

as seen in

# Top 5 Energy Savers

Customized for your home

by William Rogers

How are you dealing with the soaring energy costs this season? Try getting cozy with your computer and let the Environmental Protection Agency's Energy Star web site measure the potential savings of a variety of projects. It can save you time and money and help you decide where to invest first.

Whether you're talking about heating in January or cooling in August, searching for another way to keep the last nickel's worth of energy in your house can become an obsession. But what would you say to an extra 20 percent to 40 percent? That's worth a search. In fact, the EPA has made it a simple process with highly customizable interactive diagnostic tools on its web site, [www.epa.gov/hhiptool/](http://www.epa.gov/hhiptool/)

Conserving heat, electricity, and water are subjects that get a lot of attention in articles, books and magazines. But this web site will help you estimate costs and project future savings. Each upgrade recommendation also includes information about where to find retailers and which manufacturers make products that are Energy Star certified to save 30 percent over average performing units.

More often than not, when you hear about the top five improvements to increase the energy efficiency of your home, you'll get a basic list of the usual suspects. While a high-efficiency HVAC system and a general tightening up of your home are crucial, a tour through the Energy Star's Home Improvement Toolbox web site may show you some surprising answers. With all the information available here, you'll find out how to save big on your utility bill.

**HOME IMPROVEMENT TOOL**

1. Describe/Change my house  
 2. Top Five Upgrades  
 3. Select Upgrades  
 4. Print Upgrades  
 5. Take Action

Session ID: H909  
 Zipcode: 55449  
 Location: Minneapolis, Minnesota

### Top 5 Upgrades

Here is an estimation of your energy bill, and the bill savings from the top 5 recommended upgrades for your house, based on the questions you answered.

**Your House**  
 Annual Energy Cost For Your House: **\$1882**

**Your House Top 5 Upgrades**  
 Annual Energy Cost With Upgrades: **\$1411**

**Potential Savings**  
**\$471**

Breakdown of Annual Energy Use in Your House		
Energy Use	Your House	Your House with Top 5 Upgrades
Heating	\$687	\$434
Cooling	\$283	\$145
Water Heating	\$365	\$307
Appliances	\$284	\$262
Lighting	\$70	\$70
Miscellaneous	\$193	\$193

Legend:  
 Heating (Red)  
 Cooling (Blue)  
 Water Heating (Green)  
 Appliances (Yellow)  
 Lighting (Purple)  
 Miscellaneous (Orange)

**ENERGY STAR Home Improvement Toolbox**

Use these tools to help save money and energy in your home.

- Home Improvement Test
- Benchmarking Tool
- Product Locator
- Home Doctor
- Renovating and Home Improvement
- Energy Star Labeled Home

Tools available:  
 Home Improvement Test  
 Benchmarking Tool  
 Product Locator  
 Home Doctor  
 Renovating and Home Improvement  
 Energy Star Labeled Home

**Wondering where to begin to reduce your energy bills? Let Energy Star help.**

GRAPHICS COURTESY ENERGY STAR

The site asks specific questions about your house, then it does all the math to calculate potential energy savings.

The EPA's Home Improvement Toolbox is a suite of four online Web-based tools that can really help you fine-tune the energy efficiency of your house. By the end of the tour, you'll get the top five energy-efficient upgrade recommendations tailored specifically for your house, in your neck of the woods. You'll also get an option to choose many more suggestions requiring less initial cost and labor.

The toolbox includes the Home Improvement Tool, the Home Doctor, the Remodeling and Home Improvement Tool, and the Benchmarking Tool. Whether you're working to enhance the efficiency of your house or planning your next project, the toolbox can help you calculate estimated costs and project energy savings. All four tools are interactive and can be customized to analyze very specific characteristics of any home.

Don't pass up the links on each page for more in-depth descriptions of the latest products and procedures. Because the EPA provides research funding to top national laboratories, you'll have access to the latest information on current products and those still being tested.

## Home Improvement Tool

The Home Improvement Tool leads you through the process of identifying your home's specific characteristics beginning with your ZIP code. This information triggers certain climate assumptions to project energy costs for your area. It can even determine how your home compares with similar homes in the same community. Then you can enter the approximate percentage of window area per wall, the type of windows, the direction each wall faces, the amount of insulation, and heating/cooling system details. You can even add data from your energy bill for really precise answers.

The program then analyzes your data and prepares a printable, detailed report including annual utility bill savings, upgrade cost, and projects how fast the upgrade will pay for itself. Take the time to answer as many of the ques-

**HOME IMPROVEMENT TOOL**

Based on the zip code you entered, here is a comparison of the energy costs of an average home and an energy-efficient home in your area.

Average Home in your Area: Annual Energy Cost \$1276

Energy-Efficient Home in your Area: Annual Energy Cost \$1031

Session ID: H909  
Zipcode: 55440  
Location: Minneapolis, Minnesota

Now let's see how your home compares.

Answer as many questions as you can. The more questions you answer, the more tailored the recommendations will be. If you don't know the answer to a question, leave it blank and the Home Improvement Tool will use average values for your region.

1. When was your house built? [1990's]

2. How many stories above ground is your house? [2]

3. How many occupants are there in each age group?

ages 5 and under: [2] number of occupants

ages 6-13: [2] number of occupants

ages 14-64: [1] number of occupants

ages 65+: [2] number of occupants

Submit

Do you use more than one of the above heating sources? No  Yes

Your Session Number: H909 [Calculate]

**HOME IMPROVEMENT TOOL**

1. Describe/Change my house 2. Top Five Upgrades 3. Select Upgrades 4. Print Upgrades 5. Take Action

Session ID: H909  
Zipcode: 55440  
Location: Minneapolis, Minnesota

### Customize Upgrades

This page shows additional upgrades for your house based on the questions you answered. You can estimate your bill savings by picking different combinations of upgrades and recalculating.

■ Heating ■ Cooling ■ Water Heating ■ Appliances ■ Lighting ■ Miscellaneous

Annual Energy Cost For Your House: \$1882

Annual Energy Cost With Upgrades: \$1411

Add/Remove Upgrade	Upgrade	Estimated Cost	Annual Bill Savings
Total for Selected Upgrades:			\$471
<input checked="" type="checkbox"/>	Install an ENERGY STAR-labeled programmable thermostat.	Typical Cost: \$190 to \$245 Select a different cost: [ ]	\$182
<input checked="" type="checkbox"/>	Have your ducts professionally sealed to reduce leakage.	Typical Cost: \$200 to \$400 Select a different cost: [ ]	\$110
<input checked="" type="checkbox"/>	When replacing your clothes washer, choose an ENERGY STAR-labeled model.	Typical Added Cost: \$150 to \$450 Select a different cost: [ ]	\$111
<input checked="" type="checkbox"/>	When replacing windows, choose ENERGY STAR-labeled windows.	Typical Added Cost: \$358 to \$1073 Select a different cost: [ ]	\$234
<input checked="" type="checkbox"/>	When replacing your gas water heater, choose an energy-efficient model.	Typical Added Cost: \$40 to \$100 Select a different cost: [ ]	\$17
<input type="checkbox"/>	Insulate your ceiling to at least R-38.	Typical Cost: \$340 to \$540 Select a different cost: [ ] Typical Added Cost: \$200 to [ ]	\$99

You can customize suggested upgrades, allowing calculations for doing some of the work yourself.

# Top 5 Energy Savers

Customized for your home

A printable, detailed report compares energy savings and project costs to determine how and where to invest your time and money most effectively.

**HOME IMPROVEMENT TOOL**

1. Diagnose/Change my house 2. Top Five Upgrades 3. Select Upgrades 4. Print Upgrades 5. Take Action

**Detailed Upgrade Report**

Section ID: 1000 Zipcode: 01400  
Location: Massachusetts, Massachusetts

This is a printable report of the upgrades you selected for your house. You have the potential to save \$471 each year with the upgrades you selected.

	Your House Today	Your House with Selected Upgrades
Estimated Annual Utility Bill	\$1882	\$1411

The energy you save reduces pollution equivalent to taking 1 car off the road for 1 year.

**You selected the following upgrades:**

- Install an ENERGY STAR-labeled programmable thermostat.
- Have your ducts professionally sealed to reduce leakage.
- When replacing your clothes washer, choose an ENERGY STAR-labeled model.
- When replacing windows, choose ENERGY STAR-labeled windows.
- When replacing your gas water heater, choose an energy-efficient model.

**Upgrade Package Summary**

**Economic Benefits**  
Annual Utility Bill Savings: \$471  
Estimated Package Cost: \$938 to \$2268  
Return on Investment: 20% to 50%  
Package Pays for itself in: 2 to 5 years

**Environmental Benefits**  
CO<sub>2</sub> savings is equivalent to taking 1 car off the road for 1 year, or planting 912 trees.  
Savings on investment: 74% to 90%  
Package pays for itself in: 1 year

**Additional Benefits:** Programmable thermostats can help keep your home more comfortable.

**Upgrade Description:** Install an ENERGY STAR-labeled programmable thermostat. EPA estimates thermostats can save consumers 20-30% on heating and cooling bills when used properly.

**Purchasing Tips:**

- Some programmable thermostats have a "smart" feature designed to maximize energy savings conditions in order to determine the best time to turn the system on or off in order to reach the desired temperature.

**More Information**

- ENERGY STAR thermostat product list
- General Information

**Upgrade: Have your ducts professionally sealed to reduce leakage.**

**Economic Benefits**  
Estimated Annual Bill Savings: \$110  
Estimated Lifetime Energy Cost Savings: \$1650  
Upgrade Cost: \$200 to \$400  
Return on Investment: 27% to 59%  
Package pays for itself in: 2 to 4 years

**Additional Benefits:** Sealing leaky ducts can help improve comfort and avoid indoor air pollution during the winter.

## Economic Benefits

Annual Utility Bill Savings: \$471  
Estimated Package Cost: \$938 to \$2268  
Return on Investment: 20% to 50%  
Package Pays for itself in: 2 to 5 years

## Environmental Benefits

CO<sub>2</sub> savings is equivalent to taking 1 car

**Additional Benefits:** Programmable th

**Upgrade Description:** Install an ENF  
thermostats can save consumers 20

**Purchasing Tips:**

ENERGY STAR Home Improvement Toolbox

Home Improvement Tool  
Benchmarking Tool  
Product Locator  
Home Doctor  
Remodeling and Home Improvement  
ENERGY STAR Labeled Home

Click on items in house for more information.

AC, BATH, HALL, HOME OFFICE, KITCHEN, DEN, BASEMENT, CRAWL SPACE, HVAC

- Kitchen Remodel
- Bathroom Remodel
- Adding an Addition
- Basement Remodel
- Heating and Cooling System
- Replacing Appliances
- Replacing Windows
- Replacing Siding
- Replacing Lights
- Adding Insulation
- Home Office

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Last Updated 10/17/00 <http://www.epa.gov/hh/igto/remodel.html>

tions as you can and you'll be rewarded with the most accurate results. Links on this page provide in-depth information about the variety of tests and diagnostic tools used by professional home sealers and what part of the work you can do yourself.

## Home Doctor Tool

The Home Doctor Tool offers specific prescriptions for your home's individual ailments, from damp basements and crawl spaces to mold in the attic and ice dams on the roof. Click on the pull-down menu, then select a symptom and Home Doctor explains the problem and recommends fixes for any of 12 likely symptoms. The links here are basic but useful in pointing the way toward more in-depth information.

## Remodeling Tool

The Remodeling and Improvement Tool is a comprehensive guide to most of the considerations you'll need to think about before you plan that next big project. To avoid creating new problems as you fix the old, consult the site's references to the house as an energy

system. For example, even a slight change in the airflow through your home can dramatically affect the operation of combustion appliances and the purity of the air indoors.

Regulating airflow through your house is serious business now that most homes are sealed better than ever. Levels of carbon monoxide and carbon dioxide can increase significantly with relatively small changes if a house is tightly sealed. If you reduce the flow by sealing up even tighter, combustion by-products from your oven, furnace, water heater, clothes dryer, or fireplace won't get properly vented outside. Without the proper movement of air in your house, the comfort of evenly distributed heat or cooling is compromised.

Adding insulation, replacing windows and doors and even applying exterior caulking are elements in reducing heating costs. Consult the manufacturers' links from this page to determine the best course to increase comfort and reduce energy consumption.

Planning your project with this information can prevent costly conflicts later. Click any of the graphic house components to access useful information and links to the latest products and procedures.

**ENERGY STAR windows**

Welcome

Welcome to ENERGY STAR Windows

ENERGY STAR® windows is a program designed to help consumers identify efficient windows, doors and skylights. By choosing ENERGY STAR® window products you can cut down your heating and cooling costs, and make your home more comfortable at the same time. ENERGY STAR® labeled windows are twice as efficient as the average window produced just ten years ago.

Windows of Opportunity

ENERGY STAR® Windows is a partnership between the U.S. Department of Energy and manufacturers of windows, doors and skylights. The program was introduced by Secretary of Energy Federico Peña on March, 6, 1998 in suburban Washington, DC. [Click here to read the official program announcement from the U.S. Department of Energy.](#)

**ENERGY STAR labeled products**

Find a windows manufacturer that features ENERGY STAR products.

1. Select the state in which you are interested in finding windows manufacturers.

2. Using the climate region map below, choose which region you are interested in finding windows. If you live near the border of two regions pick a window that qualifies in both.

West  
Central  
South

\*A window that qualifies in all climate regions is a good choice wherever you live.

The Energy Star web site links to manufacturers of energy-efficient products.

## Home Benchmarking

The Home Benchmarking Tool is designed to help you compare energy performance among similar homes. This page was under construction at press time but is scheduled to be available this year. If it measures up to the standards of the rest of the toolbox, there's bound to be plenty of useful information here.

Of course, there are many upgrade choices you can use to achieve an overall 20 percent to 40 percent reduction in your energy bills. The Home Improvement Toolbox also offers suggestions for upgrades beyond the top five choices requiring less expense and labor. Selecting combinations of these upgrade suggestions may accomplish the same goal.

For example, installing tracked insulating shades or shrink-wrapping the inside of your windows can make a significant contribution for a fraction of the cost of window replacement. Other inexpensive options include cleaning the coils of refrigerators or adding insulation blankets to your water heater and exposed ductwork in areas not needing heat or cooling. In most areas of the country, a quick call to your energy supplier will get you a low- or no-cost audit on household appliances and systems.

**ENERGY STAR labeled products**

Make sure you picked the proper climate region for where you live, remember a window that qualifies for all regions is a good choice wherever you live.

Click on the manufacturer name to go to that manufacturer's website. Not all manufacturers have associated websites.

Manufacturer	Phone Number
<a href="#">Alsie Inc.</a>	1-800-922-6009
<a href="#">Amermax Building Products</a>	
<a href="#">Andersen Windows</a>	1-800-426-4261 x2953
<a href="#">Atrium Door &amp; Window Company</a>	1-800-375-5570
<a href="#">Certanteed</a>	1-800-782-8777
<a href="#">Crestline Windows</a>	1-800-552-4111
<a href="#">Crystal Window &amp; Door Systems, Ltd.</a>	1-718-961-7300
<a href="#">CrystaLite Inc.</a>	1-800-666-6065
<a href="#">Farley Windows</a>	1-315-764-1111
<a href="#">Gorell Windows and Doors</a>	1-724-465-1800
<a href="#">Great Lakes Window Inc.</a>	1-800-666-0000
<a href="#">Hayfield Window and Door</a>	1-507-477-3224
<a href="#">Heartland Window Manufacturing</a>	1-319-347-2352
<a href="#">Interstate Building Materials, Inc.</a>	1-800-338-9997

These choices prevent energy loss and lower your costs without the expense of a professional energy audit or major expense of materials and time. Whether you choose one or more of the top five recommendations from the Home Improvement Toolbox or search a bit deeper for combinations of less expensive or easier

upgrades, level of expertise can still accomplish the goal of reducing energy costs.

This site is filled with information that can save you hundreds of dollars annually, whether you've already completed most of the upgrades or are just starting to make your home energy efficient. ♦