

Energy-Saving Tips & Tools for Your Home



AN ALLETE COMPANY

Minnesota Power provides tools, resources and incentives to help you develop an energy-saving plan that's the right fit for you. Sign up for MyAccount to view and track your electricity usage as well as view and pay bills, set energy markers and alerts at www.mnpower.com/MyAccount.

Lighting

There are more lighting choices available on store shelves than ever before. Even with all the new choices, it's still simple – **look for the ENERGY STAR® label.** The ENERGY STAR label lets you know the bulb is independently certified and has undergone extensive testing to ensure energy savings and performance promises.



By replacing your home's five most frequently used, energy-inefficient light fixtures or the bulbs in them with models that have earned the ENERGY STAR label, you could save up to \$45 each year. An ENERGY STAR certified light bulb uses about 70 to 90 percent less energy and lasts 10–25 times longer. Most ENERGY STAR LED bulbs are dimmable. Check the bulb package for more information.

Minnesota Power offers rebates on a variety of LED light bulbs and related products at participating retailers. Visit www.mnpower.com/Rebates or call 218-355-2843 to learn more.

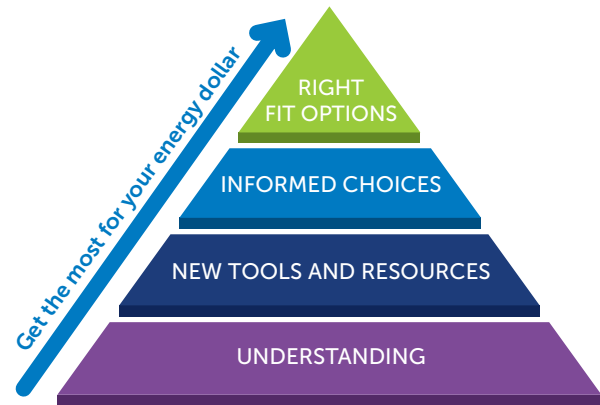
Water Heating

If you have an electric water heater or plan to purchase one, get a free Water Savings Kit that includes a water-saving showerhead, two faucet aerators, shower timer, temperature gauge and instructions. Installing the kit materials can save you 5 to 10 percent on your water heating costs as well as reduce water usage and sewage bills. Visit www.mnpower.com/WaterKit or call 218-355-2843 to order your free Water Savings Kit.

Check the water temperature. Lower the temperature of your hot water heater to 120 degrees Fahrenheit to save energy and reduce the risk of scalding. Each 10 degree reduction in temperature saves about 3 to 5 percent on water heating costs. But keep the water temperature at 140 degrees if your dishwasher doesn't have a separate heating unit. Caution: Be sure to turn off the power to the electric water heater before adjusting the thermostat.

Wrap your water heater with an insulated blanket and apply pipe wrap insulation on hot water pipes to reduce water heating costs 5 to 8 percent. It is also a good idea to wrap cold water pipes. If the basement or crawlspace is uninsulated, insulated cold water pipes could be less prone to freezing in cold climates. If the basement is conditioned space, an insulated cold water pipe won't absorb heat, avoiding unwanted condensation and increased humidity levels. New high-efficiency water heaters insulated with foam don't need a blanket, but using a blanket on a standard water heater that's 15 years or older can cut your water heating bill by about \$20 a year. Installing a water-saving showerhead and washing and rinsing laundry in cold water could save another 3 to 5 percent on water heating costs.

Upgrade to a more efficient unit. Consider an ENERGY STAR



Unlock the power of the pyramid to make effective energy choices. Visit us at www.mnpower.com/EnergySavingTools

heat pump water heater (HPWH) when it's time to replace your standard electric storage water heater. A HPWH uses less than half the energy of a standard electric unit partially because it transfers heat from the surrounding air to the water rather than creating heat. As an added bonus, Minnesota Power offers a rebate. Check out www.mnpower.com/waterheaterrebate for details.

Heating and Cooling

Change air filters regularly on furnaces, air conditioners, and heat pumps. Check the filters every month, especially during the high-use seasons of winter and summer. If a filter looks dirty after a month, change it. At a minimum, change filters every three months. A dirty filter slows air flow and wastes energy by making the system work harder to keep you warm or cool. A clean air filter also prevents dust and dirt buildup that can lead to expensive maintenance or early system failure. Monthly filter replacements for a furnace can save 5 percent on household bills. Minnesota Power offers a rebate on air source heat pump tune-ups. Visit www.mnpower.com/ASHPtuneuprebate for more information.

Clean and service fossil fuel heating systems annually to ensure optimum efficiency and safe operation. This can reduce heating and cooling costs by 5 to 10 percent as well as extend the life of the equipment.

Interested in adding air conditioning to your home? Choose an air source heat pump (ASHP) and you'll get cooling and heating all from one system! Visit www.mnpower.com/Rebates and click on Heating & Cooling for more information on this technology and for details on rebates available from Minnesota Power.

Use a Smart thermostat. Adjust your thermostat one degree (down in winter, up in summer) for 15 hours a day to save 2 percent on your fuel bill. Minnesota Power offers rebates on programmable and smart thermostats that control an electric heat source. Visit www.mnpower.com/Rebates to learn more.

Appliances/Electronics

Use the energy-saving setting on refrigerators, dishwashers and other appliances. Set refrigerators and freezers at recommended temperature levels: 36 to 38 degrees for refrigerators and 0 to 5 degrees for freezers. Keeping temperatures 10 degrees lower than recommended can increase operating costs by 25 percent. Also, think about recycling your old, working refrigerator or freezer in our recycling program and get a \$50 reward. Visit www.mnpower.com/RefrigeratorRecycling to schedule a pickup or call 866-552-6755.

Clean refrigerator coils and make sure you have at least a 1-inch clearance on the sides and top of the appliance. This increases the life of the refrigerator and saves energy. If the door seals are worn or ripped, have them replaced.

The hose that vents your clothes dryer outside should have a minimum number of turns or bends in it to help reduce drying time and lower the moisture level in your home. Using rigid type ducting on all dryers to improve operation efficiency and reduce the risk of fires is recommended. Check the outside vent hood to see if it closes properly. Hoods that don't are a major source of heat loss in the laundry room. Cleaning the filter after drying each load will improve the efficiency of your dryer and add years to its life.

Appliances like dehumidifiers, pumps, toilet mixing valves, engine heaters, furnace fans and hot tubs can add 15 to 50 percent to your energy bill, or even more if they're defective or running improperly. Minnesota Power has teamed up with 30 libraries in our service territory to make electric consumption meters available for check-out. These easy-to-use devices monitor the electrical consumption of 120-volt appliances such as refrigerators, microwave ovens and televisions, and give the user an idea of the appliance's energy consumption.

When you're ready to purchase new appliances, choose ENERGY STAR certified options. Although purchase price is slightly more than a standard model, you'll save money on operating costs by reducing the energy use of that unit over its lifetime. Plus Minnesota Power offers rebates on many ENERGY STAR appliances. Visit www.mnpower.com/Rebates to learn more.

Reduce your plug load to save energy. Plug load is the electric usage load from plugged-in devices (excluding heating and cooling systems or larger appliances like refrigerators) on household outlets. Turn off TVs, lights and radios when you're not using them, unplug your electronic equipment when you are away for several days and use a smart power strip for easy unplugging of computer workstations and entertainment centers.

Button Up Your Home

Attic insulation can save 20 to 35 percent in heating costs and up to 15 percent in air conditioning costs. Insulation is measured by its R-value or its resistance to heat flow. In this part of the country, R-44 is recommended for insulation in an attic, R-13 for walls in existing homes, and R-21 for new homes.

Seal air leaks. Even in a well-insulated home, air leaks can cause considerable heat loss in the winter and cool air loss in the summer. Air leaks represent 35 percent of the heat loss in a

typical home. Seal leaks by caulking and weatherstripping around doors and windows, in corners formed by siding, on sills where wood structure meets the foundation, and in areas where pipes and wires penetrate the ceiling below an unheated attic.

In a typical home, more heat is lost through doors and windows than through walls or ceilings. Energy-efficient windows can help reduce heating and cooling costs. When adding or replacing windows, consider low-E and gas-filled multipane windows. The most energy-efficient doors are fiberglass or metal skinned with a polyurethane foam core. They are six times more energy efficient than a standard 2-inch wood door. Add a storm door and weatherstripping to improve the energy efficiency of an existing door.

Excess condensation on windows may be a sign that the moisture level in your home is too high. Excess moisture may be caused by drying firewood inside, hanging laundry indoors, venting dryers indoors, inadequate ventilation in the home, or improperly landscaped yards that allow water to drain along foundation walls. Increasing ventilation reduces moisture and improves the comfort and durability of your home.

Kitchen and bathroom fans, if used consistently, reduce moisture and improve indoor air quality. At a minimum, bathroom fans should be capable of 50 CFM (cubic feet per minute) and kitchen fans, 100 CFM, intermittent. The fan must be vented outside with a minimum number of 90-degree turns. We recommend fans approved by the Heating Ventilation Institute with a sone rating of less than two (which keeps the noise down). Homes with excessive moisture problems may require a whole house system, such as an air-to-air heat exchanger or central exhaust-only system.

Request a Home Energy Analysis (HEA): either a standard free HEA or a fee-based comprehensive building diagnostics, that includes a blower door test and an infrared thermal scan. Energy professionals will identify cost-effective improvements for a more comfortable home that uses less energy. You'll also get free energy- and water-saving products customized to your needs, and receive information on energy-saving tools and special offers from Minnesota Power. Visit www.mnpower.com/HEA for more information and to request your HEA.

Building a New Home

Contact Minnesota Power and ask about the New Construction Energy Efficiency Program. We have established construction and ventilation standards that result in an average 25% reduction in your annual space heating energy costs while adding to the comfort, quality and durability of your home. Visit www.mnpower.com/RNC or call 218-355-3206 to speak to an Energy Efficiency Program consultant.

Questions?

(218) 355-2843

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www.mnpower.com/EnergyConservation