



# Remodeling your home for energy efficiency

## FACT SHEET



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Your home is your haven. You want it to be attractive, safe, comfortable and easy to maintain. If you own an older home, remodeling is one way to achieve this. The process can be very rewarding—and it can help you save energy and money, too. Read on to learn how making energy efficiency improvements can turn any remodeling project into a whole-house success.

### INSULATE AND SEAL

#### Insulate your walls and attic

Proper insulation is the most effective way to save energy. The leakier your house, the greater the benefits of insulating and air sealing. More than half of Wisconsin's homes lack adequate insulation. While you're remodeling, take advantage of open walls and ceilings to add insulation. Insulate attic areas to an "R-factor" of at least R-38.

R-factor is a numerical indicator of an insulation's efficiency at retarding the flow of heat. Current building codes recommend an insulation R-factor of R-38 for attics in most of the country—equivalent to about 10 to 12 inches of fiberglass batting or blown cellulose fiber insulation.

\* Download the fact sheet, *The Basics of Insulating Your Home* from [focusonenergy.com](http://focusonenergy.com).

#### Seal attic bypasses

Ice dams—the ridges of ice that build up on roof eaves—can cause costly structural damage to your home. You can reduce this problem by sealing attic bypasses, the hidden pathways that allow warm air to penetrate the attic and melt snow on the roof, to help prevent ice melt.

When replacing your roof or siding, take advantage of the increased access to these areas to seal leaky pathways. As you remove old siding, seal all penetrations into the wall from the outside and add a layer of foam insulation beneath the new siding. Insulate wall cavities as well.

\* Download the fact sheet, *Preventing Ice Dams* from [focusonenergy.com](http://focusonenergy.com).

### REPLACE APPLIANCES

Look for the ENERGY STAR® label when shopping for new appliances. The ENERGY STAR distinction is awarded to products that meet or exceed established criteria for energy efficiency and use 10 percent to 50 percent less energy than their conventional counterparts.

#### Refrigerators

Thinking about buying a new refrigerator or freezer and keeping your older appliance for extra storage? Think again. Though it may seem convenient, keeping an inefficient appliance can add at least \$100 to your annual energy costs. ENERGY STAR qualified refrigerators require about half as much energy as models manufactured before 1993. ENERGY STAR qualified refrigerators provide energy savings without sacrificing the features you want.

#### Dishwashers

ENERGY STAR qualified dishwashers use at least 41 percent less energy than the federal minimum standard for energy consumption. Compared to washing dishes by hand, and an ENERGY STAR qualified dishwasher:

- Can cut utility bills by \$35 per year.
- Uses half as much energy.
- Saves nearly 5,000 gallons of water per year.

#### Gas ranges

Save energy with a modern gas range equipped with an electronic or thermal ignitor rather than a standing pilot light. Self-cleaning ovens reduce the need for caustic oven cleaners and are built with more energy-saving insulation.

\* Download the fact sheet, *Reducing Appliance Energy Use* from [focusonenergy.com](http://focusonenergy.com).

#### Clothes washers

An ENERGY STAR qualified clothes washer:

- Can save up to \$110 per year on utility bills, compared to a model manufactured before 1994.
- Saves 7,000 gallons of water a year.
- Spins your clothes drier, making your dryer cheaper to run.
- Saves you money on clothes, because the tumbling action (vs. agitation) is gentler on clothes.
- Is quieter than a conventional washer operating on a normal cycle.

\* Download the fact sheet, *Resource Efficient Clothes Washers* from [focusonenergy.com](http://focusonenergy.com).

#### Clothes dryers

Choose a natural gas dryer because they cost less to operate than electric ones. The cost of drying a typical load of laundry in a gas dryer is 15 to 20 cents compared to 30 to 40 cents for an electric dryer.



**focus on energy**<sup>™</sup>  
The power is within you.

## YOUR HOUSE AS A SYSTEM

Remodeling can impact areas of your house in ways you may not realize. For example, a new range hood in the kitchen may cause a water heater to backdraft, spilling potentially deadly combustion gases into the home. Seek the help of a consultant partnering with Home Performance with ENERGY STAR before you begin work. Visit [focusonenergy.com](http://focusonenergy.com) to find a consultant and to download the fact sheet, Home Performance with ENERGY STAR.

### IMPROVE WINDOWS AND DOORS

#### Windows

ENERGY STAR qualified windows provide suitable solar control and ventilation and save energy to help reduce heating and cooling costs. Additional measures such as insulation and air sealing work with efficient windows to dramatically reduce energy costs.

\* Download the fact sheet, *Buying Energy Efficient Windows* from [focusonenergy.com](http://focusonenergy.com).

#### Doors

Install doors with a high insulation value. Add weatherstripping around doors to reduce drafts and ensure they are properly sealed to avoid moisture damage.

### UPGRADE HEATING AND COOLING SYSTEMS

Efficient heating and cooling systems can increase comfort and help you reduce energy costs (see sidebar to learn how to calculate these costs). Choose a furnace with an annual fuel utilization efficiency (AFUE) rating of at least 90 percent.

ENERGY STAR qualified air conditioning units offer comfort, reliability and low operating and maintenance costs. While federal standards require a minimum rating of 13 SEER (Seasonal Energy Efficiency Ratio), Focus recommends 15 SEER or greater for added efficiency.

\* Download the fact sheets, *Basics of Home Heating and Cooling Basics for Your Home* from [focusonenergy.com](http://focusonenergy.com).

### INSTALL A NEW WATER HEATER

Replace your water heater if it is old, inefficient or no longer meets your water-heating needs. Choose a high efficiency, natural gas model that is power vented for combustion safety. To increase energy efficiency and prevent scalding, set the water heater's thermostat between 120°F and 125°F.

\* Download the fact sheet, *Energy Efficient Water Heaters* from [focusonenergy.com](http://focusonenergy.com).

## FOR MORE INFORMATION

### Focus on Energy

Visit our Web site to learn about more ways to save energy and money, and to download fact sheets with helpful tips and ideas.

[focusonenergy.com](http://focusonenergy.com)

### The official ENERGY STAR Web site

A joint effort of the U.S. Environmental Protection Agency and U.S. Department of Energy, this site offers valuable information about energy efficient products and practices.

[energystar.gov](http://energystar.gov)

### Home Energy Magazine Online

Visit this site for objective and practical information on residential energy efficiency, performance, comfort and affordability.

[homeenergy.org/hewebsite](http://homeenergy.org/hewebsite)

### The Home Energy Saver

Perform a free online energy audit with this tool sponsored by the U.S. Department of Energy and U.S. Environmental Protection Agency.

[homeenergysaver.lbl.gov](http://homeenergysaver.lbl.gov)

## HOW TO CALCULATE ANNUAL HEATING AND COOLING COSTS

### If you heat your home using natural gas:

#### STEP 1: CALCULATE YOUR BASE CONSUMPTION

Gather a year's worth of energy bills. Find the three months with the lowest consumption for your heating fuel. Drop the lowest and average the next two. Do the same for your electric bill (for cooling).

#### STEP 2: CALCULATE YOUR HEATING COST

Add up the amount you spent above the heating fuel base on each of your winter bills.

#### STEP 3: CALCULATE YOUR COOLING COST

Add up the amount you spend above the electric cooling base on each of your summer bills.

