green home guide

energy & cost saving tips

Free - *Things That Cost Nothing and Save Cash;*

- Turn down water heater thermostat to 120°F.
- Turn off lights when leaving a room.
- Set thermostats to 68 to 70°F in winter when you're home, and down to 62°F when you go to bed or when you're away.
- Set thermostats to 76 to 78°F when home and 82°F when not home when running the air conditioner in the summer (Programmable thermostats do this automatically see below).
- Use energy-saving settings on washing machines, clothes dryers, dishwashers, and refrigerators.
- Don't waste water, hot or cold, inside or outside your home.
- Clean your refrigerator's or freezer's condenser coils once a year.
- Air-dry your clothes outdoors.
- Close heating vents in unused rooms.
- Repair leaky faucets and toilets (5 percent of water "use" is leakage).
- Close drapes (and windows) during sunny summer days and after sunset in the winter.
- Remove underused appliances like garage refrigerators from service and have them recycled.
- Remove halogen torchieres from service.

Simple and Inexpensive - *Things That Will Pay for Themselves in Lower Energy Bills in Less Than a Year*

- Install a water-saving 2.5-gallon-per-minute showerhead ($15).
- Install water-efficient faucet heads for your kitchen and bathroom sinks ($2 each).
- Install a programmable thermostat ($26).
- In the attic and basement, plug the air leaks a cat could crawl through, and replace and re-putty broken window panes (about $20).
- Clean or change the air filter on your warm-air heating system during winter and on air conditioning units in the summer ($2-$15).
- Install an R-7 or R-11 water heater wrap ($12).
- Insulate the first six feet of hot and inlet cold water pipes ($6).
- Install a compact fluorescent light bulb in the fixture you use the most ($15).

Getting Serious - *Measures That Collectively Will Cost Up to $500 and Have Paybacks of One to Three Years (these activities can have an impact on IAQ)*

- Get a comprehensive energy audit, including a blower door test, to identify sources of air infiltration.
- Caulk and weatherize all leaks identified by the test. Start with the attic and basement first (especially around plumbing and electrical penetrations, and around the framing that rests on the foundation), the weatherize windows and doors.
- Seal and insulate warm-air heating (or cooling) ducts.
- Have heating and cooling systems tuned up every year or two.
- Install additional faucet aerators, efficient showerheads, and programmable thermostats.
- Make insulating shades for your windows, or add insulating storm windows (or, in a southern climate, shade sunny windows or add solar gain control films).
- Insulate hot water pipes in unheated basements or crawlspaces.
- Replace failed appliances with Energy Star models at little incremental cost

Going All the Way - *Measures That Will Save a Lot of Energy and Money, But Will Take Three to Fifteen Years to Pay for Themselves (mechanical ventilation should also be present at this level of activity)*

- Foundation: insulate inside rim joist and down the foundation wall to below frost-line to R-10. Remember to caulk the rim joist and sill areas first.
- Basement: insulate the ceiling above crawlspaces or unheated basements to at least R-19 in cold climates. If your basement is heated, insulate the inside of basement walls to R-10. Basement or foundation insulation is usually not needed in hot climates. You should install a ground vapor retarder if none is present.
- Attic: increase attic insulation to R-38.
- Walls: adding wall insulation is more difficult and expensive, but may be cost-effective if your house is uncomfortable and if you have empty wall cavities. Installing insulation at high density will also greatly reduce air leakage.
- Install more compact fluorescent bulbs. Put them in your most frequently used fixtures, including those outdoors. (2 or more hours of use per day)
- Replace exterior incandescent lights with compact fluorescents and put them on a timer or motion sensor if they're on more than a couple of hours a night.
- Convert to solar water heating, and perhaps also supplementary solar space heating.
- Upgrade your water heater, furnace, boiler, air conditioners, and refrigerator to more efficient models (refer to Energy Star). Newer units are far more efficient. Upgrading is often cost-effective, and definitely so if you need to replace failing units anyway. Also, if you've weatherized and insulated, you'll be able to downsize the heating and cooling system. If the house is tight, use only seal combustion appliances. If the air handler will be used for ventilation or even when the furnace run time will be long, chose an ECM.
- Upgrade to super insulating or at least low-emissivity windows in cold climates, or low solar transmittance windows in hot climates, if replacement is needed.
- Replace high-flow toilets with modern water-efficient toilets that use 50-80 percent less water.
- Install awnings or build removable trellises over windows that overheat your home in the summer.
- Plant a tree to shade your largest west window in summer. You won't save any money for years, but you'll get an A+ for long-range vision.

Health and Safety Concerns - *Any approach to conservation should be in this order; to create a durable structure, a safe home for the occupants, a comfortable home, and finally an energy efficient home*

- Too much moisture can spell disaster for a building. Keep bulk moisture out through proper flashing and drainage. Don't tighten homes with large moisture sources. Assure ventilation to remove internally generated moisture. Mold and other biological contaminants are becoming a major problem in homes because of poor water management practices.
- Atmospheric combustion appliances will not vent if large negative pressures occur where they are located. Duct leakage and large exhaust equipment can create these pressures. Reducing the leakage rate of a building can lead to increased negative pressures. All appliances should be tested under worst-case conditions after any work is done. Back drafting appliances will increase indoor moisture levels and could pose a CO danger.
- CO from attached garages can be a significant problem. Any air sealing strategy should include the isolation of the garage from the living spaces.
- Lead paint and asbestos are common in older homes and care must be taken during major renovations.

Rural Action
Working Together to Revitalize Appalachian Ohio

The Rural Action Energy Committee

To confront the escalating climate crisis, and develop community-based solutions that integrate well with green economic development, a group of concerned citizens has organized as Rural Action's Energy Committee, meeting every month to share information and develop strategies for reducing energy use impacts in their communities while growing the green economy. The committee's goal is to develop programs on applied energy projects and educate communities about their options to create green businesses and jobs while reducing carbon emissions and energy use and the associated costs. In this way, Rural Action aims to help the coalfields of Ohio – a region so often associated with being the source of the problem – engage in the climate change conversation and take practical steps toward being part of the solution to combine energy savings and carbon footprint reduction with social entrepreneurship.

The Energy Committee is compiling information for a directory of local resources for energy efficiency services, such as; certified home energy auditors and Energy Star or BPI compliant energy retrofit contractors. If you have information to share about local contractors for any of these services please contact Teny Bannick at bannickten@yahoo.com .

This booklet was reprinted with permission from **Green Energy Ohio** (GEO), as posted at their website at Resources, Efficiency Checklist; http://www.greenenergyohio.org

Other Links of Interest

Grid Smart Ohio	http://gridsmartohio.com
Energy Star	http://www.energystar.gov
Green Energy Ohio	http://www.greenenergyohio.org
Ohio HWAP	http://development.ohio.gov/cdd/ocs/hwap.htm
AEP Ohio	http://www.aepohio.com
Columbia Gas	http://www.columbiagasohio.com
American Solar Energy Society	http://www.ases.org
Affordable Comfort Institute	http://www.affordablecomfort.org
Green Building Advisor	http://www.greenbuildingadvisor.com
Whole Building Design Guide	http://www.wbdg.org
Rocky Mountain Institute	http://www.rmi.org/