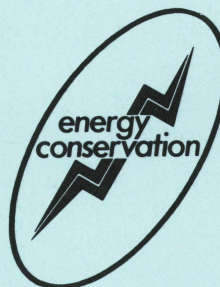




Why Weatherize Your Home?



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Using more fuel than you need to is bad for your pocketbook and a drain on energy resources as well. For most households, \$4,000 invested in weatherization would pay for itself through fuel savings within 5 years. In fact, if 95 percent of all homes were adequately insulated, the energy used for heating the nation's homes would go down by one-third.

You can see to it that less heat is wasted through the walls, ceilings, floors, windows and doors of your home. You can do it by weatherizing your home with insulation, caulking, weather stripping, storm doors and windows.

Insulation will probably be the biggest part of your weatherization project. Most homes are seriously underinsulated.

Each kind of construction material, together with the dead air space between layers, has a heat loss rate listed in terms of an R value. The R value measures the resistance to heat flow. It also rates the insulating value of building materials. The larger the R value, the lower the heat loss.

The desired R value for ceilings, walls and floors depends on climatic conditions that relate to elevation, proximity to mountains, bodies of water and other local factors.

Because of the extreme variations in Idaho's geography and topography, a great variation in desired R values can occur within relatively close distances. For this reason, the Idaho Office of Energy suggests these values for the entire state:

- Ceilings R-38
- Floors R-19
- Walls R-19

It normally is not cost effective to go above R-12 in existing walls due to the size limitations of the standard 4-inch wall cavity. New homes should be

constructed with 6-inch wall cavities to allow R-19 insulating values.

Do not put R-19 insulating batts into a 4-inch wall cavity. Compressing the thick batt into the narrower opening compresses the insulation so that air voids are closed, and much of the insulating value is lost.

In determining how much insulation you should add, remember that the cost effectiveness of more insulation decreases as more is added. Starting with an insulated attic for example, the first layer of insulation batts could pay for itself within 2 to 4 years. A second layer of similar batts might take 6 to 8 years to pay for itself, and a third layer could take 10 years or more.

Things that influence the rate of heat loss are temperature differences between the inside and the outside of the house, the kind of exterior surface and the strength of prevailing winds. Winds seriously affect the heat loss as they enter through cracks and force warm air out. Wind problems are best corrected with weather stripping, caulking, new siding and exterior tree and shrub plantings or fencing to divert prevailing winds.

Exhaust fans, open fireplaces and furnaces may increase air losses through their vents or flues. Excessive opening of doors and windows also can bring unwanted outside air in and make your home uncomfortable.

In cold weather, open outside doors only when necessary. Close off unused rooms. Set the thermostat at 65° F. Use efficient heating equipment and maintain it properly. Look at the way your home is landscaped. Could plantings protect your home against the weather? Finally, with an eye to the future, find out if any solar energy devices are practical for use in your home.

Unevenly heated rooms that are chilly around doors and windows and drafty upstairs rooms are sure signs that your home needs to be weatherized to save heat. When your home is uncomfortable, you are prompted to set the thermostat higher, increasing heat loss and your heating bills.

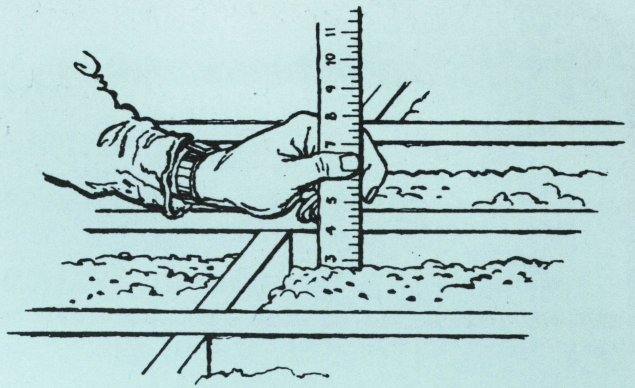
What you can save in fuel bills over several years may cover the cost of adding storm doors and windows. Covering doors and windows with plastic sheeting or other materials is inexpensive, although less effective than storm doors and windows. Draperies, especially those with reflective liners that block cold radiated through windows, help too.

If your outside walls have no insulation, the walls will be cool even after caulking, weather stripping and adding storm doors and windows. In most parts of the country, it pays to insulate uninsulated or poorly insulated walls.

Check your attic to find out how well it is insulated. Older homes may have little or no attic insulation, and most newer homes do not have enough. Insulating your attic properly can save you as much as one-third on fuel costs. In 3 to 5 years, you could recover the cost of the insulation. Perhaps you can insulate your attic yourself; if you pay someone to do it, the cost may be three to five times as great.

If you already have some insulation in your attic, measure its depth to determine how much more is needed. If the costs of fuels increase as much as expected in the future, your investment in additional attic insulation will be sound.

Next, check the insulation in your basement or crawl space and around heating ducts and your



water heater. Also, check the condition of your heating and cooling system and your landscaping.

If you are going to build a new home, locate the home to reduce heat loss and take advantage of solar heating in the winter and/or natural cooling in the summer.

Compare your fuel use with that of others who use the same fuel and have homes of comparable size but who have extra weather protection. If your fuel-use habits are similar, this cross-check will help you evaluate your own home weatherization.

You can get help to estimate your weatherization needs. Check with your Extension county agent, your energy supplier or your local Farmers Home Administration office.

*Adapted from U.S.D.A. Fact Sheet 2-3-14. Recommended to Idaho residents by Shirley Nilsson, Extension housing and equipment specialist, and Roy Taylor, Extension agricultural engineer, both at the University of Idaho, Moscow.