

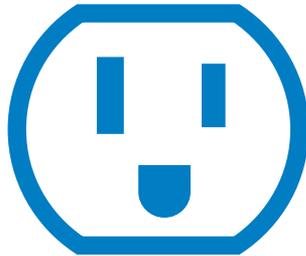
Creating good energy

A helpful guide to making your home wattsmart



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When it comes to energy for your home, you want flexible choices that work for you today – and tomorrow. We're committed to providing solutions that help you manage your energy bills and reduce your environmental impact.

This guide is designed to help you understand your electric bill and identify ways to save energy and money. We'll also provide information on renewable energy options.

How you use electricity

The first step to wise use of electricity is to understand your energy use and habits.

Residential energy use

Approximate average monthly kWh* use:

Electric heat	2,200*
Electric heat pump	1,460*
Baseboard/zonal/wall/portable heat	1,400*
Central air conditioning	1,000*
Electric water heater (3 people)	465**
Other heat (space, block, etc.)	180
Furnace fan	102
Lighting	60
Computer/printer	45
Refrigerator-freezer	44
Freezer	43
Clothes dryer	37
ENERGY STAR® refrigerator-freezer	35
ENERGY STAR® freezer	35
Electric range/oven	23
Flat-panel television	21
Game system	20
Dishwasher	18***
Cable TV set-top box	17
Clothes washer	13***
Microwave	11
Coffee maker	10

Energy use can vary greatly according to the age or design of the appliance, the age of your home and the number of occupants. In general, new homes and newer appliances will use less energy.

* Based on a 1,500 square foot home for a six-month period. Homes differ in usage and figures may be higher than those indicated.

** Based on a family of three. Add 100 kWh for each additional person.

*** Heating water for appliance use is included in water heater estimate, but not in dishwasher or clothes washer estimates.

What is a kWh?

Electric power is measured in watts, like gasoline is measured in gallons. A kilowatt-hour (kWh) is 1,000 watts of power used for one hour. For example, a 100-watt light bulb in use for 10 hours uses 1,000 watt-hours, or 1 kilowatt-hour of electricity.

(100 watts x 10 hours = 1,000 watt-hours = 1 kWh)

The average home in the United States uses approximately 911 kWh of electricity per month or 10,932 kWh per year.

If you know the wattage of an item, you can calculate the cost to run it using the following formula:

watts ÷ 1,000 x hours used x cost per kWh* = cost to run

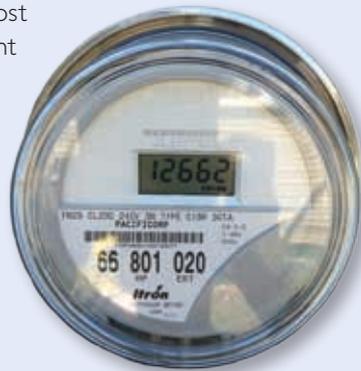
Example: A 1,500-watt space heater used for 8 hours
 $1,500 \div 1,000 \times 8 \times .11$ (11¢) = \$1.32

At this rate of use per day, the heater would cost \$39.60 over a month ($\1.32×30 days)

**Find the cost per kWh on your billing statement.*

You can also roughly calculate your cost per kWh by dividing the dollar amount of your most recent electric bill by the number of kWh on the bill. For example, a bill of \$145 based on usage of 1,300 kWh means you are paying an average cost per kWh of 11¢ ($145 \div 1,300 = .11$).

Visit pacificpower.net/energyuse for a calculator you can complete for your home.



What affects your electric bill?

Is anything different?

Changes in the weather, your lifestyle and conditions in your home all play a part in determining your electric bill each month. Here are some common reasons your bill may be different from one month to the next or what may cause it to be higher than it could be:

Weather conditions

- Above average summer heat
- Below average winter cold

Changes at home

- New family member or house guest
- Installing additional appliances
- A change in your work schedule or habits



Heating equipment

- Central heating with an electric furnace or heat pump
- Zonal heating with plug-in space heaters, built-in wall heaters, in-floor heating, baseboard heaters or ceiling cable heat
- Outdoor heating with heat lamps, water trough heaters or engine block heaters; also can include heat tape on roof, under driveways or walkways, around water pipes or in well houses

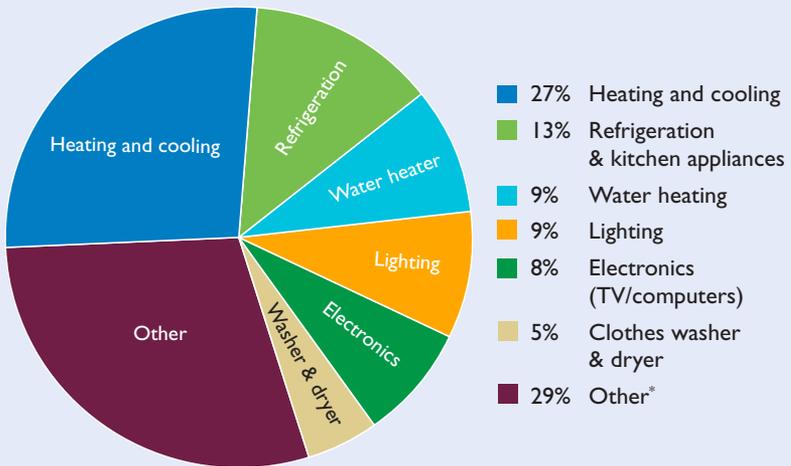
Cooling equipment

- Central air conditioning
- Window and portable air conditioners

Other energy users

- Electric water heaters
- Swimming pools, hot tubs or spas
- Irrigation pumps
- Equipment such as your water heater, heat pump or air conditioner is malfunctioning and needs repaired or replaced
- Extra refrigerators or freezers

Home electric use



Source: U.S. Energy Information Administration

*can include small electric devices, heating elements, exterior lights, outdoor grills, pool and spa heaters, backup electricity generators and motors

wattsmart ways to save

Heating and cooling

Keep your heating and cooling systems in peak condition with professional maintenance in the spring (for cooling) and fall (for heating). Consult your system's manufacturer for recommended upkeep.

Heating

- Keep the thermostat at 68°. Turn it down by 5°-10° at night or when away from home for more than three hours. Use a programmable or smart thermostat to adjust the temperature automatically.

For heat pumps: Keep the thermostat at 68° to avoid unnecessarily engaging the system's emergency heating, which can increase your bill. Refer to the manufacturer's recommended settings.



- Seal and insulate ductwork.
- Clean or replace furnace filters once a month during use.
- Close fireplace chimney dampers when the fire is completely out to stop drafts.
- Window treatments (drapes, blinds, etc.) can add an extra layer of insulation during cold weather. Open them on sunny days to let in the sun's heat.
- Don't block registers, baseboards, radiators or cold air returns. Air must circulate through and around them for maximum efficiency; materials too close to heat sources can be fire hazards.
- If you are installing a new heating system or smart thermostat, check for available incentives at bewattsmart.com.

Cooling

- Keep the thermostat at 78° when you're home.
- Clean or replace air conditioning filters once a month during use.
- Don't allow furniture or drapes to block indoor airflow. Outdoors, prune shrubs to allow at least 18-24" clearance on all sides of air conditioning units for proper airflow.
- Reduce daytime use of heat-emitting appliances like the oven, dishwasher or dryer.
- Keep lamps, TVs or other heat-emitting sources away from your thermostat.
- Use portable and ceiling fans to keep cool. Turn them off when you leave the room.
- Run exhaust fans when you shower or cook.
- Keep windows covered to block the sun's rays. Use insulated curtains, drapes or plastic UV protection on a window's interior.
- Consider landscaping with leafy shade trees. Plant them on the southeast and southwest sides of your home.



Water heating

- Fix leaky faucets. A dripping faucet can waste 6 to 10 gallons of water a day.
- Install energy-efficient showerheads and faucet aerators to reduce water use.
- Take a shower instead of a bath.
- Set the water heater temperature at 120°. Consult the owner's manual for your specific model. **Caution:** Turn the power off at the circuit breaker before changing the temperature!
- Insulate water pipes to help keep cold water pipes from freezing and hot water pipes hot.



In the kitchen

Refrigerators and freezers

- Set the refrigerator temperature between 37° and 40° and the freezer at 0° for top efficiency and food safety.
- Keep refrigerator coils clean and unobstructed.
- Clean door gaskets with warm water or a detergent that leaves no residue.
- Keep your refrigerator or freezer full, but do not block the unit's interior air vents.
- Cover all liquids stored in the refrigerator to avoid moisture making the motor work longer.
- Consolidate items into as few refrigerators/freezers as possible; unplug those not in use.
- Look for the ENERGY STAR® label when replacing appliances and equipment.

Dishwashers

- Only run your dishwasher when it is filled to capacity, but not overloaded.
- Choose the shortest wash cycle that will clean your dishes and use an air-dry option, if available.

Cooking appliances

- Use a microwave, toaster oven or slow cooker instead of the oven.

In the laundry room

Clothes dryer

- Hang clothes outside when possible.
- Run separate loads for fast and slow-drying clothes.
- Clean the lint filter after every load. Clean out the vent at least once a year.

Clothes washer

- Wash with warm or cold water. Rinse with cold water.
- Run full loads. Reduce the water level setting for smaller loads.
- When shopping for a clothes washer, check for available incentives at bewattsmart.com.

Lighting

- Turn off lights every time you leave a room.
- Use energy-efficient LED bulbs to save on lighting costs. Find a list of retailers that offer discounted bulbs at bewattsmart.com.
- Use task lighting so that other lights in the room can be turned off or dimmed.
- For lighting at night and/or for safety reasons, consider photocells (daylight sensors) and motion sensors. Use timers for lights to come on during a set time.





Computers and electronics

Save energy and money by turning off electronics when not needed. Plug computers, printers, TVs and cell phone chargers into a power strip and turn the power strip off when your electronics are not in use. Use an advanced power strip to automatically sense when your electronics are idle and cut off the power flow to them.

Pools and spas

- Check the manufacturer's recommendations to determine how often to run the pump. This may vary by season and geographic region.
- Use a timer to control the pump's cycling.
- Keep pool filters and intake grates clear of debris.
- Lower the pool heater temperature 1-4 degrees to save energy.
- Cover your pool to keep heat in and debris out.
- Consider upgrading to an energy-efficient variable speed pool pump to save money. In Oregon, check for available incentives at energytrust.org/pool.

While away on vacation

- During the winter, lower your thermostat to 50°-60°. In summer, turn your thermostat up to 80°-85°.
- Turn off your water heater at the circuit breaker panel if you'll be gone more than three days.
- Unplug electrical equipment such as TVs, DVD players and computers.

Energy solutions & choices

Pacific Power is working to deliver a sustainable energy future that adds to our existing wind, solar and other renewable resources, and provides you with more choices to meet your energy needs.

Take advantage of the latest technologies to save money and reduce emissions.

Be wattsmart with energy efficiency

Earn cash incentives and discounts on qualifying energy-efficient appliances, lighting, heating and cooling equipment, or other products and services for your home. Find details at bewattsmart.com.

Make a difference with renewable energy

Our longstanding Blue SkySM program offers you an easy and affordable way to support development of renewable energy resources in our region. Learn more at pacificpower.net/bluesky.





Explore solar choices

We have options and expertise for customers interested in using solar energy. To learn more, please visit pacificpower.net/solar.

Move on with electric vehicles

There are good things ahead for electric transportation in our region. We've already started by reducing our fleet's emissions with plug-in hybrid electric bucket trucks and sedans.

If you're considering an electric vehicle purchase, please visit pacificpower.net/ev for resources.

For all vehicles, remember to keep your car's tires properly inflated, the air filter clean and perform regular maintenance.





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