

# USE ENERGY WISELY

from the professionals at your local electric cooperative



**Richland Electric Cooperative**

Your Touchstone Energy® Cooperative 

**USE Electric\$ense®**

Use this guide to create an awareness of how your lifestyle and daily habits affect your electric bill. Make this your first step to better energy management.

# YOUR UNIQUE ENERGY NEEDS

Many members are looking for ways to control their energy use and reduce their impact on the environment. The best way to do this is to be aware of how much energy you use each month and where it is being used. You can use your cooperative's online billing tool (or read your meter) to track your electricity use. With that information, you can use this booklet to help incorporate more energy-efficient habits into your daily routine.

If you still have questions, call the professionals at your local electric cooperative. They're here to help!



## Lifestyle Makes a Difference

You have control over your electricity use by choosing the appliances and devices you use on a regular basis.

The way you use these electric devices has a greater impact on your consumption of electricity than the number you own.

There are other factors to consider when reviewing your monthly electricity use.

## Family Size

There is a direct relationship between the number of people living in a home and the amount of energy used. If friends or relatives visit, you can expect to use more energy for hot water, charging and using electronics, cooking/baking, doing laundry, etc.

## Space Heating & Cooling

According to the U.S. Department of Energy, space heating, space cooling and water heating are some of the largest energy expenses in any home. To be comfortable, most of us prefer to be cool in summer and warm in winter. Humidity also plays an important role in our year-round comfort. If you operate dehumidifiers (and, to a lesser degree, humidifiers in winter), this contributes to household energy consumption. Portable space heaters, air conditioners and fans also add kilowatt-hours (kWh) to our electric bills. There are many ways to use energy wisely while maintaining a comfortable temperature and humidity level in your home. These range from adding insulation, weather-stripping and caulking around windows, to utilizing the settings on a programmable or "smart" thermostat.

USE **ElectricSense**<sup>®</sup>

Install water flow restrictors and aerators in faucets and shower heads to help reduce water use without sacrificing water pressure. To prevent scalding and reduce energy consumption, make sure the water heater's thermostat is set **no higher than 120° F.**



## Electric Water Heaters

An electric water heater can comprise up to 40 percent of the electricity used in the average American home. Hot water plays an important role in everyone's lifestyle, but it's the quantity of water used and the temperature setting on your water heater that determine energy use.

Consider trying these tips to help save electricity and water in your home:

- Use water sparingly when taking a bath rather than filling the tub full. Keep showers brief.
- Have you ever put a container under a leaky faucet to realize how much water you can lose in a day? Take a few minutes to fix the leak.
- Wait to run clothes washers and dishwashers until you have a full load.
- Contact your electric cooperative to see if you're a candidate for any energy conservation programs they offer.

## Appliance Use

Electricity powers many time- and labor-saving devices. These appliances work around the clock, whenever you need them. The wise use of appliances can reduce your electricity consumption.

Think about how you use your appliances:

- Are your appliances ENERGY STAR® certified? *(pg. 8)*
- Turn off the television (and connected devices) when you leave the room.
- Reheat leftovers in the microwave instead of the oven.
- If you have more than one refrigerator or freezer, are they all utilized? Even unplugging one that you do not need can help save electricity. *(pg. 10)*

These are prime considerations that affect the amount of electricity you use to maintain your lifestyle. Everyone can make small changes that make a difference!

# UNDERSTANDING YOUR BILL



Utility companies - including your electric cooperative - bill you after you have used the energy. Your monthly bill shows the days in the billing cycle. If your bill seems high, compare the dates on your bill against your personal calendar. What was going on? Who was home? What was the weather like?

Another factor to consider is the number of days in the billing cycle: Were there 27 days? 30 days? 32 days? Your cooperative tries to keep billing periods as consistent as possible, but holidays and weekends can shorten or extend your billing period each month. Rate information is available on your bill or by contacting your electric cooperative.



## USE Electric\$ense®

Set the thermostat to 68° F or lower during the winter; 78° F or higher in the summer, especially when your home is not occupied.

You can use a programmable thermostat to automatically adjust temperatures to accommodate weekly schedules. Consider buying a smart thermostat that can be **controlled from your smart phone.**

# USE Electric\$ense®

I figured an afternoon of tracking down air leaks earned me a day out in the woods. Find out what you can do at [TouchstoneEnergy.com/Efficiency](http://TouchstoneEnergy.com/Efficiency).



## Why is my electric bill higher than my neighbor's?

Your electric bill is a result of your habits and behaviors, as well as the choices you make to stay comfortable. It reflects the amount of electricity consumed by you and your family in the past month.



Your neighbor's home may be different in terms of the number of people living there, lifestyle, size and age of the home, equipment/electronics, etc. These and other factors make a comparison with your neighbor less meaningful.

Don't overlook hobbies or businesses that operate from home. They also affect the amount of electricity you use.

## CHECK

If your electric bill seems higher than expected, sometimes you'll find equipment using electricity that you thought was turned off. It could be a well pump, heat tape, baseboard electric heat, or basement, closet and attic lights.

If no problems are found, your electric cooperative may have a portable Kill-A-Watt meter you can borrow, or they may be able to direct you to local organizations or businesses that do. These devices allow members to see the electricity consumption of items plugged into them.



By comparing your recorded use with our list for home appliances and equipment (*pgs. 10-12*), you can determine whether your equipment is using an unusually high amount of electricity. If you still have questions, contact your electric cooperative.

## RECORD

Take action to better understand how energy is used in your home. To start, track your current consumption utilizing your cooperative's online bill pay program. Advances in technology allow you - the member - to utilize these tools to monitor trends or patterns over time. If you're not enrolled in an online bill pay program, set a time each day to jot down the reading on the electricity meter outside your home. Your analysis will be more accurate if you take your readings at the same time each day.

Subtract the previous day's reading from the current reading to determine how many kilowatt-hours (kWh) were used.

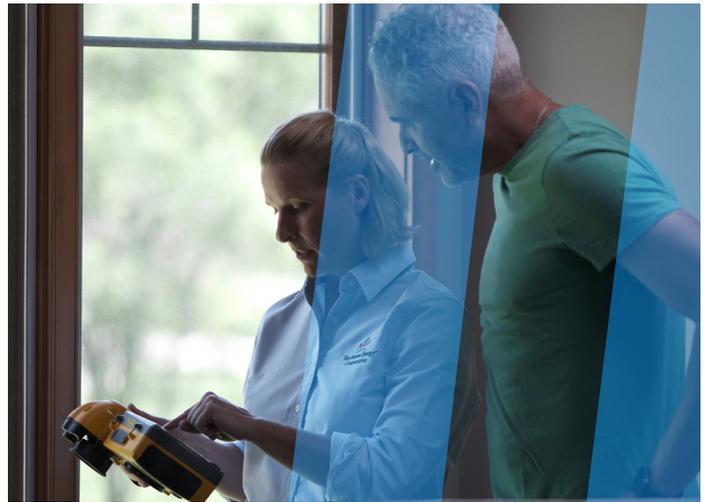
Contact your electric cooperative if you have questions regarding your energy use. Their trusted energy experts can walk you through what could be causing increased electricity consumption throughout the day. They can also recommend a qualified electrician to check wiring and appliances for faults or other malfunctions.



## TO DO NOW

1. Pull the plug
2. Turn off lights
3. Seal the cracks
4. Lower the blinds
5. Seal air ducts
6. Add insulation
7. Adjust water heater
8. Wash clothes in cold water; hang to dry

**ENJOY  
SAVINGS**



## ACT

### Do Something About Your Electric Bill

You can have more power over your electric bill by acting on the information presented in this brochure.

### Use Less

Change your habits. Start with easy changes.

- Utilize a programmable or smart thermostat to adjust temperatures when no one is home.
- Adjust the AC a few degrees warmer in the evening.
- During the winter, lower the thermostat setting when you go to sleep.
- Select efficient lighting options like LEDs. “Smart” LEDs can be managed from your smartphone. Place them in areas where lights are on the most.
- Take care of your heating and cooling systems by replacing filters and cleaning coils.
- Advanced power strips can reduce the amount of standby electricity used. They can sense when certain devices are on, off or in standby mode, and automatically cut power to certain outlets.
- Turn off lights when you leave a room.
- Keep lighting fixtures clean.
- Use less water. Set the thermostat on your water heater to 120°F or less.

- Fix faucet leaks.
- Insulate hot water pipes.
- Use the oven light to check on food instead of opening the oven door.
- Utilize the incentive program offered by your local electric cooperative, which provides rebates when you make qualifying energy efficient purchases.
- Contact your cooperative for “101 Ways To Save” from Touchstone Energy® Cooperatives, with more easy tips to help you save energy and save money.

### Seasonal Changes

Depending on how you heat and cool your home, weather can impact your monthly utility bills. Summer means air conditioners, pool pumps and dehumidifiers are running. In the winter, days are shorter so lights are needed in your home more hours in a day. Throughout December and January, many members host parties, have family home on break, cook more, do more laundry, and enjoy extra decorations and lights around the home and outside. The cold temperatures have many members using portable space heaters to warm drafty rooms, as well as heat tape to keep pipes from freezing. Engine heaters help ensure vehicles and equipment start in the mornings.



### Energy Efficiency/Conservation References:

- **Touchstone Energy Cooperatives:** [www.touchstoneenergy.com](http://www.touchstoneenergy.com)
- **ENERGY STAR®:** [www.energystar.gov](http://www.energystar.gov)
- **U.S. Department of Energy** (tax credits, rebates, savings, weatherization): [www.energy.gov](http://www.energy.gov)
- **Energy Education Council:** [www.energyeducationcouncil.org](http://www.energyeducationcouncil.org)

# POWERED SMART

Efficient | Smart | Green

About 20 percent of electricity generated in our region comes from renewable energy, and that number is growing. **A greener grid paired with improved energy-efficient products is beneficial electrification.**

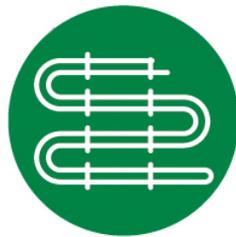
Beneficial electrification encourages choosing appliances or equipment powered by electricity that have – historically – been powered by fossil fuels. Examples include water heaters, HVAC (heating, ventilation and air conditioning) systems, vehicles, stoves, clothes dryers, and even lawn tools and commercial forklifts. When this happens, members benefit from reduced exposure to emissions or fumes, no open flames in the home, quieter operation and more efficient appliances.

**As electric utilities incorporate more renewable energy sources** into their generation portfolios and make existing generation technologies cleaner, **less fossil fuels are used to generate electricity.** Even with more electronics than ever, improved energy efficiency means members are making the most of every kilowatt-hour.

## Geothermal or Air-Source Heat Pumps

Geothermal heat pumps and air-source heat pumps can efficiently heat and cool your home with one system. You can receive a rebate after installation for either type of unit.

Either system can be installed in a new or existing home, but there are differences.



**Air-source heat pumps** use air from outside the home to heat or cool inside. Cold climate air-source heat pumps are being tested below 0°F. When it gets really cold, a back-up heat source is needed, such as a gas or propane furnace. This is known as a dual-fuel system, and it is still efficient because it is easier to pull heat out of the air than to make heat.

**Geothermal heat pumps** use the consistent temperature of soil below the frost line (about 52 degrees). A geothermal heat pump uses fluid-filled coils installed underground to move heat. In the summer, the system pulls heat from the home and transfers it to the soil through the fluid in the coils. In the winter, it works in reverse and the indoor unit compresses heat from the soil to a higher temperature to heat the home. Because the fluid in the coils enters the home at 52 degrees, it doesn't need as much energy to add more heat to the home.

**A geothermal system can help a home owner save up to 70 percent in annual heating and cooling costs.** While the initial installation cost is more than a traditional HVAC unit, the savings over the life of the system help members save energy and money in the long run.

## Electric Water Heaters

An electric water heater can be responsible for up to 40 percent of a home's annual electricity use.

Your cooperative offers incentives to members who purchase an electric water heater; some also enroll electric water heaters in the cooperative's load management program. In the program, the water heater is equipped with a receiver that ensures the element heats the water at certain times of the day during times of low electricity demand. When the demand for electricity increases, the element can be shut off, but the home still has access to the hot water stored in the tank.



## Lawn Equipment

Your garage is full of opportunities to "go electric." Many rechargeable batteries for equipment can be interchanged with other devices by the brand and charged using the standard outlets already in your garage or shed.

Lawn edgers and trimmers are available with electric cords or rechargeable batteries. Electric lawn equipment requires minimal maintenance, is lighter than a gas counterpart and won't create fumes. A corded model has less equipment to maintain, which helps save money over the life of the unit.

Electric lawn mowers can run on a charge (batteries), with a cord, or as an autonomous (robotic) unit. While offering a quieter experience, research battery life to determine if one will work for your property. Most models perform best in a half-acre area or less.



# POWERED SMART - ELECTRIC VEHICLES

Efficient | Smart | Green



|   | HYBRID         | PLUG-IN HYBRID                            | BATTERY ELECTRIC VEHICLE (EV) |
|---|----------------|---|-------------------------------|
| <b>RANGE</b>                                      | 11-gallon tank | 12-48 mi. (electric)<br>200-640 mi. total | 110-373 mi.                   |
| <b>FUEL TYPE</b>                                  | gasoline       | gasoline + battery                        | battery                       |
| <b>MPGe</b><br><i>miles per gallon equivalent</i> | 43-58 mpg      | 42-133                                    | 68-141                        |
| <b>PLUG-IN TO CHARGE?</b>                         | No             | Yes                                       | Yes                           |

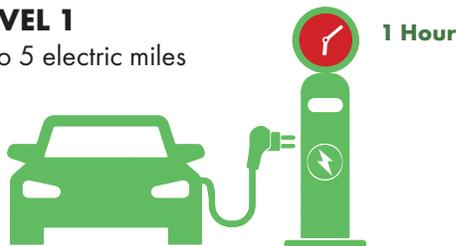
## How Will You Charge The Vehicle?

TIP: DOWNLOAD AN APP ON YOUR SMARTPHONE TO HELP LOCATE CHARGING STATIONS WHEN YOU TRAVEL.

Based on surveys of electric vehicle (EV) owners, 80 percent of charging occurs at home. There are different levels of charging stations available. The information below may help you decide which is best for your needs. If you do not want to charge a vehicle, a conventional hybrid will use less gasoline than non-hybrid models.

### LEVEL 1

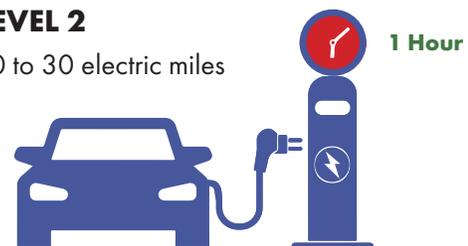
3 to 5 electric miles



Requires access to a 120-volt outlet in an area where you can recharge the car overnight (or have a qualified electrician install one in a convenient location).

### LEVEL 2

10 to 30 electric miles



Requires installation of a 240-volt hardwired EV charger or the appropriate 240-volt receptacle for a plug-connected charger (installation must be completed by a qualified electrician). Some businesses offer Level 2 charging stations for their employees.

## Electric Vehicle Charging Levels

|                      | LEVEL 1 CHARGING            | LEVEL 2 CHARGING              | DC FAST CHARGING<br><i>not for home charging or most PHEVs</i> |
|----------------------|-----------------------------|-------------------------------|--|
| <b>VOLTAGE</b>       | 120V single-phase AC        | 208-240V single-phase AC      | 480V single-phase AC   |
| <b>AMPS</b>          | 12-15                       | <50 (typically 30)            | 60 to 420  |
| <b>CHARGING LOAD</b> | 1.8 kW                      | 3.6-11 kW (typically 7.2 kW)  | 50-150 kW  |
| <b>CHARGING TIME</b> | 3-5 electric miles per hour | 10-30 electric miles per hour | 2-9 electric miles per minute                                  |

$\text{volts} \times \text{amps} = \text{watts}$  |  $\text{watts} / 1,000 = \text{kilowatts (kW)}$  |  $\text{typical range per kilowatt-hour (kWh)} = 3 \text{ miles}$

## BEFORE YOU BUY

Talk to your local electric cooperative before purchasing an EV or PHEV to make sure the proper infrastructure is available to accommodate a home charger. The employees at your cooperative can also discuss possible EV programs available at the cooperative, including incentives for Level 2 chargers. Members looking for more affordable EVs should check with local dealerships to see if they offer used EVs for sale. Other considerations:

- Install the charger in a place near a frequent parking spot, such as in a shed, garage or carport. Sheds and garages limit exposure to the elements and prevent others from using your equipment. A Level 2 charger plus installation can cost between \$250 and \$1,000.
- Make sure there is available space on the floor, walls and ceilings; be mindful of overhead doors or objects that may obstruct a vehicle's ability to plug in; avoid locations that will require the cord to be wrapped around or draped over a vehicle.



## USE **Electric\$ense**<sup>®</sup>

When used properly, space heaters can be a way to temporarily warm a small room if the heat in the rest of the home is turned down. But, use it wisely. Space heaters use up to 1,500 watts (1.5 kWh) of electricity every hour they are on. If you use a space heater four hours every day for one month, it will add more than \$21 to the monthly electric bill. **SAFETY TIP:** Make sure space heaters are never left unattended and placed on a level surface at least three feet away from other objects or blankets.

## LOOK FOR THE **BLUE LOGO**



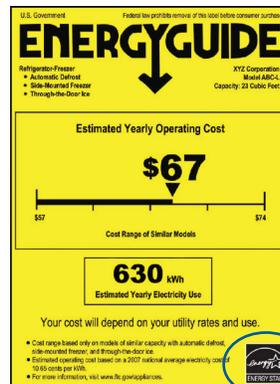
In order to qualify for your cooperative's incentive program, appliances must be ENERGY STAR<sup>®</sup> certified. Products that have earned this designation will have a **blue ENERGY STAR<sup>®</sup> sticker visible on the appliance (see above).**

Since 1992, more than 6 billion ENERGY STAR<sup>®</sup> certified products have been sold, saving nearly 4 trillion kWh of electricity and achieving over 3 billion metric tons of greenhouse gas reductions - equivalent to the annual emissions of more than 600 million cars.

ENERGY STAR<sup>®</sup> is a program within the U.S. Environmental Protection Agency (EPA) that provides simple, credible and unbiased information for consumers and businesses. Be sure to look for the blue ENERGY STAR<sup>®</sup> box when you shop for your next appliance or light bulb.

## KNOW THE DIFFERENCE

The blue ENERGY STAR<sup>®</sup> box is different than the yellow Energy Guide affixed to appliances. An item can have a yellow Energy Guide tag and claim to be energy efficient, but **not be ENERGY STAR<sup>®</sup> certified.** Look for an Energy Guide tag with an ENERGY STAR logo at the bottom to ensure you maximize energy efficiency.



# HOW TO ESTIMATE ENERGY USE AND COST

The wattage of appliances (equipment) and the amount of operating time can vary greatly. The following information will show you how to determine where the energy dollars are going in your home.

$$1,000 \text{ watts (1,000 W)} = 1 \text{ kilowatt (1 kW)}$$

## DETERMINE YOUR PER KWH CHARGE

The cost of electricity is determined by the number of kilowatt-hours (kWh) used during a billing period. Your bill includes additional components that comprise your TOTAL bill. These charges can be a monthly or daily fixed charge, which goes toward the cost to maintain the cooperative's distribution system and equipment (i.e. lines, poles, transformers, bucket trucks, etc.). Most states also require utilities to collect a low-income assistance fee on all bills. The cooperative does not keep these fees.

## ENERGY CHARGE

Your electric bill shows how many kilowatt-hours (kWh) you used during the billing period. Multiply that number by your cooperative's cost per kWh. The national average is 12 cents\* (\$0.12). **Check with your local electric cooperative for your electricity rate.**

$$\text{Example: } 1,173 \text{ kWh} \times \$0.12 = \$140.76$$

\*According to energy.gov.

## DETERMINE APPLIANCE WATTAGE

The wattage of an appliance (equipment) determines the electricity use per hour. If the serial plate doesn't display electricity requirements in watts, it is possible they will be expressed in volts and amperes (amps).

If so, multiply volts by amperes to obtain wattage:  
e.g. 120 volts x 12.1 amperes = 1,452 watts.

## Example of Serial Plate

| MICROWAVE OVEN |        |            |       |
|----------------|--------|------------|-------|
| AMPS           | 12.1   | VOLTS      | 120   |
| HERTZ          | 60     | WATTS      | 1452  |
| FORM NO.       | 000000 | MODEL NO.  | 00000 |
| CODE           | 0      | SERIAL NO. | 0000  |

## ESTIMATE COSTS

Use the formulas shown in the following examples to estimate use and cost.

An incandescent light uses 100 watts (W) and is left on for 15 hours. How many kWh are used and what does it cost?

$$\frac{(100 \text{ W} \times 15 \text{ hrs})}{1,000 \text{ watts/kW}} = 1.5 \text{ kWh used}$$

Your cost = 1.5 kWh x \$0.12/kWh = \$0.18 or 18 cents

A 100-watt equivalent LED light uses 19 W and is left on for 15 hours. How many kWh are used and what does it cost?

$$\frac{(19 \text{ W} \times 15 \text{ hrs})}{1,000 \text{ watts/kW}} = 0.285 \text{ kWh used}$$

Your cost = 0.285 kWh x \$0.12/kWh = \$0.034 or 3.4 cents

A microwave oven uses 1,450 watts (W) and is used for 30 minutes. How many kWh are used and what does it cost?

$$\frac{(1,450 \text{ W} \times 0.5 \text{ hrs})}{1,000 \text{ watts/kW}} = 0.725 \text{ kWh used}$$

Your cost = 0.725 kWh x \$0.12 = \$0.087 or 9 cents

## DAILY COSTS

To find the daily cost for your electric service, divide your bill by the number of days in your billing period.

$$\text{EXAMPLE } \frac{\$154}{30 \text{ days}} = \$5.13 \text{ per day}$$

To find the daily cost for electricity per person in your family, divide the daily cost by the number in your family.

$$\text{EXAMPLE } \frac{\$5.13}{4} = \$1.28 \text{ per person per day}$$

# APPLIANCE ENERGY USE GUIDE

Figures are to be used as a general guide for electricity use. Your specific appliance's use may vary. For this purpose, one month is 30 days.

| Kitchen                  | Use             | kWh use   | kWh/month | Cost |
|--------------------------|-----------------|-----------|-----------|------|
| Air Fryer                | 2 hours/month   | 1.2/hour  | 2         |      |
| Coffee Maker             | 30 pots/month   | 0.375/pot | 11        |      |
| Deep Fat Fryer           | 5 hours/month   | 1/hour    | 5         |      |
| Dishwasher (air dry)     | 30 loads/month  | 0.27/load | 8         |      |
| Dishwasher (heated dry)  | 30 loads/month  | 0.73/load | 22        |      |
| Electric Griddle         | 13 hours/month  | 1.4/hour  | 18        |      |
| Electric Grill (BBQ)     | 6 hours/month   | 1.75/hour | 11        |      |
| Garbage Disposal         | 0.5 hours/month | 0.67/hour | 0.3       |      |
| Instant Pot              | 7 hours/month   | 1/hour    | 7         |      |
| Microwave                | 15 hours/month  | 1.45/hour | 21        |      |
| Range (stove top & oven) | 30 hours/month  | 3/hour    | 90        |      |
| Induction Range          | 30 hours/month  | 2.5/hour  | 75        |      |
| Slow Cooker (6 qt)       | 12 hours/month  | 0.24/hour | 3         |      |
| Toaster                  | 20 times/month  | 0.024/use | 0.5       |      |
| Toaster Oven             | 6 hours/month   | 1.4/hour  | 8         |      |

| Food Storage   | Use                     | kWh use    | kWh/month | Cost |
|--|-------------------------|------------|-----------|------|
| <i>There was a significant improvement in energy-efficiency standards for refrigerators in 2000; negligible changes since.</i> |                         |            |           |      |
| Refrigerator: side by side (pre-2000)  | 24 hours/day, 7 days/wk | 0.121/hour | 87        |      |
| Refrigerator: side by side   | 24 hours/day, 7 days/wk | 0.080/hour | 59        |      |
| Refrigerator: top freezer (pre-2000)   | 24 hours/day, 7 days/wk | 0.559/hour | 65        |      |
| Refrigerator: top freezer  | 24 hours/day, 7 days/wk | 0.056/hour | 40        |      |
| Refrigerator: bottom freezer (pre-2000)  | 24 hours/day, 7 days/wk | 0.121/hour | 87        |      |
| Refrigerator: bottom freezer   | 24 hours/day, 7 days/wk | 0.073/hour | 52        |      |
| Refrigerator: Compact  | 24 hours/day, 7 days/wk | 0.025/hour | 18        |      |
| Refrigerator: Compact with top freezer   | 24 hours/day, 7 days/wk | 0.037/hour | 26        |      |
| Freezer: upright with manual defrost (pre-2000)  | 24 hours/day, 7 days/wk | 0.07/hour  | 51        |      |
| Freezer: upright with manual defrost   | 24 hours/day, 7 days/wk | 0.05/hour  | 36        |      |
| Freezer: upright with auto defrost (pre-2000)  | 24 hours/day, 7 days/wk | 0.215/hour | 78        |      |
| Freezer: upright with auto defrost   | 24 hours/day, 7 days/wk | 0.081/hour | 58        |      |
| Freezer: chest (pre-2000)  | 24 hours/day, 7 days/wk | 0.049/hour | 36        |      |
| Freezer: chest   | 24 hours/day, 7 days/wk | 0.038/hour | 27        |      |

| Electronics                           | Use                     | kWh use    | kWh/month | Cost |
|---------------------------------------|-------------------------|------------|-----------|------|
| Cable Box                             | 4 hours/day, 7 days/wk  | 0.032/hour | 4         |      |
| Computer and Monitor                  | 4 hours/day, 7 days/wk  | 0.17/hour  | 20        |      |
| Cordless Telephone                    | 24 hours/day, 7 days/wk | 0.003/hour | 2         |      |
| DVD Player                            | 3 hours/day, 7 days/wk  | 0.012/hour | 1         |      |
| DVR                                   | 4 hours/day, 7 days/wk  | 0.03/hour  | 4         |      |
| Gaming Console                        | 4 hours/day, 7 days/wk  | 0.039/hour | 5         |      |
| Laptop/Notebook                       | 4 hours/day, 7 days/wk  | 0.044/hour | 5         |      |
| Printer                               | 10 min/day, 7 days/wk   | 0.07/hour  | 0.4       |      |
| Stereo                                | 1 hour/day, 7 days/wk   | 0.06/hour  | 2         |      |
| Television: Standard                  | 4 hours/day, 7 days/wk  | 0.15/hour  | 18        |      |
| Television: Plasma (HDTV, 42")        | 4 hours/day, 7 days/wk  | 0.286/hour | 34        |      |
| Television: 55"-59" LCD (LED; 4K UHD) | 5 hours/day, 7 days/wk  | 0.083/hour | 13        |      |

USE **ElectricSense**<sup>®</sup>

Thanks to energy efficiency improvements, clothes washers **reduced their energy use by 70%** between 1990 and 2017.

Source: energy.gov



|                             |                         |            |    |
|-----------------------------|-------------------------|------------|----|
| Television: Rear Projection | 4 hours/day, 7 days/wk  | 0.186/hour | 22 |
| Wireless Router             | 24 hours/day, 7 days/wk | 0.007/hour | 5  |

| Lighting  | Use                   | kWh use    | kWh/month | Cost |
|---|-----------------------|------------|-----------|------|
| Incandescent (60-watt)                              | 4 hours/day/7 days/wk | 0.06/hour  | 7         |      |
| Incandescent (100-watt)                             | 4 hours/day/7 days/wk | 0.1/hour   | 12        |      |
| LED (6-8 watts--equivalent of 60-watt incandescent) | 4 hours/day/7 days/wk | 0.001/hour | 0.1       |      |
| LED (19 watts--equivalent of 100-watt incandescent) | 4 hours/day/7 days/wk | 0.002/hour | 0.2       |      |

| General Household                    | Use             | kWh use     | kWh/month | Cost |
|--------------------------------------|-----------------|-------------|-----------|------|
| Clothes Dryer                        | 20 hours/month  | 2.8/hour    | 56        |      |
| Clothes Dryer (Heat Pump)            | 20 hours/month  | 0.73/hour   | 15        |      |
| Clothes Washer: front loading        | 25 loads/month  | 0.33/load   | 8         |      |
| Clothes Washer: standard top loading | 25 loads/month  | 0.77/load   | 19        |      |
| Vacuum Cleaner                       | 2 hours/month   | 0.62/hour   | 1         |      |
| Roomba®                              | 66 cycles/month | 0.048/cycle | 3         |      |
| Water Heater (average for 4 people)  | 1,800 gallons   | 4.5/hour    | 400       |      |

| Heating and Cooling                      | Use                     | kWh use    | kWh/month    | Cost |
|--|-------------------------|------------|--------------|------|
| Air Cleaner (Ionizer)                    | 24 hours/day, 7 days/wk | 0.07/hour  | 50           |      |
| Air-Source Heat Pump (heat + AC)         | varies by season        | 7,200/year | 600          |      |
| Central Air                              | 400 hours/season        | 3/hour     | 1,200/season |      |
| Dehumidifier                             | 12 hours/day, 7 days/wk | 0.6/hour   | 216          |      |
| Electric Blanket                         | 8 hours/day, 7 days/wk  | 0.1/hour   | 24           |      |
| Electric Fireplace                       | 4 hours/day, 7 days/wk  | 1.5/hour   | 180          |      |
| Fans-Ceiling                             | 8 hours/day, 7 days/wk  | 0.078/hour | 19           |      |
| Fans-Portable                            | 3 hours/day, 7 days/wk  | 0.03/hour  | 3            |      |
| Geothermal System                        | varies by season        | 9,200/year | 767          |      |
| Heated Mattress Pad                      | 8 hours/day, 7 days/wk  | 0.04/hour  | 10           |      |
| Humidifier                               | 8 hours/day, 7 days/wk  | 0.12/hour  | 29           |      |
| Portable Space Heater (1,500 watts)      | 4 hours/day, 7 days/wk  | 1.5/hour   | 180          |      |
| Window Air Conditioner (12,000 btu/hour) | 8 hours/day, 7 days/wk  | 1.6/hour   | 384          |      |

| Miscellaneous                | Use                     | kWh use          | kWh/month | Cost |
|------------------------------|-------------------------|------------------|-----------|------|
| Aquarium                     | 24 hours/day, 7 days/wk | 0.04/hour        | 29        |      |
| Blow Dryer                   | 1 hour/week             | 0.71/hour        | 3         |      |
| Clock                        | 24 hours/day, 7 days/wk | 0.002/hour       | 1         |      |
| CPAP Machine                 | 8 hours/day, 7 days/wk  | 0.045/hour       | 11        |      |
| Curling Iron                 | 10 min/day, 7 days/wk   | 0.07/hour        | 0.4       |      |
| Garage Door Opener           | 24 hours/day, 7 days/wk | 0.006/hour       | 4         |      |
| Hot Tub                      | 24 hrs/day, 7 days/wk   | 0.35-0.56/hour   | 252-403   |      |
| Iron                         | 12 hours/month          | 1.1/hour         | 13        |      |
| Electric Lawn Mower          | varies                  | 0.12-0.72/charge |           |      |
| Electric Lawn Mower (corded) | varies                  | 1.56/hour        |           |      |
| Swimming Pool Pump (1 HP)    | 8 hours/day, 7 days/wk  | 1/hour           | 240       |      |
| Water Bed Heater             | 8 hours/day, 7 days/wk  | 0.35/hour        | 84        |      |



## USE **ElectricSense**®

Light-emitting diode (LED) light bulbs use **80% less energy** than incandescent bulbs and can last up to 25 times longer! LEDs also emit much less heat than CFL or incandescent bulbs, which release 80% to 90% of their energy as heat.

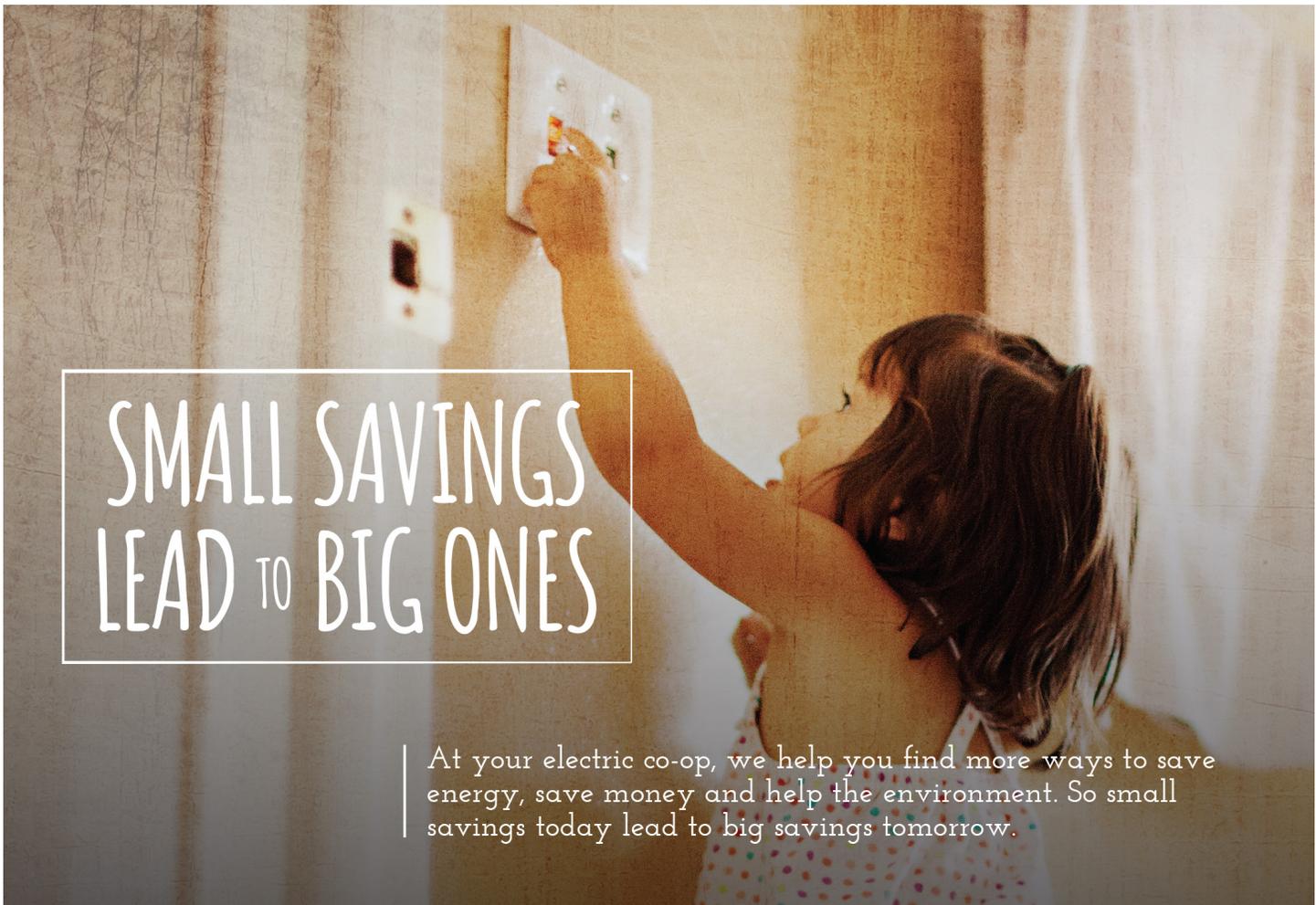
Source: energy.gov

# APPLIANCE ENERGY USE GUIDE

...continued from pg. 11; "How to Estimate Energy Use and Cost" guide available on pg. 9

| Farm Miscellaneous                             | Use                     | kWh use   | kWh/month | Cost |
|--|-------------------------|-----------|-----------|------|
| Aerated Septic System                          | 24 hours/day, 7 days/wk | 0.38/hour | 274       |      |
| Engine Block Heater: 500-watt                  | 240 hours/month         | 0.5/hour  | 120       |      |
| Engine Block Heater: 800-watt                  | 240 hours/month         | 0.8/hour  | 192       |      |
| Engine Block Heater: 1500-watt                 | 240 hours/month         | 1.5/hour  | 360       |      |
| Engine Block Heater: 2500-watt (diesel engine) | 240 hours/month         | 2.5/hour  | 600       |      |
| Heat Tape: 6'                                  | 24 hours/day, 7 days/wk | 0.05/hour | 36        |      |
| Tank Heater (varies)                           |                         |           | 40-700    |      |
| Farm Motor: 10 HP                              | 1 hour/day, 7 days/wk   | 7.46/hour | 224       |      |
| Water Pump: 1/2 HP                             | 60 hours/month          | 0.5/hour  | 30        |      |
| Water Pump: 1 1/2 HP                           | 60 hours/month          | 1.5/hour  | 90        |      |

| Phantom Loads                                    | Use                     | kWh use      | kWh/month | Cost |
|--|-------------------------|--------------|-----------|------|
| Cell Phone Charger                               | 24 hours/day, 7 days/wk | 0.00026/hour | 0.2       |      |
| Computer in Sleep Mode (varies by model)         | 24 hours/day, 7 days/wk | 0.021/hour   | 15        |      |
| Digital Cable Box                                | 24 hours/day, 7 days/wk | 0.018/hour   | 13        |      |
| DVD Player                                       | 24 hours/day, 7 days/wk | 0.0016/hour  | 1         |      |
| Gaming Console - Off (varies by model)           | 24 hours/day, 7 days/wk | 0.001/hour   | 0.7       |      |
| Gaming Console - Standby/Ready (varies by model) | 24 hours/day, 7 days/wk | 0.023/hour   | 17        |      |
| Microwave Oven with Clock                        | 24 hours/day, 7 days/wk | 0.003/hour   | 2         |      |
| Satellite Cable Box                              | 24 hours/day, 7 days/wk | 0.015/hour   | 11        |      |
| Stereo with Remote Control                       | 24 hours/day, 7 days/wk | 0.008/hour   | 6         |      |
| Stove with Electric Ignition                     | 24 hours/day, 7 days/wk | 0.014/hour   | 10        |      |
| VCR  | 24 hours/day, 7 days/wk | 0.005/hour   | 4         |      |
| Wall Cube Power Supply (AC Adapter/charger)      | 24 hours/day, 7 days/wk | 0.006/hour   | 4         |      |



SMALL SAVINGS  
LEAD TO BIG ONES

At your electric co-op, we help you find more ways to save energy, save money and help the environment. So small savings today lead to big savings tomorrow.