

Cost Effective Home Energy Improvements

Once again winter and the start of another heating season is upon us. And this year we are faced not only with winter's wrath, but also with record high heating fuel prices. The United States Energy Information Administration is predicting an average increase in spending of about \$300 for homeowners who heat with natural gas over last seasons heating costs. Those who heat with oil can expect an increase of about \$250 over last years cost. While this may be an unpleasant thought, be aware that your heating budget is not completely at the mercy of the weather, or the volatility of heating fuel markets. There are many steps that can be taken that can significantly reduce your home heating costs.

Homeowners often view replacement windows as an improvement that will significantly reduce heating bills. That view may exist because it is heavily promoted by Telemarketers and TV advertisements selling replacement windows. However, even though replacing single-glazed (one layer of glass), poorly fitting windows with highly efficient, double-glazed windows will reduce heat loss, the overall reduction is fairly small, in general, compared to insulation and heating system upgrades. If the older windows in your home are worn out and need to be replaced, or if you will be remodeling your home, then purchasing energy efficient replacement windows may be a good investment (see sidebar on ENERGY STAR® windows).

The new windows will likely add value to your house, and they will also save energy. However, if your primary goal is to optimize the monetary return for the dollars you spend on energy improvements, then money spent on insulation and heating system up-grades is typically much more effective.

According to the U.S. Census bureau, 74% of the housing units in New York State were constructed before 1970, meaning that they were built prior to the energy crisis of the early 1970's. And since the cost of heating fuel was very low prior to the 1970's, this created little incentive to build well-insulated energy efficient homes. So it is highly likely that the many homes across New York are grossly under-insulated. It also means that adding insulation and sealing air leaks in the walls, ceilings and floors of an existing home will usually produce a significant reduction in heating costs in most New York



ENERGY STAR® Windows

Energy experts seldom promote replacement windows as a good strategy for significantly reducing home heating costs. But if you will be replacing windows as part of a home-remodeling project, or you need to replace older deteriorated windows, then choose ENERGY STAR® labeled windows.

The ENERGY STAR® label allows consumers to quickly identify the most energy efficient products available. Products labeled with ENERGY STAR® have met strict criteria set by the U.S. Environmental Protection Agency and the U.S. Department of Energy. To earn the label, products must use significantly less energy than standard products. In the case of windows, ENERGY STAR®-labeled windows must do a better job at reducing heat flow through them than other windows available on the market.

If you will be replacing the older windows in your home, keep in mind that there are two very important criteria you must pay attention to if you want to realize the highest potential energy savings.

- In our northern climate, only windows that have a U-factor of 0.35 or less qualify for the ENERGY STAR® label. U-factor is a measure of how well a window resists heat loss. The lower the window's U-factor, the more energy efficient the window is.
- ENERGY STAR® windows must be installed correctly if you are to realize the full energy saving benefits of these highly efficient windows.

houses. And adding insulation to a house is relatively inexpensive, making it a very cost-effective energy saving improvement.

While some heating systems can last as long as 50 years, replacing these older, yet still operating heating systems, with new highly-efficient systems can pay for themselves in reduced heating bills in just a few years. Even newer heating systems may be so inefficient that replacing them could be cost effective.

There are many other energy-related improvements that could save you money. For example, having the ductwork in your house tested for air-tightness and sealing any leaks can save significant amounts of money on heating bills. There are also opportunities for energy improvements to your domestic water heater, the water that must be heated for bathing and doing laundry. Even improvements in home lighting can provide cost reductions in monthly energy costs.

Given the number of possible improvements you can make to your home, it may seem like a monumental task to determine which ones will save you the most money on your home energy bills. But now there's help. The **Home Performance with ENERGY STAR® Program** provides New York homeowners with a "one-stop" shopping experience for energy efficient improvements in their existing one-to-four family homes. Homes receiving improvements under this Program have lower energy use, reduced emissions, increased durability, greater comfort, and improved indoor air quality. The Home Assessment is not the simplistic type audit many of us experienced during the energy crisis of the 1970's. A Comprehensive Home Assessment includes:

- **Health and Safety Inspection of your Home's Combustion Appliances:**

- Carbon monoxide levels are checked.
- Combustion appliance flues are inspected.
- Gas lines within the house are checked for leaks.
- Ventilation fans are checked.

- **Blower Door Test:**

This determines the extent of air leakage through the walls, floor and ceiling of the house.

- **Duct Testing:**

If you heat your home with a furnace, leaky ducts can be a significant source of energy loss. The contractor performing the assessment will quickly determine the air tightness of the ductwork system in your home by using a device called a duct blaster.

- **Efficiency Test of your Heating System and Hot Water Heater:**

The efficiency of a heating system or hot water heater is a measure of how well it converts fuel into usable heat to warm your house or heat domestic hot water for bathing or doing laundry.

- **Exterior Windows and Doors are Inspected**

- **Analysis of potential electrical savings from lighting and appliance upgrades.**

To obtain further information on the **Home Performance with ENERGY STAR® Program** call 1-877-NY-SMART or visit www.GetEnergySmart.org