

# Creation Sustainability Electricity Walkthrough

*In a typical church or school, 50% of your electric bill is directly related to lighting, nearly 40% to HVAC and refrigeration. To instantly impact your energy consumption and save the largest amount of money in the shortest amount of time, walk your facility and address the following ten issues. Conditions vary from facility to facility but you will still be surprised at how much and how easily you can save. (Note: Create a special file with all your energy bills for the last year so you can measure your progress.) Go to the Creation Sustainability Checklist for more helpful tips to help your parish toward Creation care.*

## **1. What is Vampire electricity and why should you care?**

Vampire electricity is energy being sucked up by equipment waiting to be used. The most obvious standby mode culprits are TVs, computers, printers, copiers, soda vending machines, ice machines and anything with a charger or unneeded digital clock. Invest about \$25 in a Kill-a-Watt or similar device (available on line or at a home improvement store). It reads actual electrical usage for any plug-in appliance or equipment and calculates your cost per hour, day, week and year. Use a strip plug (with a lighted switch) to completely turn off the biggest offenders when they are not needed.

## **CLASSROOMS AND MEETING ROOMS**

**2. Replace all incandescent bulbs with compact fluorescent lamps (CFLs) and LEDs.** According to a recent AARP survey, a .50-cent, and 60 watt incandescent light bulb only lasts 6 months and cost \$22/yr to burn. A comparable \$1(18 watt) CFL lasts 3 to 10 years and only costs about \$5/year. The best alternative is to replace your incandescent bulbs with an LED lamp. They've become almost as inexpensive as CFLs, last thousands of hours longer and don't contain any Mercury.

**3. Compare the conditions in your facility to the following scenarios then consider the potential savings you will obtain by installing occupancy sensors or replacing 1.5" diameter T-12 fluorescent tubes with 1" diameter T-8s.**

- Leaving a single unneeded 100 watt bulb burning eight hours a day adds about \$50 to your annual electric bill.
- Leaving all 150 fluorescent tubes burning in a 40' x 40' classroom for just one extra hour, five days a week, during a typical 180-day school year costs nearly \$300.
- Leaving just one standard (T-12) 40 watt four-lamp fluorescent ceiling fixture burning eight hours a day can add almost \$100 to your annual electric bill.
- Replacing the above 1.5" diameter 40 watt fluorescent tubes with (T-8) 28 watt 1" diameter tubes while at the same time replacing your old ballasts will reduce the \$100 to less than \$80. The more efficient 1" tubes give off so much more light that you can probably remove one of the four tubes and still have about the same light levels in the space and save even more money (Ballast replacement should be done by a qualified person).
- TIP: Some utilities have programs that offer free bulbs, fluorescent tubes and ballasts plus installation. Other programs offer free audits to help you learn to save even more money. Call them to find out what is available in your area.

#### **4. Review Personal Refrigerator usage.**

If you need to keep Personal Refrigerators in every classroom or office, make sure they get shut down over weekends, holidays and vacations. Many small refrigerators cost over \$40 per year to run.

#### **5. Make sure all computers, printers, faxes and other equipment are off at end of day and over the weekends.**

A single CRT can waste over \$70 per year. (Note: EnergyStar® has free downloadable software that will sleep or shut down your computer when it's not in use.) Use power strips with lighted on/off switches to make shutting down equipment more convenient. (Note: Flat screen monitors are much more energy efficient.)

### SANCTUARY AND HALL

#### **6. Install occupancy sensors in seldom-used rooms, closets, hallways and storage areas to control lights.**

Off is the most efficient use of electricity. Leaving a light burning because “it’s just for a few minutes, I’ll be right back,” is rarely a good idea. Occupancy sensors make lighting control automatic – they never forget.

#### **7. Are your emergency exit lights lit?**

Install LED (Light Emitting Diode) lamps in your over-the-door emergency exit lights. Typical incandescent emergency exit lights last only three to four months. Each one cost about \$30 per year to illuminate. LED lights last over fifteen years and only cost about \$4 per year. Once they are installed, you can forget about them.

#### **8. How accurate are your thermostats?**

Programmable thermostats that control temperature set points and on/off times can reduce your cooling/heating cost by up to 20%. If you are already blessed with them, have your service contractor verify that the set times and temperature control points have not drifted. Adjust the on/off times to make sure your A/C doesn't come on too soon before Mass or stay on after the congregation exits the building. Here are two tips to help you control HVAC costs:

- As a general rule of thumb, every degree below 68° for heat and above 78° for cooling will increase your electrical usage by about 5%.
- An easy non-technical way to verify your thermostat's accuracy is to occasionally hang an outdoor thermometer next to it.

### PARISH KITCHEN

#### **9. Is the big refrigerator in your kitchen a hand-me-down from some generous parishioner?**

Any refrigerator more than ten years old burns about three times as much electricity as the newer more efficient models. That extra energy expense could easily approach \$200 per year. The energy savings generated by a new unit might pay for it in less than three years. The EnergyStar® website has a calculator to help you decide if a replacement is warranted.

#### **10. In your refrigerator, colder isn't always better.**

Setting your refrigerator 10° F colder than necessary can increase your energy cost by 25%. The correct temperatures to save money and to comply with Health Department recommendations are the same. Set your refrigerator at 35° and your freezer at -5° (-10° for ice cream). Invest about \$6 in a refrigerator/freezer thermometer to get accurate temperature readings.