



BLUEGRASS GREENSOURCE

ENERGY AUDIT KIT MANUAL

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ENERGY AUDIT KIT MATERIALS LIST:

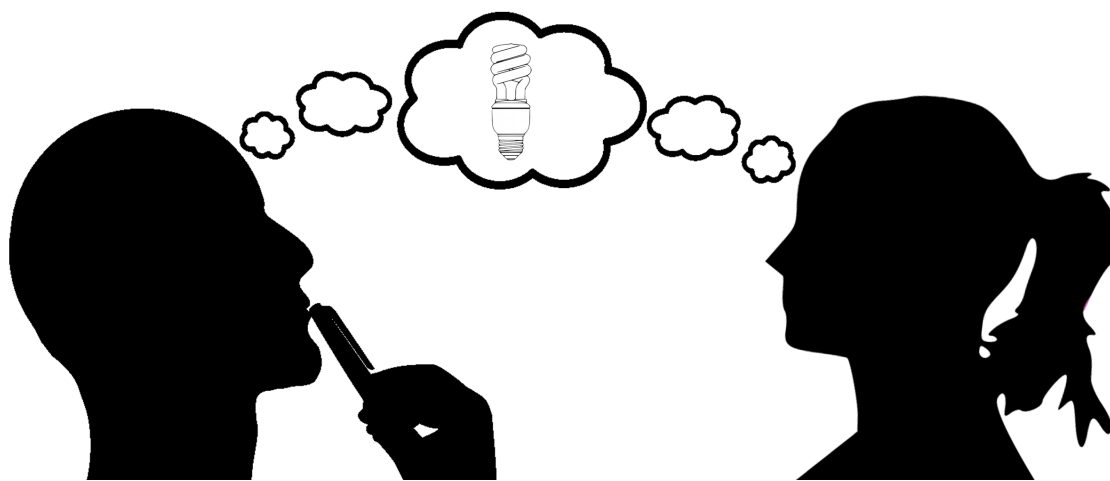
Kill-a-Watt Meter
Infrared Thermometer
Foot Candle Meter
Refrigerator Thermometer
Instant Read Thermometer
Energy Audit Kit Manual
TogetherWeSave Easy Energy Tips Booklet

INTRODUCTION

Energy efficiency means using less energy to provide the same service, and therefore making your home more energy efficient will result in lower utility costs. The Bluegrass Greensource Energy Audit Kits are designed to guide you through the first steps of making your home more energy efficient. By using this kit you can find areas in your home that could use more insulation, are leaking cold air, or appliances that are using energy even when turned off.

The two biggest sources of a home's energy usage are its HVAC system and hot water heater. Keeping your house well insulated, as well as preventing air leaks and maintaining a proper temperature for hot water can lead to great cost savings, and a more comfortable home.

After you have completed your home audit, check out our Energy Savings page (www.bgGreensource.org) and the TogetherWeSave easy energy tips booklet to find out ways you can improve your home's energy efficiency.



HOW MUCH DO YOUR APPLIANCES COST YOU?

While this kit's Kill-a-Watt meter can tell you exactly how much energy your appliances use, these guidelines will help you estimate how much your appliances really cost.*

KITCHEN

	hours used per month	Kwh per month	cost per month
Range	15	33	\$3.99
Dishwasher	25	30	\$3.86
Microwave	15	23	\$2.79
Refrigerator-Freezer		197	\$23.64
Coffee Maker	10	10	\$1.22

LIVING ROOM AND HOME OFFICE

	hours used per month	Kwh per month	cost per month
Plasma TV	185	63	\$7.51
Stereo	70	10.5	\$0.92
Laptop Computer	120	12	\$1.45
Xbox 360	185	45	\$5.43

UTILITY ROOM

	hours used per month	Kwh per month	cost per month
Clothes Dryer	20	74	\$8.92
Iron	12	9	\$1.11
Hot Water Heater (for 2 people)	93	419	\$50.22
Portable Space Heater	240	358	\$42.96

*Costs have been calculated at .12 cents per kilowatt hour.
Information provided by Blue Grass Energy.

KILL-A-WATT™ METER MONITOR

The Kill-a-Watt Meter is used for measuring the energy usage of appliances that generally stay plugged-in such as televisions, radios, and lamps.

Keep in Mind: Even when turned off, many appliances go into 'stand by' mode and still consume power. Consider plugging electronic into power strips and turning off when not in use.



INSTRUCTIONS

1. The LCD shows all meter readings: Volts, Current, Watts, Frequency, Power Factor, and VA. The unit will start to accumulate KWH and powered duration time (hour) after power is applied.

2. Press Volt Key for true RMS Voltage (Volts) display.
3. Press Amp Key for true RMS output current (Amps) display.

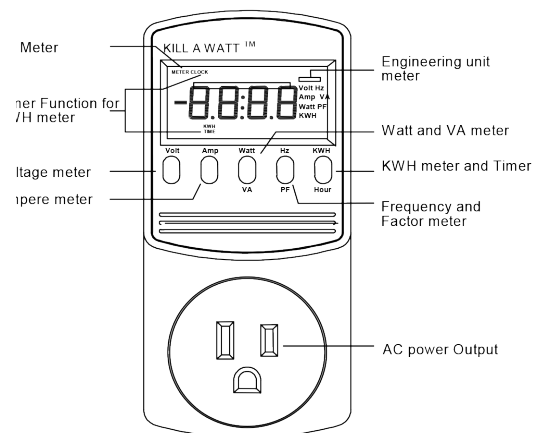
4. The Watt/VA Key is a toggle function key. Press the Watt/VA key once to display Watt meter, then press key to display VA meter. The LCD will display Watts as the active power, where VA is the apparent Power. ($VA = V_{rms} Arms$)

5. The HZ/PF is a toggle function key. Press the HZ/PF key once to display the frequency (Hertz), then press key to display the Power Factor. HZ is the Frequency of output Voltage, where PF is the Power Factor ($PF = W/V_{rms} Arms$).

6. The KWH/Hour is a toggle function key. Press the KWH/Hour key once to show the cumulative energy consumption since power was applied to the unit. Then press key to display the cumulative time since power was applied to the unit.

7. Consumption will be displayed in Kilowatt-Hours (from 0.01 KWH to 9999 KWH). Time will initially be displayed as Hours:Minutes (from 00:00) and switch to Hours (to 9999). Counters will recycle to zero when they reach their maximum. To reset, remove power from unit momentarily.

Warning: DO not exceed maximum ratings as detailed on label.



INFRARED THERMOMETER



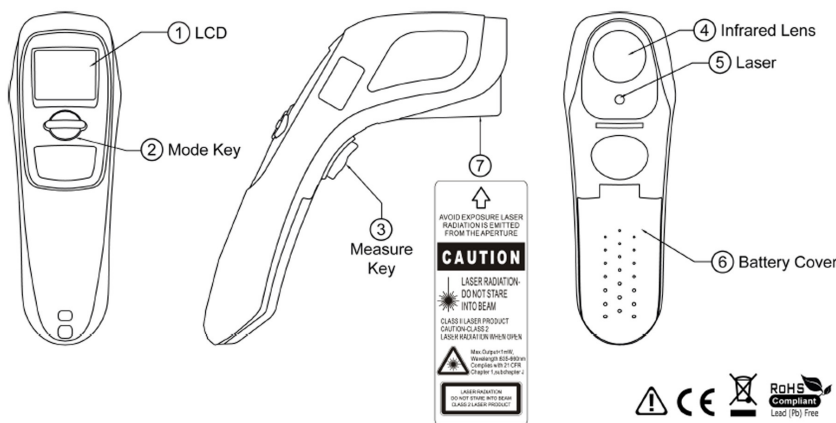
An Infrared Thermometer is used for identifying poorly-insulated areas in walls, floors, and ceiling. It is also used to identify thermal radiation given off by unwrapped hot water pipes.

Keep in Mind: Abnormalities in temperature readings may indicate a lack of insulation or too much air flow. The closer you are to the area being measured, the more accurate the measurement.

INSTRUCTIONS

1. Simply aim the thermometer at the measure target with the Infrared Lens (4) and press Measure Key (3) to display the surface temperature.
2. During the measurement, the maximum reading will be displayed beside the MAX icon.
3. The Distance to Spot Ratio is 12:1. Please make sure the target area is within the field of view.

The thermometer is a non-contact infrared thermometer with Real-Time Maximum (MAX) data. Please remember to keep away from children and don't use it for safety or health related applications.



FOOT CANDLE CHECKER



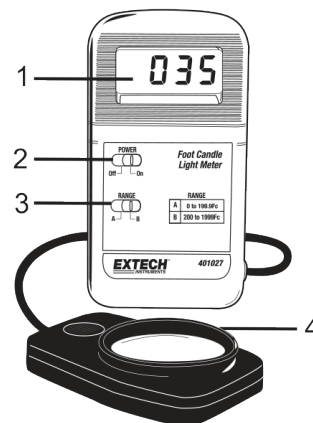
A Foot Candle Meter is used for monitoring visible light levels in your home.

Keep in Mind: The recommended light level for the home is 13.95 foot candles (FC).

INSTRUCTIONS

1. Slide the ON/OFF Switch to the ON position.
2. Fold out the meter's rear tilt stand and set the meter on a desktop.
3. Select range 'B'.
4. Hold the Light Sensor with the white lens facing the light source to be measured. The sensor can also be placed on the desktop facing in the direction of the light source.
5. Read the light measurement on the LCD display.
6. If the measurement is less than 200 fc, select the lower 'A' range.

Display
ON/OFF switch
A-B Range switch
Light sensor



REFRIGERATOR THERMOMETER

The refrigerator thermometer is used for testing the temperature in your refrigerator and freezer.

Keep in Mind: the ideal temperature in your refrigerator is between 35 and 38 degrees Fahrenheit.



INSTRUCTIONS

Hang or stand in refrigerator. Take thermometer reading.

INSTANT READ THERMOMETER



The instant read thermometer is used if you do not have easy access to the hot water heater, and it assesses its temperature.

Keep in Mind: Ideal water temperature for energy savings is 120 degrees Fahrenheit.

INSTRUCTIONS

Hold under running hot water from the faucet closest to the hot water tank to test temperature. Take thermometer reading. Ideal water temperature for energy savings is 120 degrees Fahrenheit.

PROGRAMS & RESOURCES

KY HOME PERFORMANCE

KY Home Performance helps Kentucky homeowners save energy & money and improve the comfort of our homes.

Benefits of KY Home Performance:

- Average savings of 20 percent or more on utility bills.
- Fewer drafts, greater comfort, and a healthier environment year-round.
- Confidence in working with KY Home Performance because your upgrades will be performed by specially-trained professionals.
- All homes receive whole-house energy evaluation by trained Building Performance Institute-certified professionals.
- Energy-efficiency improvements are a solid investment in your home's value today, and the payback gets better with every utility rate increase.

Phase II:

KHP has moved into Phase II which consists of two easy-access financing products to make energy-efficient improvements, including new mechanicals and equipment for your single-family home. Preapproval for financing is quick and easy with permanent approval typically within 24 hours.

1. Whole House System: rates below apply for whole house improvements
 - 10-year unsecured loan rate: 6.99% (up to \$15,000)
 - 5-year unsecured loan rate: 3.99% (up to \$15,000)
 2. Single-Measure: Individual installations are eligible for the following loan terms:
 - 10-year unsecured loan rate: 9.99% (up to \$15,000)
- Geothermal (as a renewable resource) qualifies for:
- 5-year unsecured loan rate: 3.99% (up to \$15,000)
 - 10-year unsecured loan rate: 6.99% (up to \$15,000).

To see if you meet the minimum requirements and for more information:

Call: 877-282-9448 or Visit: <http://kyhomeperformance.org/Pages/Finance-Options.aspx>



PROGRAMS & RESOURCES CONT.

KY WEATHERIZATION ASSISTANCE PROGRAM

The Weatherization Assistance Program is the nation's largest residential energy efficiency program. Trained inspectors and crews with state of the art equipment aim to reduce the cost of energy for low income families. The mission of the Kentucky Weatherization Assistance Program is to improve energy efficiency, household safety, and to educate the public about maintaining energy efficiency. You can apply for weatherization assistance through Community Action Kentucky at their office. To apply you need: SSN#'s for all family members, income verification for everyone over 18 residing in the home, Columbia Gas account number, and KY utilities account number.

Office: 913 Georgetown St. Lexington, KY 40508

EMERGENCY UTILITY BILL ASSISTANCE

Many organizations in Lexington KY provide emergency financial assistance on utility bills. While the energy audit kit may provide lower utility costs next month, do not hesitate to call these organizations for immediate assistance for high utility bills:

- Community Action Council: (859)233-4600
- Catholic Charities: (859)253-3339
- Lexington Rescue Mission: (859)368-8057
- Salvation Army: (859)252-7706



INCENTIVES AND REBATES

Personal tax credits are available for passive solar space heat, solar water heat, solar space heat, photovoltaics, wind, geothermal heat pumps, combination active solar space- heating, and water heating systems.

With a maximum credit of \$500, residents may take a credit equal to \$3/W (DC) of rate capacity for the installation of photovoltaic (PV) system. With a maximum \$250 for geothermal technologies and \$500 for solar and wind technologies, 30% of eligible costs.

For more information:

Phone: 502-564-4581 Web: www.revenue.ky.gov

EFFICIENCY REBATES - KU

Home energy rebates can range from \$50- \$750 on certain qualified Energy Star appliances, high-efficiency HVAC systems, window film, high-efficiency replacement windows.

COMMERCIAL REBATE PROGRAM - The Commercial Rebate Program helps commercial customers earn cash rebates for making energy-saving improvements to their existing facilities or building new facilities above state building code. As an additional benefit, we'll also rebate part of your energy audit costs.

For more information:

Phone: 800-981-0600 or 800-331-7370 Web: www.lge-ku.com/rebate/

EFFICIENCY REBATES - BLUE GRASS ENERGY

BUTTON-UP WEATHERIZATION - Members may receive up to \$1,370 for energy efficiency improvements, which include adding insulation, replacing windows and air sealing.

HVAC DUCT SEALING - Members may receive \$250 for sealing duct work. You may do the work yourself, or hire a contractor. A Blue Grass Energy representative will perform a duct leakage test before and after duct sealing.

HEAT PUMP RETROFIT - Members may receive up to a \$1,000 incentive for replacement of an existing heat source that must be either an electric furnace, baseboard heat, or ceiling cable heat, with a high-efficiency heat pump. All rebates are for electrically-heated, residential homes only.

APPLIANCE REBATES - Members may receive between a \$50-\$300 rebate for making energy smart purchases on Energy Star appliances. Qualifying appliances are a freezer, dishwasher, clothes washer, refrigerator, heat pump water heater, air source heat pump, and central air conditioner. To verify a qualifying Energy Star appliance call 1-888-782-7937.

For more information:

Phone: 888-546-4243 Web: www.bgenergy.com

EFFICIENCY REBATES - COLUMBIA GAS OF KY

WarmWise Natural gas appliance rebates can range from \$100-\$400. Applicable appliances are a Forced air furnace, dual fuel furnace, on demand water heater, tank water heater, power vent water heater, space heater, gas fireplace, or gas log.

To apply for this program and more information:

Phone: 1-800-432-9345 Web: www.columbiagasky.com

ENERGY SAVING TIPS

There are many things that can be done in residential areas for free that will affect efficient energy use. These things include:

- Connect electronic equipment to power strips and turn off when not in use.
- Turn your water heater temperature down to 120 degrees.
- Enable power management features on your home computer and monitor.
- Use a thermometer to adjust your refrigerators temperature to stay at 37 degrees.
- Only use ceiling fans when in the room.
- If possible, turn the dryer option off on your dishwasher. If not possible, catch the dishwasher before it begins drying, prop open the door and let dishes air dry.
- Don't over dry your clothes and clean the lint trap before every load. If possible, hang to air dry.
- Keep air registers, returns, and doors open and clear.
- Unplug any battery chargers and power adapters when not in use.
- Find all vents in your home, and if covered up by furniture, rearrange so that furniture is not blocking vents to improve airflow.
- Check out an infrared camera from Bluegrass Greensource to visually assess air leakage in your home (\$30 security deposit, deposit returned if the camera comes back undamaged).
- Make sure your fireplace damper is closed when not in use.

Information Resources:

It's easy to lower your energy use in your home and save some cash on your monthly utility bill!

Follow the tips above and use the links below for more ideas.

- www.lexingtonky.gov/energy
- www.bggreensource.org/what-you-can-do/energy-efficiency/
- www.energystar.gov
- www.simplesavings.coop