Justice in Your Home Electric Bills

Center for Earth, Energy and Democracy at IATP
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How is electricity delivered to my home?

Many of Minnesota’s electricity needs are provided by a regional transmission grid—power plants are connected to transmission lines and substations that then connect to distribution wires into your home.

You can see in this image that we have put a lot of infrastructure in place to produce the electricity we use!
Where does electricity come from?

Electricity in Minnesota mostly comes from power plants that use coal (58%), and nuclear power (23.7%). Some plants also use natural gas (5.2%), petroleum (0.4%), and hydroelectric (1.3%). About 11% of the electricity is generated from renewables, namely wind energy.

- Fossil Fuels: coal, oil, natural gas
- Renewables: solar, wind, biomass
- Nuclear

Most of the coal Minnesota uses comes by rail from Montana and Wyoming. There are currently two coal-fired power plants in the Twin Cities metropolitan area. Both are owned and operated by Xcel Energy. The Allen S. King Generating Plant is near Stillwater and the Black Dog Generating Station is near Burnsville. The High Bridge Generating Plant in St. Paul and Riverside Generating Plant in Minneapolis were converted to natural gas in 2008 and 2009.
Minnesota’s two nuclear plants are located in Monticello and next to the Prairie Island Indian Community. Today, about 42% of the uranium used in nuclear plants in the United States comes from Canada and Australia. 14% comes from the US, mostly from Colorado, Utah and Wyoming.

How much is electricity costing you?

Whenever we go to the market, we know exactly how much a gallon of milk costs us. Since we are purchasing electricity every time we turn on a light or an appliance, it is important for us to also know how much a kilowatt hour of electricity costs us.
How does the electric company know how much electricity I use?

The “watt” is the standard unit of measurement of electrical power.

A “kilowatt” is equal to 1000 watts.

A “kilowatt hour,” or kWh, is equivalent to using 1000 watts of power for one hour. This measurement shows how much electricity you actually use. For example, a 100 Watt light bulb turned on for 10 hours is 1 kWh. This same amount of energy would light a 40-watt bulb for 25 hours, or a 50-watt bulb for 20 hours. The dial on your electric meter measures how many kilowatt hours of electricity that you use.

You can read your electric meter each month and keep a log of your kWh reading to keep track of how much electricity you are using on a month-to-month basis. You can compare your reading with the bill the utility sends you to make sure your bill is accurate!
## Home Electricity Log

<table>
<thead>
<tr>
<th>Date</th>
<th>Meter Reading (in kWh)</th>
<th>This month’s meter reading — last month’s meter reading = kWh used this month</th>
<th>kWh on your Bill</th>
<th>Total Amount of your Bill ($)</th>
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How much do I pay for electricity?

Generally in Minnesota, the price of electricity is rising:

Paying the price

Once we know how much we are paying per kWh, we can figure out how much it costs to operate the many lights and electronic appliances in our home. We just need to know how much energy the appliance uses (measured in watts) and how much we use this appliance.

\[
\text{watts used by appliance} \times \text{hours used per day} \times \text{days used per year} \div 1000 \times \text{electricity cost per kWh} = \text{energy cost of appliance per year}
\]

For example, if we are using a 950 watt microwave for 0.5 hours per day, 365 days a year (every day) and our electricity costs us $0.14 per kWh, we can calculate that it costs us $24.27 per year in electricity to use this microwave.

What can you do to reduce your electricity use?
- **Replace your light bulbs**
  At 11% of the average home’s energy use, lighting is one of the fastest and easiest places in the home to save energy. New options are available that produce the same quality light with less energy.

- **Reduce your vampire energy**
  Many electronic devices use electricity even when they are turned off. Referred to as “vampire energy,” these electronics are sucking energy that you didn’t even know you were using.

- **Replace or reduce your use of energy hogs**
  These appliances use much more electricity than one might expect. Once we identify our home energy hogs, we can reduce their energy use through efficiency and conservation.
Lighting

We use light bulbs in all locations around our home—in our living room, closets, and outdoor porch lights.

What you can do:

- **Check wattage**
  Is the wattage of your light bulb too high? Perhaps a lower watt bulb would be sufficient.

- **Replace**
  Incandescent light bulbs use a lot of energy, 75% - 95% more energy than compact fluorescent light bulbs (CFLs) that emit the same amount of light. This is a good step to take now, as a law requiring the phase-out of inefficient lighting was recently passed: All light bulbs must use 25 percent to 30 percent less energy by 2014. By 2020, bulbs must be 70 percent more efficient than they are today.

- **Make choices for electricity conservation**
  Use natural lighting whenever possible. Switch off the lights when you are not at home or when you leave the room. Place lights on timers, so they will turn off automatically.
Learn about light bulbs

Incandescent light bulb

**How it works:** Electricity heats the internal filament, producing light. The glass bulb protects filament from oxygen, increasing its usable life. Because it uses heat to produce light, it uses a lot of energy.

**Lifespan:** Bulbs last for 700-1,000 hours.

**Disposal:** Can be put in regular garbage.

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Compact fluorescent light (CFL) bulb

**How it works:** Electricity flows through gas, causing it to emit ultraviolet light, which excites the white phosphor coating on the inside of the tube. This coating emits visible light.

**Lifespan:** Bulbs last for up to 10,000 hours.

**Disposal:** Contains a small amount of lead and mercury – requires special disposal. CFL bulbs contain between 1.4 and 4 milligrams of mercury. They are also recyclable, allowing their mercury to be reclaimed and reused.

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Light emitting diode (LED) bulb

**How it works:** Uses electroluminescence to produce light with a semiconductor diode.

**Lifespan:** Bulbs last for 30,000—80,000 hours. Currently mainly available in strings of holiday lights and in flashlights, but new LED light bulbs for more common uses are being developed for public use.

**Disposal:** Can be thrown away in the regular garbage.
SAFETY ALERT: If you happen to break a CFL bulb, the Environmental Protection Agency recommends that you evacuate the room and open the window for 15 minutes. Once the air has cleared, use sticky tape to clean up broken glass and the white powder, which is actually the phosphorous coating of the bulb and not mercury. You can also wipe up with a damp paper towel. Place all garbage in a plastic bag and throw away immediately. Then wash your hands.

WHEN YOUR CFL BULB BURNS OUT: Do not throw a burned-out CFL bulb in the trash. These bulbs are recyclable.

To dispose of compact fluorescent light bulbs:
- Check with local retailers. Many local retailers and hardware stores offer easy and convenient recycling options to households for CFL bulbs.
- Bring them to a drop-off facility. Hennepin County accepts all types of fluorescent, high intensity discharge, neon bulbs and ballasts free of charge at the county drop-off facilities. There is a limit of 25 bulbs per household per year. Fluorescent bulbs are collected from households only; no fluorescent bulbs are accepted from businesses. See Your Local Resources section for more information. For more details on safe cleanup of CFL bulbs, see http://www.epa.gov/cfl/cflcleanup.html.
CFL and incandescent bulbs: Energy and cost saving comparison

**Incandescent bulb**
Calculations based on use for 4 hours/day and energy costs of $0.14/kWh.

<table>
<thead>
<tr>
<th>Light produced</th>
<th>900 lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy needs</td>
<td>60 watts</td>
</tr>
<tr>
<td>MONTHLY ENERGY COST</td>
<td>$1.02</td>
</tr>
<tr>
<td>ANNUAL ENERGY COST</td>
<td>$12.26</td>
</tr>
</tbody>
</table>

LIFE CYCLE COST: the total cost of buying and operating an appliance over its lifetime.

<table>
<thead>
<tr>
<th>Purchase price</th>
<th>$0.62</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usable life</td>
<td>1 year</td>
</tr>
<tr>
<td>Annual energy cost</td>
<td>$12.26</td>
</tr>
<tr>
<td>6 YEAR LIFE CYCLE COST</td>
<td>$77.30</td>
</tr>
</tbody>
</table>
CFL and incandescent bulbs: Energy and cost saving comparison

Compact fluorescent light (CFL) bulb
Calculations based on use for 4 hours/day and energy costs of $0.14/kWh.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light produced</td>
<td>900 lumens</td>
</tr>
<tr>
<td>Energy needs</td>
<td>13 watts</td>
</tr>
<tr>
<td>MONTHLY ENERGY COST</td>
<td>$0.22</td>
</tr>
<tr>
<td>ANNUAL ENERGY COST</td>
<td>$2.66</td>
</tr>
</tbody>
</table>

LIFE CYCLE COST: the total cost of buying and operating an appliance over its lifetime.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase price</td>
<td>$2.00</td>
</tr>
<tr>
<td>Usable life</td>
<td>6+ years</td>
</tr>
<tr>
<td>Annual energy cost</td>
<td>$2.66</td>
</tr>
<tr>
<td>6 YEAR LIFE CYCLE COST</td>
<td>$17.94</td>
</tr>
</tbody>
</table>
Replace current incandescents with efficient CFLs and save big
Calculations based on use for 4 hours/day and energy costs of $0.14/kWh.

**Bathroom:** Replace three 75-watt incandescent bathroom bulbs with 13-watt CFL bulbs and save $38.02 per year in electricity costs.

**Lamps:** Replace six 60-watt incandescent lamp bulbs with 13-watt CFL bulbs and save $57.64 per year in electricity costs.

**Kitchen lights:** Replace six 125-watt incandescent bulbs with 25-watt CFL bulbs and save $122.64 per year in electricity costs.

**Porch light:** Replace three 40-watt incandescent candelabra bulbs with 7-watt CFL bulbs and save $20.24 per year in electricity costs.

**Outdoor flood lights:** Replace two 120-watt incandescent flood lights with 25-watt CFL flood light bulbs and save $38.34 per year in electricity costs.

**Outdoor post lantern:** Replace three 40-watt incandescent candelabra bulbs with 7-watt CFL bulbs and save $20.24 per year in electricity costs.

By replacing their incandescent light bulbs with CFLs, this family saves $297.61 each year in electricity bills.
Vampire energy

**Vampire energy** is electricity used by appliances and electronics when they are turned off but are still plugged in. This energy is often used as standby power, to operate clocks or lights, or to run cooling fans.

Up to 25% of the electricity used by electronic devices can be sucked away as vampire energy.

What you can do:

**Detect your vampire energy**

By taking a few simple steps, we can find where the vampire energy is in our home.

- **Look:** What do you see?
  
  Look for lights and clocks on your electronic devices, as well as for remote controls. If you see indicator lights, remote controls, or illuminated clocks, you are using vampire energy. They are using electricity to operate these lights even when they are turned off.

- **Listen:** What do you hear?
  
  Listen carefully for vibrations. Some household electronics are now made with fans that operate continuously, even when you are not using the appliance. If you hear these fans running, you know there is vampire energy being sucked away.

- **Feel:** What do you feel?
  
  Use your hand to feel for heat or vibrations coming from your household electronics. If the back of your television is hot or vibrating, then it is using energy. Battery chargers get hot even after the battery is fully charged.
An actual home—vampire energy

Vampire energy can really add up to high energy bills. The example below is the real vampire energy of an actual home. This person was able to eliminate all of her vampire energy, save a lot of electricity, and reduce her utility bills.

Based on a vampire energy (time not in use) time of 20 hours per day at $0.14 per kWh

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Vampire energy annual cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toaster oven</td>
<td>$1.02</td>
</tr>
<tr>
<td>Coffee maker</td>
<td>$1.02</td>
</tr>
<tr>
<td>Clock radio</td>
<td>$2.05</td>
</tr>
<tr>
<td>Cell phone charger (already charged)</td>
<td>$2.29</td>
</tr>
<tr>
<td>Cable modem</td>
<td>$3.07</td>
</tr>
<tr>
<td>Microwave oven (based on 23.5 hrs use)</td>
<td>$3.60</td>
</tr>
<tr>
<td>Laptop computer</td>
<td>$5.11</td>
</tr>
<tr>
<td>Desktop computer and monitor</td>
<td>$5.11</td>
</tr>
<tr>
<td>Video game console (ready mode)</td>
<td>$23.85</td>
</tr>
<tr>
<td>Digital cable box</td>
<td>$28.62</td>
</tr>
<tr>
<td>Stereo stack (DVD Player, CD Player, VCR, amplifier, speakers)</td>
<td>$101.18</td>
</tr>
<tr>
<td><strong>TOTAL vampire energy annual cost</strong></td>
<td><strong>$176.92</strong></td>
</tr>
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</table>
Paying the price

2.24 vampire energy watts used by appliance

\[
\times 24 \text{ hours plugged in per day}
\]

\[
\times 365 \text{ days used per year}
\]

\[
\div 1000
\]

\[
\times \$0.14 \text{ electricity cost per kWh}
\]

\[
= \$2.75 \text{ vampire energy cost of appliance per year}
\]

For a family of four each having a cell phone, the cost of leaving their phone chargers just plugged in is $11.00 per year!
Money-saving conservation choices to stop vampire energy

Unplug when not in use: This is the most inexpensive way to eliminate vampire energy. When your electronics or battery chargers are unplugged, they don’t suck any energy.

Place on a power strip and switch off when not in use: Unplugging and re-plugging devices can be difficult if your plugs are behind your television set or in a hard-to-reach place. Power strips help you to stop the vampire energy.
Energy hogs

Energy hogs are household appliances that use much more electricity that you might expect. They are energy hogs because they typically have a high WATT usage, and are used a lot. Put together, a high watt number and high usage = high energy bills.

What you can do:

- **Use timers to reduce energy consumption**
  The amount of energy you use can often be reduced through the use of timers. Does your appliance need to operate all day and all night? If not, find ways of turning off the hog to save energy.

- **Replace with Energy Star appliances**
  Energy star model appliances use less energy. Even though these appliances may cost more up front, you may end up paying less in the long run by using less energy.
Three major energy hogs and how to fix them:

1) Your Air Conditioner

Space cooling makes up 12% of a household’s energy use per year. We can reduce the amount of energy that our air conditioners use by implementing a few easy measures.

What you can do:

- **Install a programmable thermostat**
  Once you set it, your central air conditioner automatically turns itself down when you go to bed and for any regular hours you’re out of the house (work, school, etc).

- **Replace old window air conditioning units**
  ENERGY STAR room air conditioners use about 10% less energy than conventional models. This could save more than $60 over the lifetime of the unit. They also often include temperature controls, allowing you to use the minimum amount of energy you need to cool your room.

- **Replace an old central air conditioner**
  If your central air conditioning unit is more than 12 years old, replacing it with an ENERGY STAR model could cut your cooling costs by 30%.
Money-saving conservation choices for your space cooling needs

Use fans: Window, ceiling and oscillating fans help keep air moving. On mildly warm days, open the window and use fans. On hot days, use fans with your air conditioner to improve its efficiency. Note: fans cool people, not the air, so turn fans completely off when you leave the house.

Fans in shady windows: Put fans in shady windows or on the north side of your house. The air drawn into your house will be cooled by the shade.

Locate air conditioning units smartly: Locate your window air conditioning unit in a shaded window, either beneath a tree or awning, or on the north side of your house. Place a central air conditioner on the north side of your house or beneath a tree. Air conditioners work more efficiently without direct sun beating down on them.

Plant a tree: Planting a tree in front of sunny windows will shade your home and keep it cooler during the summer.
Prune around your central air conditioner unit: Trim vegetation from your central air conditioner to prevent blocked air flow.

Keep air conditioner filters clean: Clean your central air conditioner filters regularly. Vacuum interior and exterior vents of your window air conditioners.

Schedule an air conditioner inspection: Have your central air conditioner inspected every year to ensure that it is operating properly and efficiently.
HOT WEATHER SAFETY ALERT: Severely hot weather can be dangerous, particularly for children, the elderly, and individuals whose health may be compromised by illness. If severe hot weather is in the forecast, do not place yourself at risk.

- Drink plenty of water.
- Avoid drinks with alcohol or caffeine.
- Eat small meals.
- Wear light-colored, loose-fitting clothing.
- Slow down. Severe hot weather is not a good time to do yard work, exercise outdoors or exert yourself.
- Stay indoors in the coolest room of your home.
- Heat Stroke: This is a very serious condition marked by hot, red skin; dizziness and shallow breathing. If you feel as though you may be suffering heat stroke, dial 911.

In extremely hot weather, visit the library, senior center or shopping mall where you can enjoy the air conditioning.
Air quality alerts are issued on days when air quality dips below safe levels. In Minnesota, four pollutants are used to calculate the Air Quality Index (AQI): ground level ozone, sulfur dioxide, carbon monoxide and fine particles (PM2.5). The two pollutants of most concern in Minnesota are ozone and PM2.5.

**Ozone**, also called smog, is only a problem in warm weather and so is only monitored from April through September. On hot summer days ozone becomes elevated due to a chemical reaction between heat, sunlight and air pollutants. It is irritating to the eyes, nose, throat and lungs, and it can worsen the symptoms of asthma. Ozone can also damage plants, including crops and trees.

**Fine particulate matter (PM2.5)** is a complex mix of very small liquid droplets or solid particles in the air and occurs year-round. Major sources are cars, trucks, construction equipment, coal-fired power plants and wood burning. Fine particulates are associated with increased hospitalizations and deaths due to respiratory and heart disease and can worsen the symptoms of asthma.

While the AQI in Minnesota rarely reaches the “unhealthy” range, many citizens are affected by air quality “unhealthy for sensitive groups.” These conditions can place children, the elderly, people with asthma, emphysema, or other lung or heart diseases, and those who spend time outdoors at elevated risk for respiratory problems.

During an Air Quality Alert, we can protect ourselves by taking a few precautions:

- Stay indoors during the hottest hours of the day, preferably in a cool environment.
- Avoid strenuous exercise. Activity increases stress on your lungs. Limit outdoor activity to the early mornings or evenings.
- Avoid high traffic areas. Ozone is created from a reaction between sunlight, heat and automobile exhaust. Avoid exposure by staying away from the source of ozone.
- Use the gas station during the twilight hours of the evening to prevent vapors from becoming surface-level ozone. Don’t top off your tank.
- Mow your lawn in the evening, not during the middle of the day. Exhaust from a gasoline lawn mower is much greater than from a car.
- Use public transit or telecommute, rather than driving to your destination.
- When grilling outdoors, do not use lighter fluid.
2) Your refrigerator

The average American home uses 8% of their household energy on their refrigerator and freezer.

What you can do:

- **Are you ready for a new refrigerator?**
  If you are ready for a new refrigerator, consider purchasing an Energy Star model. Today’s Energy Star refrigerators are 20% more energy efficient than current federal standards, and are 40% more efficient than models sold in 2001.

Money-saving conservation choices for your refrigerator and freezer

**Keep an appropriate temperature:** If the thermostat in your refrigerator is set too cold, you could be wasting a lot of energy. A refrigerator 10° lower than these recommended settings requires 25% more energy to operate.

Refrigerator 36°-38° F  
Freezer 0°-5° F

Is your ice cream too hard to scoop? If your ice cream is too hard, your freezer is too cold.

**Verify your temperature settings:** Sometimes thermostats don’t work properly. Use an outdoor garden thermometer in the freezer and refrigerator compartments to make sure that the settings are accurate. You only need to leave your thermometer in the refrigerator and freezer for approximately ten minutes to verify the temperature settings.

**Keep appropriate space around your fridge:** Your refrigerator needs air circulation in order to function properly. Allow 1 inch of space around all sides of your refrigerator. Increased heat around your refrigerator can cause it to work harder and use more energy, so position your fridge so that it is not in direct sunlight, and is not next to your oven or dishwasher.

**Keep the door closed:** Every time you open the door to your refrigerator or freezer, you lose cold air. Keep the door closed as much as possible to save energy.
Keep lids on foods and liquids: Extra humidity in the refrigerator makes it work harder. Keep lids and covers on all foods and liquids in your refrigerator to keep the humidity down and save energy.

Wait for foods to cool before putting leftovers in the fridge: It takes a lot more energy to cool foods that are hot than foods that are at room temperature. Allow warm or hot foods to cool down before you put them in the refrigerator or freezer.

Keep your refrigerator and freezer full: Use jugs of water to take up extra space in your refrigerator and freezer. This helps to keep the cold in when you open the door and saves energy.
3) Your washer and dryer

In the average American home, 5% of home energy use is for washing dishes and washing and drying clothes. Your clothes dryer can use up to 5520 watts on its maximum setting, costing $0.77 for each hour that it is in use.

What you can do:

Are you ready for a new washer or dryer?

- **Front loading washer:**
  Consider a front-loading washer if it’s time to replace your old one. Front-loading models tumble your clothes through the water and detergent, instead of agitating them. This protects your clothes from wear and tear, and saves energy because tumbling is much more energy efficient and uses less water.

- **Choose Energy Star:**
  Energy Star washers and dryers are evaluated by the U.S. government to prove that they use much less energy than standard models.
Money-saving conservation choices for washing clothes

Wash full loads: The amount of energy required to wash nearly empty loads and full loads is practically the same. Save energy by washing full loads.

Use cold water: 90% of the energy used for washing clothes is to heat the water. Today's detergents are better than ever at getting clothes clean at cooler temperatures. If you normally wash your clothes in hot water, use warm or cold water instead to save energy.

SAFETY ALERT: If a family member has asthma, it’s important to continue to wash their bed clothes and towels in hot water. Hot water sanitizes the laundry to reduce asthma triggers.

Use high spin speeds: Higher spin speeds and extended spin features on your washing machine are able to spin more water out of your clothes. The less water in your clothes, the easier they will be to dry. Spin clothes as fast as possible for your garment type.
Money-saving conservation choices for drying clothes

**Air-dry laundry whenever possible:** Use solar power to dry your clothes by hanging them on a laundry line. This method doesn’t require you to spend any money on energy.

![Image of clothes hanging on a line]

**Clean the dryer filter before each use:** Dryer lint increases the humidity in the dryer, increasing drying time.

**SAFETY ALERT:** Lint can build up in your dryer ducts, causing your dryer to work harder, but also creating a fire hazard. Clean your dryer duct regularly to prevent lint buildup.

**Dry loads back-to-back:** Doing all of your laundry in consecutive loads allows the heat generated from one load in the dryer to be used by the next load. This saves energy because your dryer won’t have to heat up from a cold starting temperature each time.

**Use auto moisture sensing controls:** Most dryers come with the ability to sense when your laundry is dry and shut off automatically. Find if your dryer has an auto-moisture sensing control and use it with each load of laundry that you dry.
Typical wattages of household appliances: Which of these are your energy hogs?

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Wattage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clock radio</td>
<td>10</td>
</tr>
<tr>
<td>VCR/DVD player</td>
<td>17 - 21 / 20 - 25</td>
</tr>
<tr>
<td>Aquarium</td>
<td>50 - 1210</td>
</tr>
<tr>
<td>Laptop</td>
<td>50</td>
</tr>
<tr>
<td>Window fan</td>
<td>55 - 250</td>
</tr>
<tr>
<td>Electric blanket</td>
<td>60 - 100</td>
</tr>
<tr>
<td>Ceiling fan</td>
<td>65 - 175</td>
</tr>
<tr>
<td>Radio (stereo)</td>
<td>70 - 400</td>
</tr>
<tr>
<td>Water bed</td>
<td>120 - 380</td>
</tr>
<tr>
<td>Computer awake / asleep</td>
<td>120 / 30</td>
</tr>
<tr>
<td>Computer monitor awake / asleep</td>
<td>150 / 30</td>
</tr>
<tr>
<td>X-Box</td>
<td>187</td>
</tr>
<tr>
<td>PlayStation</td>
<td>197</td>
</tr>
<tr>
<td>Average rear projection TV</td>
<td>211</td>
</tr>
<tr>
<td>Average LCD TV</td>
<td>213</td>
</tr>
<tr>
<td>Average plasma TV</td>
<td>339</td>
</tr>
<tr>
<td>Clothes washer</td>
<td>350 - 500</td>
</tr>
<tr>
<td>Dehumidifier</td>
<td>500 - 785</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>725</td>
</tr>
<tr>
<td>Heater (portable)</td>
<td>750 - 1500</td>
</tr>
<tr>
<td>Microwave oven</td>
<td>750 - 1100</td>
</tr>
<tr>
<td>Toaster</td>
<td>800 - 1400</td>
</tr>
<tr>
<td>Coffee maker</td>
<td>900 - 1200</td>
</tr>
<tr>
<td>Clothes iron</td>
<td>1000 - 1800</td>
</tr>
<tr>
<td>Vacuum cleaner</td>
<td>1000 - 1440</td>
</tr>
<tr>
<td>Dishwasher</td>
<td>1200 - 2400</td>
</tr>
<tr>
<td>Hair dryer</td>
<td>1200 - 1875</td>
</tr>
<tr>
<td>Toaster oven</td>
<td>1225</td>
</tr>
<tr>
<td>Clothes dryer</td>
<td>1800 - 5000</td>
</tr>
<tr>
<td>Water heater</td>
<td>4500 - 5500</td>
</tr>
</tbody>
</table>

What are some common household energy hogs costing you?

**Portable heater:** Portable heaters can cost $75 to $150 per month in electricity. Weatherize your home, maintain your heating system, and wear a sweater in the winter to reduce your reliance on a portable heater.

**Dehumidifier:** By using 500 watts, your basement dehumidifier could be costing you $151 per year in electricity. Unplug the dehumidifier or use its humidistat.

**Clothes iron:** For each hour of ironing you do per week, you are spending $7-$13 per year. Fold clothes straight out of the dryer or iron all of your clothes at once to cut your energy use. Heating up your iron daily uses much more energy than ironing all at once.

**Plasma TV:** A 50” screen plasma TV uses 425 watts. For each hour per day that you watch TV, you are spending $21.72 per year. Choose a more efficient technology (DLP or cathode ray) and watch television for fewer hours per day.

**Hair dryer:** Using an 1875 watt hair dryer for five minutes each day costs $7.98 per year in electricity. A four-person household that uses a hair dryer can spend $31.94 per year in electricity costs.
Measure your energy hogs

Check the amount of electricity that a household appliance or electronic device uses.

**Kill-A-Watt meter**

Use the menu button to cycle through display options. This Kill-A-Watt model can show wattage and kWh. You can also program in the cost of your kWh from your bill and choose to display the weekly, monthly, or yearly cost of running this appliance.

Plug the Kill-A-Watt into any outlet. Then plug in the device you want to measure here.

**Where to buy**

The Kill-A-Watt electricity usage monitor is available via the internet in the $20-$30 range. Check these websites:

- [http://www.amazon.com](http://www.amazon.com) (Do a product search)

Local hardware stores may also carry them or be able to order them for you.
Learn More!

Books


Internet Resources: General

- U.S. Department of Energy
  http://www.energy.gov/energytips.htm


- Energy Savers—Save Money and Energy at Home www.energysavers.gov/

- Energy Star
  www.energystar.gov/

- Energy Savers Booklet: Tips on Saving Energy & Money at Home
  www1.eere.energy.gov/consumer/tips/pdfs/energy_savers.pdf

- U.S. Energy Information Administration
  http://www.eia.gov/

- U.S. Environmental Protection Agency Climate Change page http://www.epa.gov/climatechange/index.html

- Database of State Incentives for Renewables and Efficiency (DSIRE) http://www.dsireusa.org/

  www.aceee.org/consumerguide/

- Consortium of Energy Efficiency
  http://www.cee1.org/resid/resid-main.php3
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References


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