

Scaling down on energy use

Find smart ways to conserve and manage your electricity

Hawaiian Electric Company, Hawaii Electric Light Company, and Maui Electric Company are pleased to have the opportunity to provide you with information on electricity use and how to wisely manage it.

What's a kWh?

kWh is the abbreviation for kilowatt-hour.

To understand it, let's start with a watt.

A **watt** is a unit of electrical power that is used to represent the amount of electricity needed to power lightbulbs, appliances, and electrical equipment. As a consumer you probably purchase lightbulbs based on their wattage, say a 100-watt bulb.

A **kilowatt** is a unit of electrical power equal

to 1,000 watts; kilo comes from a Greek word meaning thousand. It can be used to represent the size of an electrical load or the rate at which energy is being used.

A **kilowatt-hour** is a unit of electrical energy, the amount equal to one kilowatt used for one hour. For example, a 1,000-watt appliance, such as a hair dryer,

if left running at maximum heat for one hour would consume one kilowatt-hour (kWh) of energy. Another example is having ten 100-watt lightbulbs in your house turned on for one hour.

Your electricity bill is calculated based on the number of kilowatt-hours you use to power the electrical appliances in your home during your billing cycle.



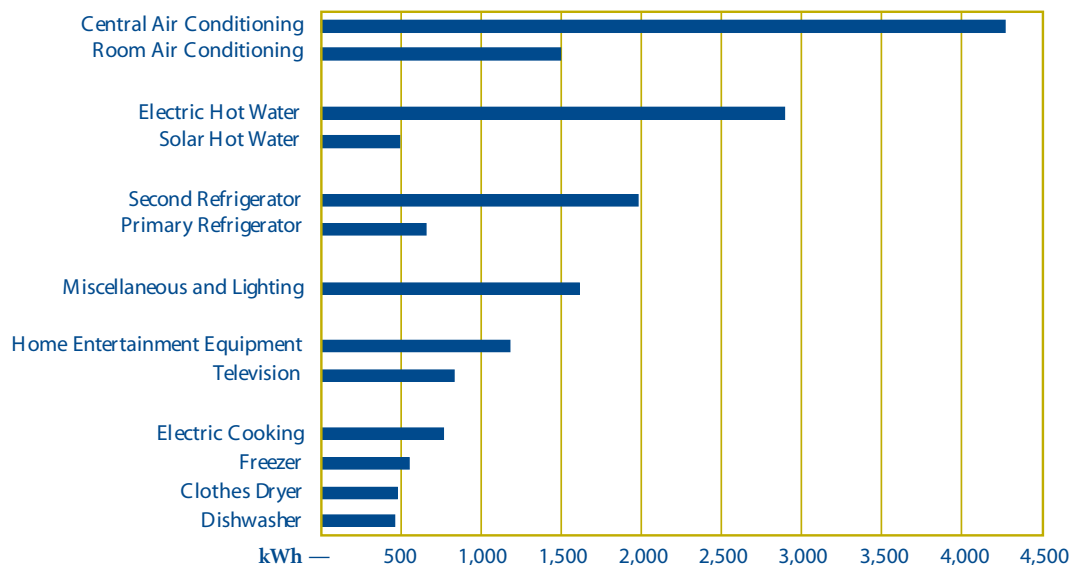
Where your electricity goes

You can help control your electricity costs by being aware of which appliances in your home use the most energy and using them wisely.

The biggest energy users in Hawaii are air conditioners, electric water heaters, refrigerator/freezers, and swimming pool pumps.

The accompanying bar chart shows typical annual energy use by a family of four. Your usage may differ depending on your household activities as well as the type, number, and age of your appliances.

Annual energy use for a family of four



About the chart:

■ **Air conditioning** – Figures assume that either you're using central or split-system air conditioning and the entire home is being cooled; or, you're using room air conditioning (window units) and only individual rooms are being cooled.

■ **Water heating** – Energy use for both electric hot water and solar hot water are listed to illustrate the difference in energy use. Solar water heaters that are well-designed and properly sized can reduce water heating costs by 80 to 90%.

■ **Primary and second refrigerator** – Figures assume that the primary refrigerator is a newer, more energy-efficient model and the second refrigerator is older and less energy efficient.

■ **Home entertainment equipment** – Figure includes large televisions, cable boxes, VCR/DVD players, stereos, game boxes, and computers and peripheral equipment.

■ **Television** – Figure includes 36-inch or smaller color TVs.

TOP TEN TIPS FOR ENERGY CONSERVATION

The following tips include simple and low-cost ways to reduce energy use and save money.

1. Replace traditional incandescent lightbulbs with CFLs

Compact fluorescent lights (CFLs) use about one-fourth the energy of old-fashioned incandescent bulbs, last longer, and are cooler, reducing the need for air conditioning. Changing just one 100-watt bulb to an equivalent 26-watt CFL, based on three hours use per day, can save 81 kWh and \$24 per year per bulb.

2. Use fans instead of air conditioners

Two fans, rather than an 8,000 Btu/H (British thermal units per hour) room air conditioner running four hours a day, will save over 1,150 kWh and \$345 per year.

3. Shorten showers

Cutting just two minutes per shower could save up to 1,533 kWh and \$460 per year.

4. Fix leaky faucets

A faucet leaking just one hot-water drop per second costs 400 kWh and \$120 per year.

5. Wash clothes in cold water

Switching from Hot Wash/Warm Rinse to the Cold/Cold cycle on a standard, top-loading washing machine for just two loads a week can save 225 kWh and \$68 per year.

6. Eliminate phantom loads

Even when turned off, appliances like hairdryers, cell phone chargers, and televisions use energy. Use a power strip to completely turn off computers (after properly logging off), monitors, printers, and chargers for camera batteries, phones, and PDAs, all of which use standby power when not in use. Using a power strip to turn off your computer alone can save 50 kWh and \$15 per year.

7. Air dry dishes

Letting dishes air dry instead of using the heated drying cycle on the average dishwasher saves 110 kWh and \$33 per year.

8. No peeking

Limiting how often and how long you open the refrigerator will save electricity and protect the appliance. Also limit opening the oven while cooking or baking to save electricity, protect the appliance, and speed up cooking times.

9. Install motion detectors at home

Cutting use of a 150-watt, outdoor floodlight from six hours to one hour per night with a motion sensor saves up to 270 kWh and \$81 per year. Switching off a 100-watt light for just one 8-hour day per week can save 41 kWh and over \$12 per year.

10. Use ENERGY STAR® appliances

When it's time to replace or add appliances, look for the ENERGY STAR symbol on refrigerators, ovens, and dishwashers. Visit www.energystar.gov

Note: All savings are based on industry averages and \$0.30 per kWh.

Shopping for a new appliance?

If you are planning on purchasing large appliances or home electronics, take the time to select models that are energy efficient. They will save on operating costs for years to come. Look for **EnergyGuide** and **ENERGY STAR®** labels.

EnergyGuide label

The Federal Trade Commission requires EnergyGuide labels on all new water heaters, refrigerators, freezers, clothes washers, dishwashers, and room air conditioners.

EnergyGuide labels allow you to compare estimated annual operating costs among comparable models in order to select the most efficient appliance for your money.

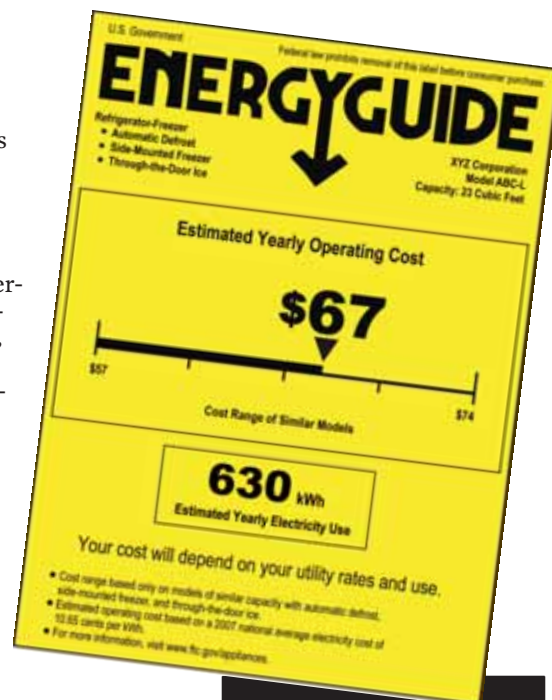
EnergyGuide labels are not required on ranges, microwave ovens, and clothes dryers because their energy consumption does not vary significantly. Home electronics such as computers, TVs, and audio equipment are also not included.

ENERGY STAR® label

ENERGY STAR® labels appear on appliances and home electronics that meet strict energy efficiency criteria established by the U.S. Department of Energy and U.S. Environmental Protection Agency. You will save on energy costs by selecting a model with the ENERGY STAR® label.

The ENERGY STAR® labeling program includes home electronics, such as computers, DVD and VCR players, televisions, and appliances, such as clothes washers, dehumidifiers, dishwashers, refrigerators, freezers, and room air conditioners.

When purchasing any new electric appliance, it is important to read the manufacturer's recommendations to ensure safe operation. Clothes washers and dishwashers that economize on water use may also have particular recommendations regarding detergent use.



For more ways to reduce energy use at home, refer to Hawaiian Electric's website at heco.com where you will find summer cooling tips and the **101 Ways to Save** pamphlet.



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