

## Energy Facts and Conservation Tips Sheet

*Across the US, State and local government agencies spend more than \$10 billion a year on energy to provide public services and meet constituent needs. In FY 2012/2013, Pima County spent \$14 million on energy to operate our facilities. Nearly 1/3 of the energy used to run a typical government building is wasted. During a time of budget constraints, growing demand for services, and shrinking environmental resources; Pima County is leading by example by conserving energy in its facilities and needs your help to further reduce energy usage.*

### Energy Conservation and You

#### 10 Action Tips

1. Use energy efficiently: turn off lights, unplug electrical devices when not in use, close windows, click "log out" on your computer and leave your monitor on at the end of the day.
2. Adopt a light in the area where you work that is frequently left on. Whenever you see it left on by a coworker, be the one responsible for turning it off.
3. Use task lighting- turn off unnecessary lights and only use the ones you need to get the job done.
4. Open your blinds, turn off your lights, and take advantage of daylight when you can.
5. Turn off your monitor whenever you leave for more than 15 minutes during the day.
6. Turn water faucets off when they are not needed.
7. Report leaks or overflowing toilets as soon as you notice them.
8. Be as water and energy smart at work as you are at home.
9. Recycle inefficient, obsolete electronics and replace them with an ENERGY STAR certified product when possible.
10. If you have a traditional, incandescent bulb in your office, replace it with a compact fluorescent bulb (CFL).

#### 1. Turning off lights and other electricity consuming devices is free

- Powering Pima County Government operations for a year: \$14 million
- Replacing a single light fixture with an occupancy sensor to conserve electricity: \$80
- Turning off lights when not in use: Zero dollars
- Saving your coworker's job by reducing energy waste.... Priceless

#### 2. Turn off lights

Turning lights on and off when not in use will not increase the amount of energy they consume or impact their lifespan. In fact, it will go a long way in saving energy. According to the Department of Energy (DOE) the power surge is so small that turning off a light for just 5 seconds will save more energy than will be consumed in turning them back on again. According to the Pima County Energy Manager wearing out a bulb prematurely would require you to turn your lights on and off 20 to 50 times a day.

#### 3. Use daylight

Optimizing daylight use in a typical building can provide 20 to 25% of the annual illumination needed and significantly reduce energy costs. In well-designed buildings this number can reach up to 70%.

#### 4. Use task lighting

Using more light than is needed to complete your work wastes energy. A 60 watt bulb will use 60 watts of energy per hour. You could conserve nearly 22,000 watts of energy per year by switching off just one bulb for one hour every day; enough to power one month worth of TV viewing.

#### 5. Use energy efficient bulbs

Compact fluorescent bulbs (CFLs) are far more efficient than traditional incandescent bulbs. They typically use 75% less electricity than an incandescent bulb. Because they are so much more efficient than traditional incandescent bulbs, they can conserve enough electricity to pay for themselves in less than nine months. On top of that, CFLs last 10X longer than incandescent lights saving you money on replacement bulbs and resources.

#### 6. Use energy efficiently

Interior lighting consumes 36% of the total electricity used in a typical office. According to the DOE, 50% of that energy may be wasted by inefficient use, inadequate maintenance, or obsolete equipment.

#### 7. Unplug it!

When left plugged in, some electronic devices still draw electricity from the outlet even if they are turned off. This is often referred to as a "vampire" or "phantom" load. The energy drawn by vampire loads goes unused and is wasted. This energy accounts for nearly 10% of the energy used in the US each year and costs consumers more than \$3 billion a year.

#### 8. Wasting energy drains our water supply

On an overall water budget basis, Arizona exports electricity that consumes about 52,000 acre-feet of water per year for electricity generation and imports electricity that consumes about 22,000 acre-feet per year. Thus, the net loss of water consumed in Arizona to generate electricity that is exported out-of-state is about 30,000 acre-feet per year, enough to meet the demands of 150,000 Arizona residents.

#### 9. Water cost of electricity production

94% of Arizona's electricity generation relies on methods requiring a minimum of 200 gallons of water for every Megawatt hour (MWh) of electricity generated. To put this in perspective Arizona generates more than 100 million MWh of electricity annually.

- Hydroelectric: 56,000 gal/MWh of electricity
- Nuclear: 785 gal/MWh
- Coal: 510 gal/MWh
- Natural gas: 415 gal/MWh
- Wet Cooled Solar Thermal: 200 -780 gal/MWh
- Dry Cooled Solar Thermal: ~20 gal/MWh

#### 10. Save the planet

The energy used by a building to support just one office worker for a day causes more than twice as many greenhouse gas emissions as that worker's drive to and from work.

#### 11. Log out at the end of the day

The Pima County Information Technology Department (ITD) has installed a "power-save program" on most County computers, which automatically places them in standby mode between 6 p.m. and 6 a.m. on weekdays and on weekends. The program saves the County more than \$58,000 a year and reduces CO2 emissions by nearly 450 tons. Logging out at the end of the day keeps your computer safe, and enables ITD to perform critical software updates while allowing this software to do its job.

#### 12. On average it costs \$140 per year to power each employee's office.