Control Your Energy Budget
By Joe Laquatra

While some people can debate whether energy conservation is a sign of personal virtue, those of us who have studied energy efficiency for years know some things for certain: energy conservation is smart and easy, and it increases your disposable income. It protects you from energy price increases that are on the horizon and gives you control over your household budget. Financial analysts like to point out that savings from energy conservation are not taxed, which makes any steps you take to reduce energy use very attractive investments. Another, and more compelling, way to look at energy efficiency is that is an easy way to keep yourself from losing money.

All New Yorkers can do themselves a favor this summer by looking closely at their homes or apartments and understand how they are using energy. Professional help with this is available through the energy audit program of the New York State Energy Research and Development Authority. Homeowners can take more actions on their own. Renters may need to negotiate with their landlords.

Remember that summer is the time to have your central heating system serviced. A technician should clean and inspect the unit and provide you with results of a combustion efficiency test. If your home is heated with a forced-air furnace, don’t forget about the ducts. Leaky ducts, especially those that run through unconditioned spaces, lose heat. Leaking supply ducts will lose heat to their surrounding areas, and leaking return ducts will draw air into them and depressurize the house. While you can make minor duct repairs yourself, a professional should be called for major work. If you seal duct joints, use tape with the Underwriters Laboratories (UL) logo. That ensures that the tape adhesive will not degrade and lose its bond. Another option is to seal joints with mastic.

Water heating is another large energy expense in your home. It typically accounts for about $14\%$ of your utility bill. There are four ways to cut your water heating bills: use less hot water, turn down the thermostat on your water heater, insulate your water heater, and buy a new, more efficient water heater. A family of four, each showering for 5 minutes a day, uses 700 gallons of water a week; this is enough for a 3-year supply of drinking water for one person. You can cut that amount in half simply by using low-flow showerheads and faucets.

If you plan any home improvement projects this summer, keep energy efficiency in mind. If you are re-siding your house, for example, have rigid board insulation installed first. That will reduce thermal bridging (heat lost through exterior wall studs) and increase the efficiency of the wall by $33\%$.

As much as we value windows in our home, we should remember that they are responsible for $10-25\%$ of our heating bills. If your home has single-pane windows, as almost half of U.S. homes do, consider replacing them. New double-pane windows with high-performance glass (e.g., low-e or spectrally selective) are available on the market. Select windows that are gas filled with low-emissivity (low-e) coatings on the glass to reduce heat loss. Or Install exterior or interior storm windows; storm windows can reduce your heat loss through the windows by $25\%$ to $50\%$. Storm windows should have weather-stripping at all moveable joints; be made of strong,

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durable materials; and have interlocking or overlapping joints. Low-e storm windows save even more energy.

Repair and weatherize your current storm windows, if necessary. Install tight-fitting, insulating window shades on windows that feel drafty after weatherizing. Close your curtains and shades at night; open them during the day. Keep windows on the south side of your house clean to maximize solar gain.

Increasing your lighting efficiency is one of the fastest ways to decrease your energy bills. If you replace 25% of your lights in high-use areas with fluorescents, you can save about 50% of your lighting energy bill. Use linear fluorescent and energy-efficient compact fluorescent lamps (CFLs) in fixtures throughout your home to provide high-quality and high-efficiency lighting. Fluorescent lamps are much more efficient than incandescent bulbs and last 6 to 10 times longer. Although fluorescent and compact fluorescent lamps are more expensive than incandescent bulbs, they pay for themselves by saving energy over their lifetime. Look for the ENERGY STAR® label when purchasing these products.

Appliances account for about 20% of your household's energy consumption, with refrigerators and clothes dryers at the top of the consumption list. When you're shopping for appliances, you can think of two price tags. The first one covers the purchase price—think of it as a down payment. The second price tag is the cost of operating the appliance during its lifetime. You'll be paying on that second price tag every month with your utility bill for the next 10 to 20 years, depending on the appliance. Refrigerators last an average of 20 years; room air conditioners and dishwashers, about 10 years each; clothes washers, about 14 years. When you do have to shop for a new appliance, look for the ENERGY STAR® label. ENERGY STAR® appliances have been identified by the U.S. Environmental Protection Agency and DOE as being the most energy-efficient products in their classes. They usually exceed minimum federal standards by a substantial amount.

References:
