

**Q: How much does electricity cost?**

**A: The cost of electricity depends on where you live, how much you use, and possibly when you use it.** There are also fixed charges that you pay every month no matter how much electricity you use. For example, I pay \$6/mo. for the privilege of being a customer of the electric company, no matter how much energy I use.

Check your utility bill for the rates in your area. If it's not on your bill then look it up on the utility's website.

The electric company measures how much electricity you use in **kilowatt-hours**, abbreviated **kWh**. Your bill might have multiple charges per kWh (e.g., one for the "base rate", another for "fuel") and you have to add them all up to get the total cost per kWh.

Most utility companies charge a higher *rate* when you use more than a certain amount of energy, and they also charge more during summer months when electric use is higher. As an example, here are the residential electric rates for Austin, Texas (as of 11-03):

<b>First 500 kilowatts</b>	5.8¢ per kilowatt hour (kWh)
<b>Additional kilowatts (May-Oct.)</b>	10¢ per kilowatt hour
<b>Additional kilowatts (Nov.-Apr.)</b>	8.3¢ per kilowatt hour

*These figures include a fuel charge of 2.265¢ per kWh.*

The average cost of residential electricity was 9.86¢/kWh in the U.S. in March 2006. The average household used 888 kWh/mo. in 2001 and would pay \$87.56 for it based on the March 2006 average rate. ([Dept. of Energy](#))

The cost of electricity varies by region. In 2003 the price ranged from 5.81¢ in Tennessee to 12¢ in California, 14.314¢ in New York, and 16.734¢ in Hawaii. In Summer 2001, electricity was a whopping 20¢/kWh in parts of California.

Source: [Michael Bluejay](#)

**Q: What is kilowatt hour?**

**A: Watts**

The **rate** of electrical use **at any moment** is measured in **watts**. For example:

- A 100-watt light bulb uses 100 watts.
- A typical desktop computer uses 65 watts.
- A central air conditioner uses about 3500 watts.

If your device lists amps instead of watts, then just multiply the amps times the voltage to get the watts. For example:

$$2.5 \text{ amps} \times 120 \text{ volts} = 300 \text{ watts}$$

**Watt-hours**

To know how much **energy** you're using you have to consider **how long** you run your appliances. When you run a 1-watt appliance for an hour, that's a **watt-hour**. It's abbreviated **Wh**. For example:

- One 100-watt light bulb on for an hour is 100 watt-hours (100 Wh)
- One 100-watt light bulb on for five hours is 500 Wh
- Five 100-watt light bulbs on for an hour is 500 Wh

### **Kilowatt-hours**

1,000 watt-hours is a **kilowatt-hour (kWh)**. For example.

- One 100-watt light bulb on for an hour, is 0.1 kWh (100/1000)
- One 100-watt light bulb on for ten hours is 1 kWh (1 bulbs x 100W x 10h= 1000Wh = 1 kWh)
- Ten 100-watt light bulbs on for an hour, is 1 kWh (10 bulbs x 100W x 1h= 1000Wh = 1 kWh)
- Ten 50-watt light bulbs on for an hour, is 0.5 kWh
- Ten 100-watt light bulbs on for 1/2 an hour, is 0.5 kWh
- Running a 3500-watt air conditioner for an hour is 3.5 kWh.

Take a moment to understand the difference between *kilowatts* and *kilowatt-hours*. The former is the *rate* of power at any instant. The latter is the *amount* of energy used. A light bulb doesn't use 60 watts in an hour, it uses 60 *watt-hours* in an hour.

**The "-hours" part is important.** Without it we'd have no idea what period of time we were talking about. If you ever see a reference without the amount of time specified, it's almost certainly per hour.

Source: <http://michaelbluejay.com/electricity/cost.html>