# Introduction to Mobile Homes

# Weatherization Installer/Technician Mobile Homes

Learning Objectives

By attending this session, participants will become aware of:

* The history and development of mobile homes.
* Construction details and materials related to mobile homes.
* Problems related to energy efficiency of mobile homes.
* Differences between pre- and post-1976 mobile homes.
* Standard weatherization priorities for mobile homes.
* Opportunities for improving comfort, safety, and energy efficiency.
* Benefits of various retrofit options.

Key Terminology

Base load

Certification label

Data plate

HUD code

I-beam

Incidental repairs

Manufactured home

Mobile home belly

Mobile Home Energy Audit (MHEA) software

Oak Ridge National Laboratory (ORNL)

Rodent barrier

Savings-to-Investment Ratio (SIR)

Site-built home

Steel chassis

Temperature rise

Thermal boundary

Thermal mass

U-value

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

Supplemental Materials

Handouts & Resources

Worksheet – Savings to Investment Ratio

Baechler, Michael and Don Hadley. “Not Your Parents’ Mobile Home.” *Home Energy*. Nov/Dec 2002. www.homeenergy.org.

Greely, Kathy, John Randolph, and Bill Hill. “A Warm Wind Blows South: Virginia's Weatherization Evaluation.” *Home Energy* Jan. 1992: 15-21. www.homeenergy.org.

Scott, Bob, and Lyn M. Bartges. “Weatherizing Mobile Homes.” *Home Energy* July 2004. www.homeenergy.org.

US DOE WAP, Midwest Regional Field Office. *Midwest Weatherization Best Practices Field Guide* May 2007: 19, 183-195.

Classroom Props & Activities

* Scale model of a mobile home showing framing, ducts, and building cavities.

Class Overview

This section is “the hook” for motivating students to learn what cost-effective weatherization of mobile homes is all about.

* Use the presentation, discussion, and handouts to introduce students to the key characteristics of mobile homes related to weatherization. Emphasize the differences between mobile homes and other single-family housing types. Further motivate the class with a positive spin on the tremendous opportunities for improving health, safety, and energy efficiency. Emphasize the benefits of the various retrofit options discussed in the presentation and speaker’s notes.
* As a lead-in to the following sections of the Mobile Home curriculum, provide a broad overview of the various retrofit options for ducts, heating systems, belly insulation, sidewall insulation, roof insulation, and other measures.
* Using the provided worksheets as a starting point, employ the following *Chalk Talk,* walking students through sample calculations on the chalkboard or overhead projector, during the “Sample Measure Selection Priority List” part of the presentation.
* Do a series of simple SIR (lifetime savings divided by cost) or payback (cost divided by annual savings) calculations on window replacement and belly insulation. This demonstrates the cost-effectiveness of window and door replacements compared to more cost-effective mobile home shell retrofits such as belly insulation.
* Encourage students to ask questions and share anecdotes from the field.