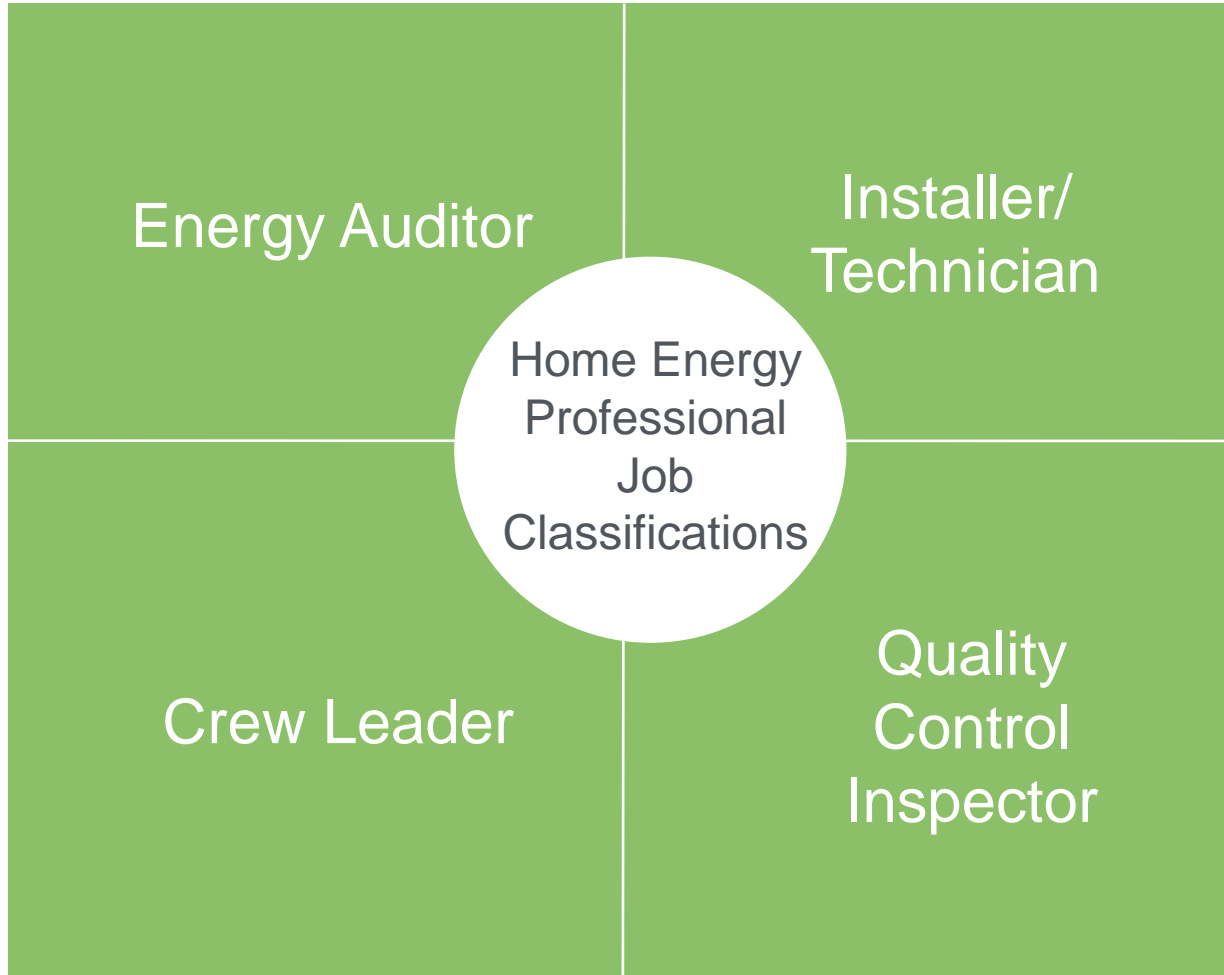
2) Detail Name: Ducts



- Identifies and inventories a job's critical tasks.
- A formal process for determining and cataloguing *what a worker does*.
- Tasks are classified as either *cognitive* (mental) or *psychomotor* (physical) skills, and as *critical*, *very important*, and *important* for job performance.
- **Examples:** set up blower door, run test in accordance with ASTM E779, record results of blower door test in diagnostic software, etc.

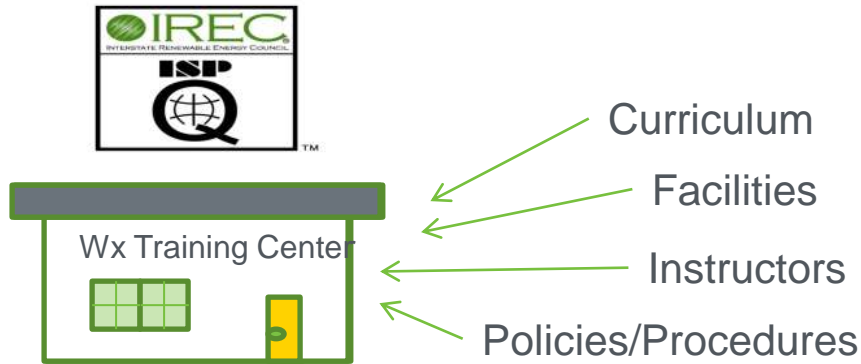


Four Home Energy Professional Job Classifications



- Identify the minimum *knowledge, skills, and abilities* that workers should possess to perform high-quality work
- Each Job Task has a corresponding set of essential KSAs
- Examples:
 - Demonstrate ability to blow insulation at appropriate air pressure and material quantity...
 - Demonstrate ability to prioritize air sealing measures to inhibit moisture migration...
 - Demonstrate knowledge of basic building science, including aligning barriers, stack effect, moisture transfer...

Accreditation vs. Certification



Given to *Organizations*
Based on the IREC ISPQ
3rd Party Administered



Knowledge,
Skills, Abilities

Job Task
Analysis

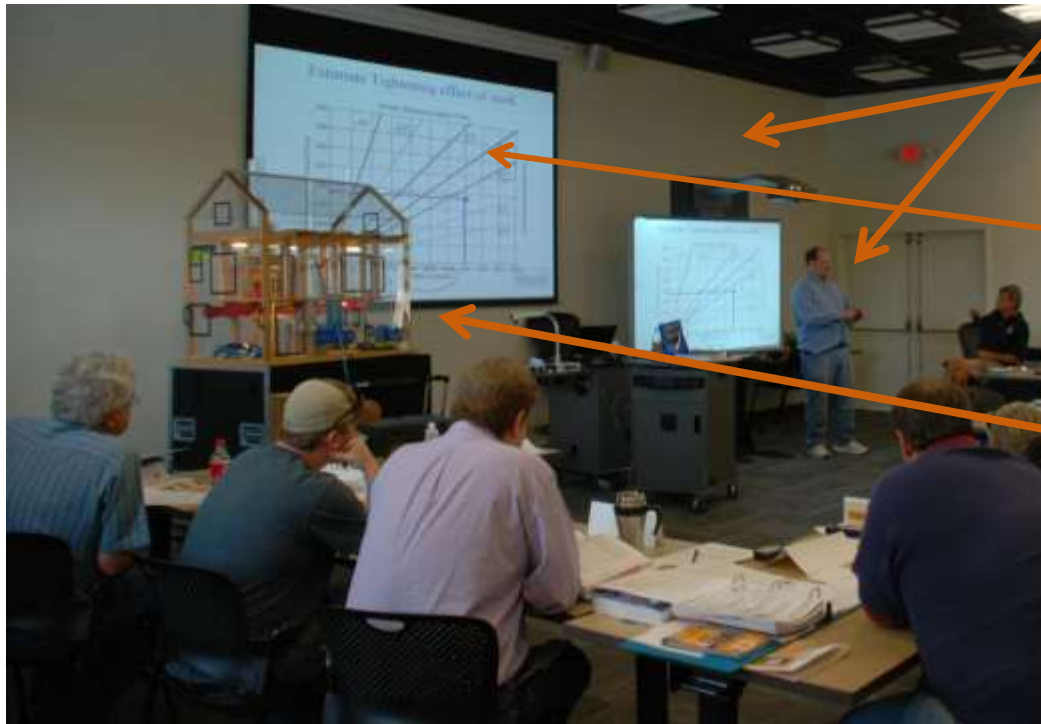
Given to *Individuals*
Based on testing, both written and
field
3rd Party Administered

Foundation

Job Task Analysis
Installer-Crew Leader-Auditor-Inspector

Foundation

Administered by the
**Interstate Renewable
Energy Council**



Qualified Instructors

High Quality Facilities

Complete Curriculum
Based on the JTA

Props/Tools

Policies and Procedures

Third- Party assessment of training provider quality

- Third-Party, Independent Certification
- Certification Framework
 - NREL Facilitated
 - Industry Developed
 - Based on the SWS/JTA
- RFP for a qualified certifying body
 - Awarded to BPI
 - Tasked to Jumpstart the process



Knowledge,
Skills, Abilities

Job Task
Analysis

Accreditation / Certification

Third Party Verification of Quality Training and Worker Competence



Job Task Analysis / KSA

Defining What a Worker Needs to Know and Do



Standard Work Specifications

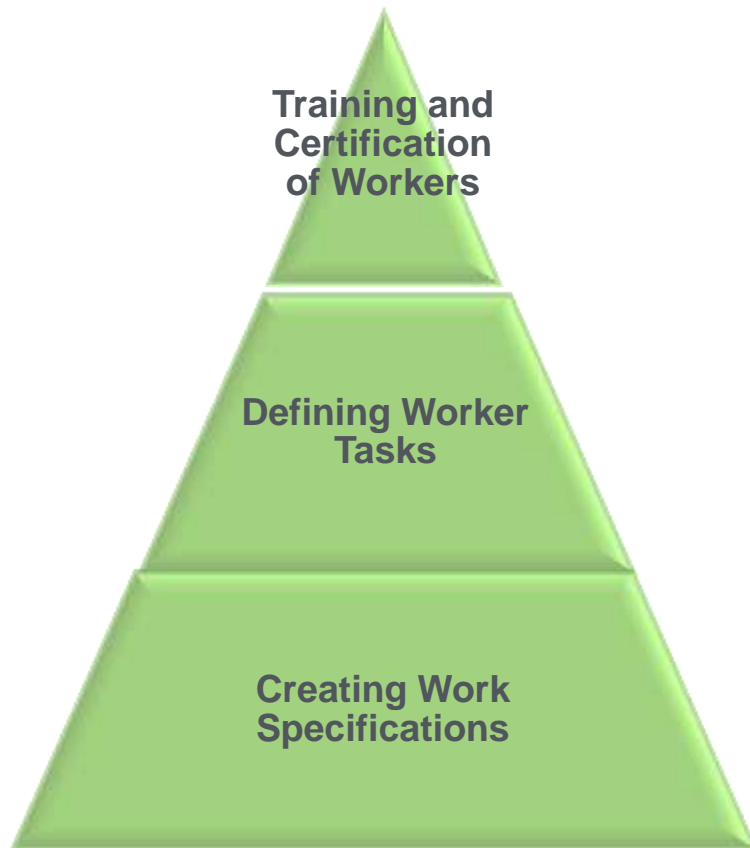
Defining Quality Work

- The WAP is the standard bearer for Home Energy Upgrades
- The Guidelines for Home Energy Professionals takes that experience and knowledge and creates a roadmap for quality based on a consistent and rigorous approach
- The Weatherization Assistance Program will maintain these resources and provide a consistent source of support and innovation into the future

Quality Work = Sustainability

- Consistency and guidelines for quality will create a stable market for the Home Performance Industry
 - Consumers and Industry Stakeholders can have confidence that there is a baseline standard for quality in the work and the workforce.
 - This confidence comes in large part from the knowledge that these guidelines are supported by a program with 30 year legacy that can provide consistent leadership in maintaining and updating these resources.

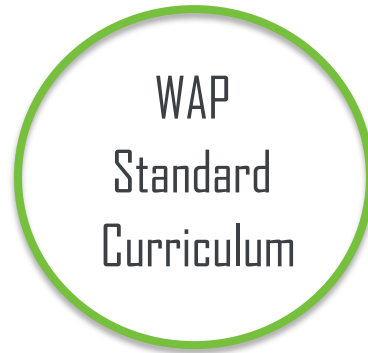
Professional Workers/ Quality Work



Market Expansion

- Multifamily
 - Energy Audit Tool
 - Standard Work Specifications
 - Weatherization Innovation Pilot Program
- Private Market Integration
 - Better Buildings
 - Building America
 - Energy Star
- Healthy Homes
 - Wx Plus Health
- Regulatory Changes
 - Grant to Loan
 - Appendix A
- National Evaluation
 - Non Energy Benefits Study

SWS: Multi Family



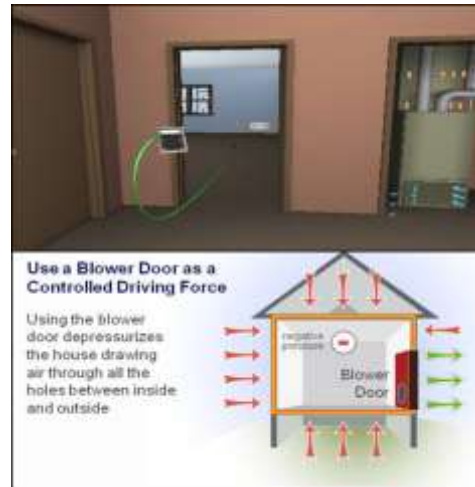
Weatherization Training Centers



SWS: Manufactured Housing



NWTP



Audit Tools



The Multifamily Audit Tool will:

- Provide energy auditors with an improved energy simulation and weatherization measure selection tool for multifamily buildings
- Expand and enhance the energy auditing capabilities of auditors in multifamily buildings
- Provide a DOE-sponsored multifamily energy audit instrument to complement the single-family (NEAT) and mobile home (MHEA) energy audits already supported by DOE under the Weatherization Assistance
- Help improve retrofit work quality and provide a foundation for quality assurance
- Assist training providers in developing better training materials
- Increase workforce mobility up career ladders and across career lattices
- Build confidence among consumers, building owners, and the energy efficiency finance community

- Designed by ORNL in collaboration with HUD & DOE
- Performs whole-house health and safety audits including:
 - Site built single family
 - Mobile homes
 - Individual multifamily units
- Comprehensive checklist to identify potential H&S issues and recommend preventative and corrective measures
- Attempts to ensure health and safety of occupant and workers during and after weatherization
- Includes all the WAP health and safety and more
- Stand-alone module with potential for future efficiency audit integration
- Demo at <http://hyperion.ornl.gov/hud>

10 Modules Completed:

- Weatherization Installer/Technician Fundamentals
- Weatherization Installer/Technician Intermediate
- Weatherization Installer – Mobile Homes
- Crew Chief
- Energy Auditor – Single Family
- Energy Auditor – Multifamily
- Technical Monitor/ Inspector
- Heating Systems for Energy Auditors – Single Family
- Multifamily – HVAC
- Train the Trainer

In Development:

- Weatherization Program Manager

Available for Download at:

<http://www.waptac.org/Training-Tools/WAP-Standardized-Curricula.aspx>

Priority Areas:

- ASHRAE
- OSHA
- Mold & Moisture
- Asbestos
- Radon
- Lead Based Paint
- Replacements
- Codes & Structures
- Combustion Safety & Heating Systems
- Occupant Wellness

H&S Two Part Webinar:

- WPN 11-6 Health & Safety Guidance

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