

OKLAHOMA'S ADVANTAGE

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NAEMI – Renewable Energy Development for Oklahoma Tribes



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What Are Weatherization Services?

- Weatherization services are cost-effective energy efficiency measures for existing residential and multifamily housing.
- Weatherization enables families to permanently reduce their energy bills by making their homes more energy efficient.

What Are Weatherization Services?

- By reducing the energy bills, weatherization
 - liberates funds for more pressing family issues
 - Saves energy, and
 - Saves lives.

What Are Weatherization Services?

- On average, weatherization reduces
 - heating bills by 31% and
 - overall energy bills by \$358 per year.

What Are Weatherization Services?

- Weatherization activities include:
 - building envelope
 - heating and cooling systems
 - electricity consuming appliances
 - health and safety

- Adding insulation is a part of almost every weatherization project. Making sure there is enough insulation in the
 - walls,
 - foundation,
 - and roof

Insulation

- -anywhere there is a barrier between the home and the outside-is one of the most important ways to make a home energy efficient.
- The climatic zone where you live affects how much insulation you should have in your ceilings and walls

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Insulation



Blower Doors

Blower doors are variable-speed fans equipped with a frame and shroud that permit them to fit inside a variety of doorframes.

- The instrumentation includes
 - pressure gauges that enable the operator to determine the flow of air through the fan as well as the
 - pressure the fan induces on a dwelling.
 - Since leakier houses require more airflow to induce a given pressure difference, blower doors can measure the relative leakiness of a house.

Blower doors

- Blower doors
 - reveal the location of many leaks,
 - providing a clear target for air sealing.
 - provide technicians with quick feedback on the effectiveness of their work.

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Blower doors

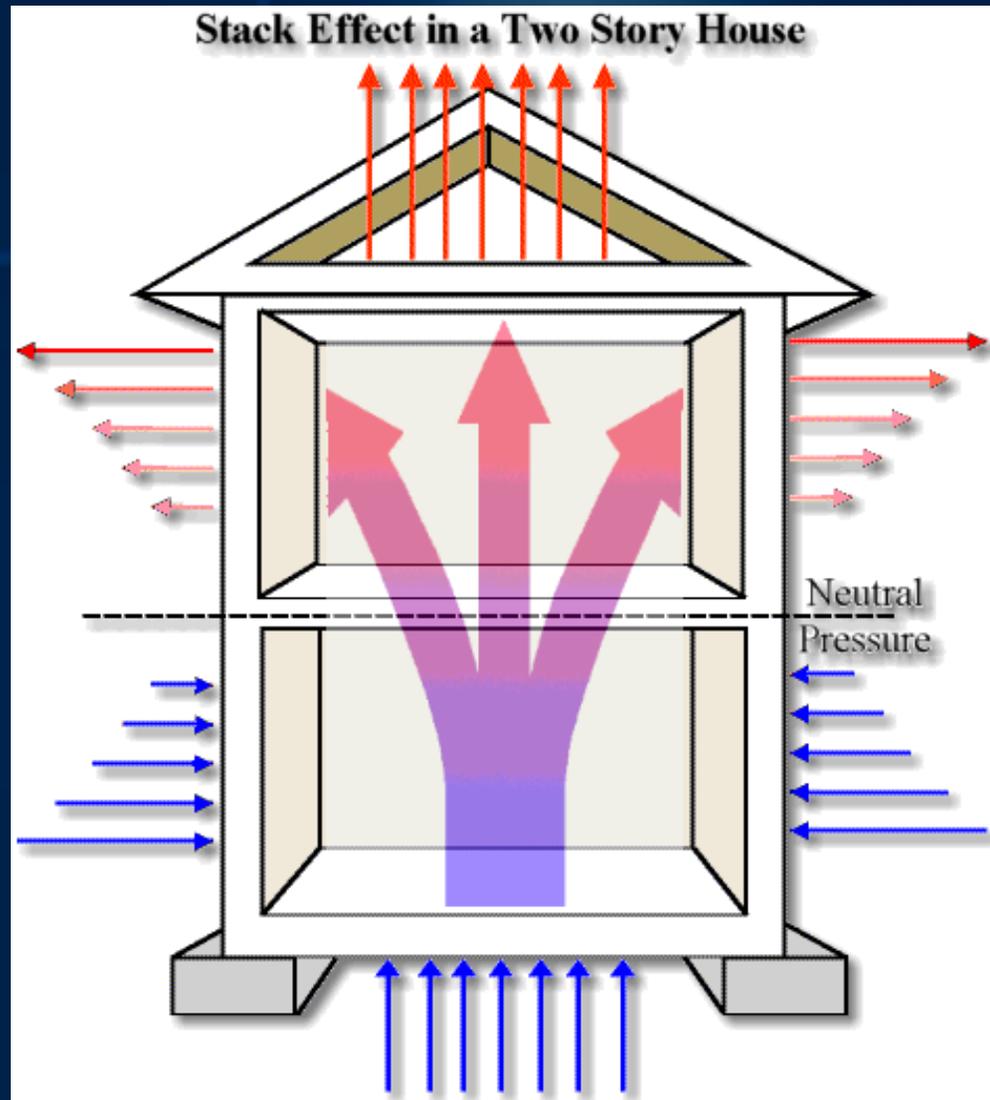


- Air sealing reduces the flow of outside air into the house and is the common energy efficiency measure under weatherization.
- The purpose of air sealing is to reduce the leakage of cold outside air into the house in winter or hot outside air into the house in the summer.

- Typically, weatherization work crews add caulking and weatherstripping around windows and doors to reduce drafts.
- Old, drafty homes are not only uncomfortable, but they are also very costly to heat and cool. See stack-effect infiltration in a two-story house to see how this process works

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Air Sealing

- In some homes, heating equipment is so old and inefficient that replacing it with modern, high-efficiency units is cost effective.
- Modern controls such as setback thermostats also can save lots of energy over their lifetimes.

- Addressing the efficiency of the heating equipment is important in every home, and weatherization crews almost always bring analyzers to check efficiency.
- They will clean and tune up a furnace or boiler that has not been serviced recently and adjust the controls as a routine part of weatherization.

Water Heaters

- Improvement water heating systems.
 - insulation added to the water tank and pipes,
 - low-flow showerheads

Electrical Appliances and Weatherization Base-Load Measures

- The most effective way to make sure you have the most energy-efficient appliance is to make sure it has the [ENERGY STAR® label](#).



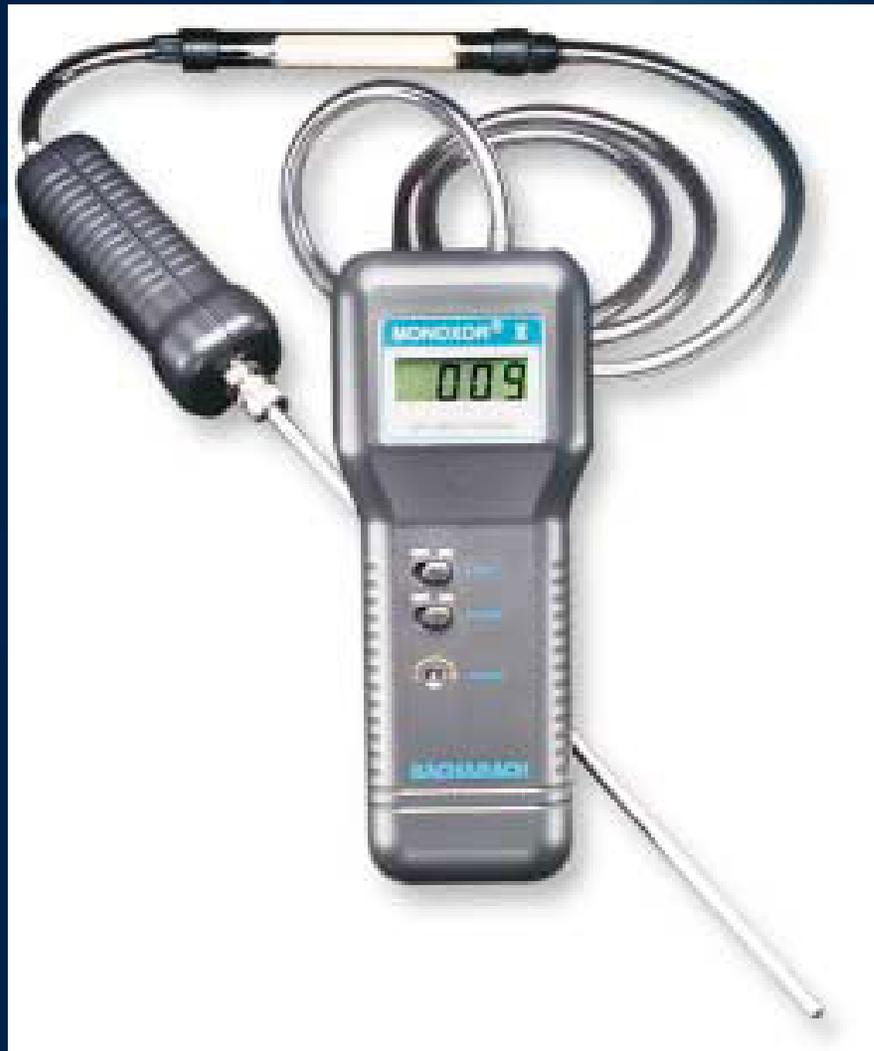
Electrical Appliances and Weatherization Base-Load Measures

- [Buying Energy Efficiency Appliances](#)
DOE's Buildings Technologies Program publishes a series Web pages on how to purchase energy efficient appliances using the ENERGY STAR® label.
- [Compact Fluorescent Lamps](#)
The DOE Office of Energy Efficiency and Renewable Energy (EERE) Web site includes information about the energy-saving benefits of compact fluorescent lamps over incandescent bulbs.
- <http://www.eere.energy.gov/weatherization/>

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Health & Safety



- The most prevalent areas of health and safety concerns are:
 - lead-based paint,
 - combustion appliances, and
 - excess moisture.

- Lead-based Paint
 - Pre-1978 Units – assume lead paint
 - Lead-safe work practices

- Combustion Appliances
 - CO Testing
 - Draft Testing
 - Repair Replace

- Excessive Moisture
 - Mold and Mildew
 - Repair water leaks
 - venting

Oklahoma Department of Commerce – Weatherization Assistance Program

- Pursuant to federal legislation the funds are distributed to Oklahoma Community Action Agencies.
- There are 19 Community Action Agencies in Oklahoma operating the weatherization program. The agencies cover all 77 counties of the state.

Oklahoma Department of Commerce – Weatherization Assistance Program

Primary funding sources are the

- US Department of Energy,
- Okla. Department of Human Services,
- Oklahoma Energy Resources Board,
- Oklahoma Energy Conservation Fund. A tax credit of 50% may be available for donation to the program through the Energy Conservation Assistance Program.

Oklahoma Department of Commerce – Weatherization Assistance Program

The program serves approximately 1400 homes per year.

- elderly,
- those with special needs,
- families with children and
- household with high energy burdens.

Oklahoma Department of Commerce – Weatherization Assistance Program

Contact Information

- Donations to the energy conservation fund:
Oklahoma Department of Commerce
www.okcommerce.gov 1/800-879-6552
- Energy Conservation Information and Tips:
OERB.com/energy
- Apply for Weatherization Assistance:
<http://www.okacaa.org/>

As winter approaches everyone should take steps to conserve energy in their homes.

Simple things to accomplish:

- smoke detector,
- change furnace filters,
- seal cracks with caulk and install outlet seals,
- use compact fluorescent light bulbs.

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Conclusions

- Questions?