

# Residential Home Improvement: An Overview of Energy Use and Energy Efficiency Opportunities



## Energy Use in Residential Home Improvement

American homes account for 21 percent of the nation's energy use; in fact, the average home releases twice as much harmful greenhouse gas into the atmosphere as the average vehicle. The residential sector contributes 335 million metric tons of carbon to the atmosphere each year.

A typical household spends \$1,900 per year on energy bills, half of which are heating and cooling costs. Fortunately, there are many cost-effective opportunities to reduce energy use in homes. The U.S. Environmental Protection Agency (EPA) estimates that homeowners can save up to 30 percent on energy bills with ENERGY STAR.

## Energy Efficiency Opportunities

EPA's ENERGY STAR program provides solutions for making homes more energy efficient. Whether you are a 'do-it-yourselfer' or plan to hire a qualified home professional, making homes more energy efficient can help to reduce high energy bills and improve comfort. Other common problems such as moisture on window panes, ice dams, peeling paint, and mold can also be alleviated by improving energy efficiency.

## How to Talk to Homeowners About Energy Efficiency

ENERGY STAR recommends that homeowners take the following steps to improve energy efficiency at home:

### Analyze Home Energy Use

Homeowners can use the ENERGY STAR Home Energy Yardstick to compare their home's energy efficiency to similar homes across the country and get recommendations for energy-saving home improvements.

### Seal and Insulate with ENERGY STAR

Sealing air leaks that cause drafts and adding insulation are two of the most cost-effective ways to improve home energy efficiency and comfort. They can also reduce a typical home's energy use by 10 percent. Homeowners can use the Do It Yourself Guide to ENERGY STAR Home Sealing to learn how to seal air leaks and add insulation.

### Heat and Cool Efficiently

Changing air filters regularly, installing a programmable thermostat, sealing heating and cooling ducts, and installing properly-sized ENERGY STAR qualified heating and cooling equipment can significantly reduce energy use and lower utility bills.

### Choose ENERGY STAR Qualified Products

More than 50 categories of products have earned the ENERGY STAR, including appliances, lighting, home electronics, and home office equipment. These products meet strict energy efficiency guidelines set by the EPA and U.S. Department of Energy. They use less energy, save money, and help protect the environment.

### Homeowners Can Make a Difference:

Sealing air leaks and adding insulation can reduce a typical home's energy use by 10 percent.

If 1 household in 10 purchased and properly installed heating and cooling equipment that earned the ENERGY STAR, it would prevent the release of more than 17 billion pounds of greenhouse gases.

If every household in the U.S. replaced one incandescent light bulb with an ENERGY STAR qualified compact fluorescent bulb (CFL), it would prevent greenhouse gas emissions equivalent to that of 800,000 vehicles and save enough energy to light more than 2.5 million homes for a year.

ENERGY STAR® is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency.



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## How to Talk to Homeowners About Energy Efficiency (cont.)

### Take a Comprehensive Approach to Energy Performance

Rather than focusing on a single component, such as single-paned windows, an old air conditioning system, or leaky ductwork, Home Performance with ENERGY STAR looks at how comprehensive improvements to the home can work together to provide:

- > Fewer drafts
- > Consistent temperatures across rooms
- > Better ventilation and humidity control
- > Lower utility bills

## Resources for Homeowners

EPA has prepared the following tools and Web-based publications to help homeowners learn about opportunities to improve energy efficiency at home:

- > ENERGY STAR's Home Energy Yardstick
- > The DIY Guide to ENERGY STAR Home Sealing
- > ENERGY STAR's Guide to Energy-Efficient Heating and Cooling
- > Brochures, fact sheets, and savings calculators for ENERGY STAR qualified products
- > ENERGY STAR @ home, an interactive Web tool providing homeowners with advice and energy-efficient home improvement ideas

To learn more, visit [www.energystar.gov/homeimprovement](http://www.energystar.gov/homeimprovement)