# Introduction to Weatherization

# Weatherization Energy Auditor Single Family

Learning Objectives

By attending this session, participants will be able to:

* Discuss the historical perspective of the Weatherization Assistance Program.
* Name characteristics of the client base served by the program.
* Recognize that building science guides the selection of measures installed with program dollars.
* Describe the principles of cost-effectiveness and the savings-to-investment ratio.
* Recognize modern weatherization measures.
* Cite communication guidelines for working with clients.
* Describe how energy audits guide weatherization work.

Key Terminology

Air-handling unit (AHU)

American Recovery and Reinvestment Act (ARRA)

Base load

Community Action Programs (CAP)

Decommission

Energy burden

Energy Information Administration (EIA)

Health and safety (H&S)

Incidental repair

Indoor air quality (IAQ)

Lead-safe weatherization (LSW)

Present value

Savings-to-investment ratio (SIR)

Mildew

Mold

Training and Technical Assistance (T&TA)

U.S. Department of Energy (DOE)

U.S. Department of Housing and Urban Development (HUD)

Weatherization Assistance Program (WAP)

Supplemental Materials

Handouts & Resources

2009 Weatherization Works Video.

“Auditing: The Challenge of the Site Visit.” WxTV. Montana Weatherization Training Center. <www.wxtvonline.org>.

Beegle, Dr. Donna M. “Breaking Barriers: Concrete Communication Tools for Working with People in Poverty.” <www.nhchc.org>.

Brown, Marilyn, and Linda Berry. “Weatherization Assistance: The Single Family Study.” *Home Energy* Sept./Oct. 1993. <www.homeenergy.org>.

“Consumer Education Series: Lighting 101.” *WxTV*. Montana Weatherization Training Center. <www.wxtvonline.org>.

Haywood, Talmon. “More Than Just Patching Holes.” *Home Energy* Mar./Apr. 2002. <www.homeenergy.org>.

Introduction to Weatherization Quiz.

Introduction to Weatherization Quiz Answer Key.

Khawaja, M. Sami and Patricia Koss. “Building Better Weatherization Programs.” Home Energy Mar./Apr. 2007. <www.homeenergy.org>.

Kurnick, Chuck and Cynthia Woodley. “NREL Job Task Analysis: Energy Auditor.” May 2011. <www.nrel.gov>.

Lawrence National Laboratory Estimated Energy Usage by Source chart

Mehrabian, Albert, and Ferris, Susan R. “Inference of Attitudes from Nonverbal Communication in Two Channels.” Journal of Consulting Psychology 31.3 (1067): 248-258.

“This is the World of Weatherization.” *WxTV*. Montana Weatherization Training Center. <www.wxtvonline.org>.

Virginia Program Evaluation Summary.

“Weatherization in a Hot and Arid Climate.” WxTV. Montana Weatherization Training Center. <www.wxtvonline.org>.

“Weatherization in the Navajo Nation.” WxTV. Montana Weatherization Training Center. <www.wxtvonline.org>.

“Weatherization in the Pacific Islands.” WxTV. Montana Weatherization Training Center. <www.wxtvonline.org>.

**Relevant Standard Work Specifications**

5.3003.7 – Equipment Maintenance, Testing and Repair, Occupant Education

Class Overview

* After introductions and general “housekeeping,” (e.g., explaining about breaks, where the bathrooms are, etc.) ask the class what they perceive the role of an Energy Auditor to be. After some discussion, write the definition given in the scope section of the NREL JTA – Energy Auditor on the whiteboard.

An energy auditor is a residential energy efficiency professional who evaluates the energy efficiency, health and safety of a home, and conducts field measurements to identify areas for savings. The Energy Auditor produces this information as a report and makes recommendations to the customer.

* Explain that this course is specifically designed to meet the requirement of the Job Task Analysis (JTA) considered necessary to perform the job as described. Review the JTA quickly and try to get an idea of which tasks are most typical in the working lives of the students. This can help you prepare for the rest of the course by focusing on areas to which students may be completely new and reviewing familiar topics to make sure they are using up-to-date methods.
* Use the presentation and discussion to teach students about the history and future of the Weatherization Assistance Program (WAP).
* Calculate the simple payback of a refrigerator replacement using local prices. Explain the relationship to savings-to-investment (SIR) ratio.
* Discuss the Virginia program evaluation considering the effectiveness of “old-school” versus modern weatherization measures.
* Break up class time by showing the “2009 Weatherization Works” video presented at the 2009 National Weatherization Training Conference. The video provides a perfect summary of the facts and benefits of the program for clients and the nation.
* Illustrate the importance of communication skills:
* Choose one simple sentence, e.g. “Where did you get that?” and show how it can be said as a compliment or an insult depending on tone and facial expression.
* Set your pencil on a student’s table and then reach for it aggressively to show the importance of body language.
* Describe weatherization success stories from your own experience to emphasize the value of weatherization done right.
* Point out how much of our energy is obtained from foreign countries and what percentage of consumed energy is wasted. Explain that two federal initiatives—the fleet mileage laws and DOE-fostered conservation activities—have kept the import of foreign energy relatively flat in spite of increased population and industrial expansion.
* As a wrap-up, have students brainstorm the many benefits of weatherization and keep a running list on the board.