

Conservation *Wise*

Energy Conservation: You CAN Make a Difference!

Saving Energy in Your Home: Windows

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Introduction

The typical family spends almost half of its energy budget on heating and cooling. Windows can account for 10–25% of your heating loss. Insulating or replacing inefficient windows can reduce your heating and cooling, making your home warmer in winter and cooler in summer. Installing energy-efficient windows will reduce your energy consumption, but this can be costly. Simple, cost-effective options can improve the energy efficiency of existing windows.

What Should I Do?

- **Test your home for air tightness.** On a windy day, carefully hold a lit incense stick or smoke pen next to windows, doors, electrical boxes, plumbing fixtures, electrical outlets, ceiling fixtures, attic hatches, and other locations with a possible air path to the outside. If the smoke stream travels horizontally, you have located an air leak that may need attention.
- **Caulk and weather-strip doors and windows.** Use foam sealant for larger gaps around windows and other places to seal air leaks.
- **Install tight-fitting, insulated window shades** on windows that feel drafty after weatherizing.
- **Purchase insulated shades or curtains** when replacing window treatments. This will reduce heat loss in the winter and heat gain in the summer.

Energy costs for the typical U.S. family:

• Heating	31%
• Cooling	12%
• Water heating	12%
• Lights	11%
• Appliances	9%
• Computers and electronics	9%
• Refrigeration	8%
• Other energy	8%

In the Winter

- **Cover energy-inefficient windows** with heavy-duty, clear plastic sheeting on a frame, or tape clear plastic film to the inside of your window frames. The plastic must be sealed tightly to the frame to help reduce air movement.
- **Install storm windows over single-pane windows.** Install exterior or interior storm windows; storm windows can reduce heat loss through the windows by 25–50%. Storm windows should have weather stripping at all movable joints; be made of strong, durable materials; and have interlocking or overlapping joints. Compare the cost of adding storm windows against that of purchasing new windows before choosing this option.

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Knowledge to Go

1-888-EXT-INFO



- **Keep the draperies and shades open on south-facing windows** on sunny days during the heating season. Keep draperies closed at night to reduce the chill from cold windows.
- **Keep windows on the south side of your house clean** to let in the winter sun.

In the Summer

- **Install white window shades, drapes, or blinds** to reflect heat away from the house.
- **Close curtains on south- and west-facing windows** during the day.
- **Install awnings** on south- and west-facing windows.
- **Apply sun-control or other reflective films** on south-facing windows to reduce solar gain.

When Buying New Windows

- **Select energy-efficient (ENERGY STAR) products** when you buy new heating and cooling equipment.
- **Select double-pane windows with high-performance glass** (look for low-e or spectrally selective glass).

- **Select windows that are gas-filled with low emissivity (low-e) coatings** on the glass to reduce heat loss.
- **Select windows with high R-values** (R=resistance to air flow) to minimize air movement.
- **Choose energy-efficient windows that allow you to buy smaller, less expensive heating and cooling equipment.**

Where Can I Learn More?

- ENERGY STAR website, U.S. Department of Energy, www.energystar.gov—Use the *ENERGY STAR Home Energy Yardstick* to compare your home’s energy efficiency to similar U.S. homes.
- Energy Savers Tips website, U.S. Department of Energy, <http://www.energysavers.gov/tips/>
- eXtension website, Extension partnership website from U.S. universities, www.eXtension.org—Choose the “Resource Areas” menu, then look for “Home Energy.”
- Local home improvement centers—Compare the energy savings offered by different products.

Note: Since weatherproofing reduces the air exchange in your home, be aware of any buildup of contaminants from cleaning products and pesticides, for example, aerosol sprays, paints, new carpets, and flea and tick treatments. These products should *always* be used carefully and according to manufacturers’ recommendations. Open windows to air out your home on mild days.

References

Tips: Windows, Energy Savers website, U.S. Department of Energy, www.energysavers.gov/tips/windows.cfm (accessed 07/14/2011).

Windows, Doors, and Skylights, Energy Savers website, U.S. Department of Energy, www.energysavers.gov/your_home/windows_doors_skylights (accessed 07/14/2011).