



HOME PERFORMANCE



CHANGE FOR THE
BETTER WITH
ENERGY STAR

WHAT IS ENERGY STAR®?

Did you know that the typical home causes more greenhouse gas emissions than a typical car? Your home uses energy produced by power plants that emit these pollutants. The less energy you use, the less pollution emitted. It's as simple as that. You have the opportunity and the power to make a change for the better, and your home is the perfect place to start.

ENERGY STAR is a voluntary government program that gives people the power to reduce air pollution and greenhouse gases through energy efficiency—without sacrificing comfort or quality. Products earn the ENERGY STAR by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy.

- If you are purchasing new appliances, lighting, home electronics, or office equipment, look for products that have earned the government-backed ENERGY STAR label.
- If you are looking for new heating and cooling equipment, EPA through its ENERGY STAR Program provides the information you need to make the best decision.
- If you would like to improve the comfort of your home and lower your heating and cooling bills, EPA, in partnership with others, offers Home Performance with ENERGY STAR.

HOME PERFORMANCE WITH ENERGY STAR IMPROVES COMFORT AND LOWERS ENERGY BILLS

Home Performance with ENERGY STAR begins with a qualified contractor providing a comprehensive evaluation of your home's energy efficiency to determine which improvements will give you the most benefit for your dollar. This contractor will examine your whole house—from the outer walls and ceiling, to the heating and cooling systems, and even the lighting. After helping you choose which combination of improvements makes the most sense for your home and your budget, the home performance contractor then makes sure the work is done correctly.

These improvements may include such measures as:

- Adding insulation and sealing air leaks



- Making sure your heating and cooling system is efficient, and installed and operating correctly to deliver comfort throughout your home

- Upgrading high-use lighting and appliances to more efficient models

Selecting a qualified home performance contractor—one who understands how all the parts of your home work together and how to apply the home improvement industry's best practices—will ensure that you get the most benefit for your buck. Look for a contractor promoting Home Performance with ENERGY STAR.

For more information about ENERGY STAR, visit www.energystar.gov or call 1-888-STAR-YES (1-888-782-7937).

**A whole-house retrofit can
reduce your total energy costs by
30 percent or more.**



HELP PROTECT THE ENVIRONMENT

Our homes produce more greenhouse gas emissions than our cars, making the home a great place to take steps to reduce air pollution and help the environment. In fact, 19 percent of all greenhouse gas emissions in the United States are caused by the energy used in homes. Simply put, the less energy we use in our homes, the less air pollution we generate. Help protect the environment with ENERGY STAR.

HOME PERFORMANCE BENEFITS

Many homeowners are not getting the comfort they are paying for. Their homes suffer from rooms that are too hot or too cold, drafts, moisture problems, and mold and mildew. Skilled contractors, under Home Performance with ENERGY STAR, can:

- Eliminate drafts
- Fix rooms that are too hot or too cold
- Correct conditions that lead to mold or mildew
- Ensure your combustion appliances are venting properly
- Prevent ice dams
- Solve underlying problems that lead to rot or peeling paint
- Keep outdoor pollutants from entering your home
- Save energy and lower your monthly utility bills

These improvements make your home more comfortable, healthier, and more durable.

A HOUSE IS A SYSTEM

Your house is a system. Evaluating and improving all the components of this system is a better solution than just focusing on one or two. It's true that you can usually save energy by adding insulation, or by installing a more efficient piece of heating or cooling equipment. However, when you look at all the options together, you can find even greater improvements in comfort and savings.

For example, by adding insulation, sealing air leaks in your home and in your ducts, and putting in the right equipment, you not only keep rooms more comfortable, but also use less energy to heat and cool your entire home. You may also be able to reduce the size of the equipment, which can lead to additional savings at replacement time. A home performance contractor is trained to look at all the options and make cost-effective recommendations to you.

DIAGNOSING THE PROBLEM

Using diagnostic test equipment such as a blower door, contractors can pinpoint problems in your home and their solutions. A blower door test is used to measure air leakage and trace air flow. This information guides the contractor when air sealing to ensure the best results.

Contractors can also test your combustion equipment, such as a hot water heater and furnace, to ensure they are operating and venting properly.



SEALING YOUR HOME

The exterior of your home is also called the envelope or shell. (See the orange line showing the envelope in the diagram.) Insulation and air sealing work together to help maintain consistent temperatures even under extremely hot or cold conditions. Experts recommend adding

insulation and sealing air leakage—especially in places like the attic—to reduce energy costs, improve comfort, and address a range of problems from ice dams to hot rooms.

YOUR HEATING AND COOLING SYSTEMS

If your furnace or air-conditioner is 10 years old, replacing it with a unit that has earned the ENERGY STAR will increase efficiency by 15 percent. Also, when it comes to heating and cooling equipment, bigger is not better! Properly sized equipment turns on and off less frequently, providing consistent temperatures and greater comfort. A qualified home performance contractor will not only recommend the right size equipment for your home, but also make sure it is installed properly. If you have a forced-air system, the contractor can also make sure that your duct work is well sealed, insulated, and balanced.



YOUR LIGHTING AND APPLIANCES

Inefficient lighting and appliances waste energy and cost you more in the long run. With the waste heat they throw into your home, they can also have unplanned effects on your comfort, especially during the cooling season. A home performance contractor can consider the lighting and appliances in your home when recommending improvements. When shopping, you can choose lighting, refrigerators, room air-conditioners, dishwashers, and consumer electronics that carry the ENERGY STAR. All ENERGY STAR qualified products meet strict energy efficiency criteria without sacrificing performance or design.

PROBLEMS AND SOLUTIONS

PROBLEM: Air-conditioner won't keep the house cool enough

COMMON APPROACH

- Replace old air-conditioner with new equipment

RESULTING PROBLEMS

- Leaky ducts don't deliver cool air and money is wasted
- Oversized system does not run long enough to pull humidity out
- Air leaks and poor insulation continue to waste money and reduce comfort

SOLUTION: HOME PERFORMANCE WITH ENERGY STAR

BETTER APPROACH

- Seal and balance ducts to deliver the cool air you're paying for
- Properly size and install heating and cooling equipment
- Seal air leaks
- Add insulation where needed

BENEFITS

- Ducts deliver more comfort
- Lower humidity, and a healthier and more durable home
- Lower energy bills
- Cleaner environment

PROBLEM: Cold drafty house and high energy bills

COMMON APPROACH

- Add insulation in the attic

RESULTING PROBLEMS

- Air leaks still rob much of your heated (or cooled) air
- Attic condensation can lead to mold and rot
- Leaky ducts waste money
- Heating and cooling systems aren't working efficiently

SOLUTION: HOME PERFORMANCE WITH ENERGY STAR

BETTER APPROACH

- Seal air leaks into attic and around home
- Add insulation as appropriate
- Seal and insulate ducts
- Make sure your heating and cooling systems are well tuned
- Check that all combustion equipment is venting properly

BENEFITS

- Greater comfort with reduced drafts
- Lower energy bills
- Healthier and more durable home
- Cleaner environment



March 2003 Edition