

Get Charged Up About Electricity Conservation

By Bethany Wright, Solid Waste Technician

Electricity is something we don't pay that much attention to. It's always there when we need it, at just the flick of a switch. Practically everything comes in an automatic electric model. (*I mean, does anyone still open cans by hand anymore?*)

Electricity seems like a clean product because we so rarely see the effects of electricity production. We hardly ever pass an electrical plant, and don't know anybody who works there. It's also easy to use lots of it, because we don't realize it until we get our bill. It's not like gasoline, where we feel the pain each time we fill our tank. Electricity seems ever present, effortless, and residue free.

But imagine if each electric device were like a parking meter- a penny to run the fan, a dime to watch TV, a quarter to use the microwave, a dollar to keep the refrigerator cool. Or what if we felt the environmental effects- if every so often a plume of smoke puffed out of the wall sockets, or UPS periodically delivered a small box of nuclear waste to us (*Where do you want your share of the spent fuel rods, Sir?*), or fish who couldn't make their way up the fish ladder knocked on the door and asked for a lift. You can bet we would stand up and pay attention!

Here in the Northwest, we think to electricity as hydroelectric power. We worry about the plight of salmon trying to return their spawning grounds. But hydroelectric power has other effects, too. The dams change the course of streams and flood valuable riparian ecosystems. The water temperature is raised. Not a lot, just a little; but even a 1° change can inhibit some species and force others out.

Here hydropower gets all the attention, but in truth, only about 25% of electricity in the United States comes from this source. The majority, about 70%, comes from coal burning electricity plants. A tiny percentage comes from alternative sources. The Northwest is quite progressive in this regard. In our area, about 42% of our power is hydroelectric, 45% is from coal, and 13% comes from alternative sources such as windmills, solar panels, nuclear, or biomass conversion.

But these methods have problems, too. Coal plants produce smoke. Thanks to changes in technology and permit requirements, most plants release only about half of the pollutants they used to, but they still discharge particulates, sulfates, and nitrates. These irritate people's eyes and lungs, contribute to smog, and produce acid rain. And coal is non-renewable. Once we use it up, that's it. Even alternative sources such as windmills have their troubles. In the dry deserts of the southwest, each windmill kills one or two birds and bats each year. (For some reason, bats are not able to properly detect windmill blades with their sonar.) But in lush areas in the east, studies reported as many as 100 deaths per windmill per year. A field of windmills can really take a toll on the local wildlife.

So what is the best kind of electricity? The kind that is conserved!

But how can I use less electricity, you say? Well, I am glad you asked.

First, you need to know how much you use, and when, and why. Look at your monthly electric bill for the past few months. Do you see a pattern? Do you use a lot when the kids are home from school, when it is cold, or when it is hot? Finding where you use the most is the best place to start. You want to trim from the excess. We need electricity - we just want to stop wasting it. Also, you have to cut electricity in a way that works for you. If it's not practical, you won't do it. (As an example, during my research, I found a tip that involved filling 150, 2-liter soda bottles with water, and storing them under your bed to absorb heat. There were complex calculations detailing how much electricity you saved for the air conditioner. That's all well and good, *but...*)

Next, survey your house. When you wander to the fridge for a midnight snack, take a look around at how many little lights are glowing. Each LED light or digital time display is an appliance that is on, and using electricity. I found the little glow on the VCR, computer, radio, microwave, the stove -- even my toaster has a little red light!

Now, think about what can be unplugged. Many of these things draw electricity even when they are off, so unplugging them is the only way to fully

disconnect them. However, do not unplug things that you use to tell time, or you'll have to reset the clock for each use. But I don't tell time with my toaster, so it can be unplugged, and that is probably safer, anyway.

Other ways to cut electricity depend on your house. If you have natural gas appliances or a wood stove, you will do things a little differently than the person with an all-electric house. In general, things that heat or cool take the most energy. Air conditioners, refrigerators, space heaters, hot water heater, clothes dryer, and ovens are all very energy-intensive.

Some things like microwaves and stereos have an advertised wattage. When you have a choice, use a lower wattage item. My blow dryer, for example, is the "TinyMighty 1200". It is small, but gives off 1200 watts of heat. But in practice, it probably uses more like 1500 watts, because all motors have some energy loss. So, to use my blow dryer is the same as turning on 15 100-watt light bulbs! (*Now that I think about it, maybe I could just let my hair air dry...*)

Lastly, pay attention to your electric bill. Look for changes, so you can adapt quickly. Also, read the brochure they always send with it. The brochure has good tips and offers on things like rebates. Most companies offer Online Home Energy Analysis. Many will give you free compact fluorescent bulbs just for filling it out!

The Oregon Department of Energy also has great information. They offer several programs for tax rebates and loans on energy efficient products. The help you save money while you save electricity. These are for homes and businesses (even for non-profits; the "pass through" option allows you to trade your tax credit to a taxable business for cash!) Their website is www.energy.state.or.us. Their toll free number is 1-800-221-8035.

Here Are Some Electricity Saving Tips

House Temperature-General

- Set the temperature at the limit of what is comfortable for you. Once you have it comfortable, don't let the air escape.
- Keep doors and windows shut.

- Add caulking or foam weather stripping.
- Consider adding gaskets to your electric sockets or insulation to your walls.
- Make sure the ducts are well sealed.

To Keep House Cool

- Shut doors to unused, sunny rooms.
- Plant a tree to near the house.
- Add a shade outside the window to reduce the greenhouse effect.
- Use the microwave rather than the oven.
- Eat a cold meal, or barbecue outside.
- Use low watt bulbs instead of high watt bulbs. (About 75% of the wattage is released as heat!)
- Open the windows for the cool night breeze.
- Use exhaust fans in the attic and bathroom.

To Keep House Warm

- Shut doors to unused, cold rooms.
- Open the blinds to take advantage of the greenhouse effect.
- Hang heavy drapes to reduce heat loss through the window.
- Run hot appliances, like the clothes dryer, dishwasher, or oven, when you are home, not when you are away.
- Don't block the registers, and keep the air filter clean.

Other Ideas

- Do multiple loads of laundry one after another, while the dryer is still warm.
- Consider replacing some regular lights with compact fluorescent light bulbs. They use about 1/4 of the electricity for the same brightness.
- Turn off the computer monitor and printer when you are not using them. (Did you know screen savers don't save any electricity? They protect the monitor, not save energy.)
- Set your computer to go into "sleep mode" after a few minutes of not using it.
- Set the water heater on medium, not high.
- Turn off the "dry" feature of the dishwasher and let the dishes air dry.
- Cook on the stove while using the oven, when the stove warms up anyway.

- Stay full- do full loads of laundry, run the dishwasher when it is full, and keep the freezer full. (A full fridge helps keep itself cold).
- Use a programmable thermostat to keep the house comfortable only when people are home.
- Let in natural light, or work in sunny rooms.