



Economic Stimulus Response

Energy Efficiency Article

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Don't let the air out!

Get back to efficiency basics with weatherization

By Megan McKoy

Children running in and out of the house on a hot summer's day may hear a common warning: "Don't leave the door open—you'll let the air out!" But how many adults do the same thing without realizing it?

While you may not leave your front door open, air leaks in the attic and basement let valuable air in—and out!—of your home.

Laura Matney, a Building Performance Institute (BPI)-certified building analyst, advises electric co-op consumers to look into weatherization before investing in other energy efficiency measures. "I certainly encourage the selection of energy-efficient appliances, but they don't provide the amount of savings that proper sealing of air leaks can. We're trained to look at the basics of building science—seal, insulate, and then look at the equipment. If a homeowner only has money for one area then nine times out of 10 I recommend sealing."

For example, the U.S. Department of Energy's ENERGY STAR program advises addressing air leaks and ductwork in your home before investing in a new heating and cooling system; sometimes, those are the real sources of problems rather than your equipment.

If air leaks are generally hidden, where do you start?

Most leaks occur in the basement and attic. Starting in your basement, look for gaps and cracks where your cement or block foundation meets the frame of your home. Joists (building supports which are smaller than beams) between the floor and the foundation (called rim or band joists) create cavities, small empty spaces that are hard to insulate and may leak. Not all of the gaps are visible, so ENERGY STAR suggests sealing the top and

Common Household Air Leaks

Most air leaks are hidden in your attic and basement and can significantly raise your energy bill. Here's a list of common hiding places. Seal them with caulk, weatherstripping or other appropriate materials. Thirty percent of your expenses, up to \$1,500, may qualify for an energy efficiency tax credit!

Windows and Doors

Attic Hatch

Wiring Holes

Plumbing Vent

Recessed Lights and Open Soffit

(the box that hides recessed lights)

Furnace Flue or Duct Chaseways

(the hollow box or wall feature that hides ducts)

Basement Rim Joists

(where the foundation meets the wood framing)



Source: Alliance to Save Energy's Guide to Home Sealing

bottom of cavities around rim joists. Use caulk to seal cracks that are 1/4 inch or smaller; spray foam works best to fill gaps from 1/4 inch to about 3 inches.

It's also a good idea to seal gaps between the basement ceiling and the floor above, like holes for wiring and water pipes.

In the attic, there are many small areas where air may come in, but focus on large spaces. For example, if your home has dropped soffits—part of the ceiling that has been lowered for lighting design—be sure they've been properly sealed. These design elements, common in bathrooms and kitchens, are often built before your home's drywall is installed, leaving part of your wall open to air from wall or floor cavities.

Even though there may be insulation covering dropped soffits in your attic, be sure all cavities around the soffits have been properly plugged. To do this, place fiberglass insulation inside plastic garbage bags and stuff it tightly into any cavities.

Pay attention to dirty insulation; it's a big clue that air is moving through the area. And just like the basement, be sure to seal gaps between the attic ceiling and the rooms below, including holes for wiring, lighting, and the attic door.

Weatherizing your home will save you money down the road—an average of \$358 each year according to the U.S. Department of Energy Weatherization Assistance Program—but some people may not be able to pay for improvements. As a result of the federal stimulus package, families with household incomes below 200 percent of the national poverty level are eligible for up to \$6,500 in energy efficiency improvements. For a family of four, that's an income limit of \$44,100.

For co-op consumers not eligible for the program, the stimulus bill provides a homeowner efficiency tax credit of up to \$1,500, or 30 percent, of the cost for upgrades, including insulation that meets the 2009 International Energy Conservation Code.

There are many more ways to protect your home, including weather stripping doors and windows and sealing ducts. For step-by-step instructions on how to weatherize your home and start saving energy dollars today, download *Sealing Air Leaks and Adding Attic Insulation*, a do-it-yourself guide to weatherization from ENERGY STAR. The guide is available at www.energystar.gov.

Sources: *ENERGY STAR, Building Performance Institute*

Megan McKoy writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association, the Arlington, Va.-based service arm of the nation's 900-plus consumer-owned, not-for-profit electric cooperatives.