Advanced Energy Conservation Kit

Instructions and Information

Kit Contents

Light Bulbs
- Compact fluorescent light bulbs (CFLs) – 15 total
  - 14 watt CFLs (60 watt equivalent): 5
  - 19 watt CFLs (75 watt equivalent): 5
  - 23 watt CFLs (100 watt equivalent): 5
- Light emitting diode (LED) night light – 1

Outlet gaskets (10) and switch gaskets (10) – 1 package

Closed-cell foam adhesive weather-strip – 2 rolls

Refrigerator / freezer thermometer – 1

Shrink window kits – 4

Low-flow shower head – 1

Faucet aerator – 1
Congratulations and welcome to the Pinellas Energy Efficiency Project! You are now a participant in a county-wide energy conservation program, sponsored by the U.S. Department of Energy. The American Recovery and Reinvestment Act provided Pinellas County with funds to prepare this kit which brings energy conservation and money savings to you. The Advanced Energy Conservation Kit contains enough equipment that, when used properly, could save you hundreds of dollars on your energy bill each year.

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Lighting Your Way to Energy Efficiency

Key Terms for Light Bulbs

Ballast – The heavy base of a CFL that regulates the electric current.
CFL – Compact Fluorescent Lamp (bulb).
Color Temperature – A measure of how “blue” or “yellow” the light from a bulb appears.
Fluorescent – A gas that glows in the presence of electricity.
Incandescent – Regular bulbs that produce more heat than light.
Lumen – A measure of the brightness of light.
LED – Light Emitting Diode bulb.
Mercury – A poisonous gas used in small amounts in CFLs.
Watt – Unit of electrical power consumption.

CFLs in the Kit

These long-lasting bulbs are best-suited for lamp and recessed-can overhead lighting, and won’t preform their best in 3-way or dimmer applications.

14 Watt ENERGY STAR® compact fluorescent lights (CFLs): 5
Incandescent equivalent: 60 Watt
Lumens: 900
Life: 10,000 hours
Kilowatt hours/year saved per bulb = 51
Kilowatt hours/year saved x 5 bulbs = 255
Pounds carbon dioxide (CO2) reduced/year per bulb = 79
Pounds CO2 reduced/year x 5 bulbs = 395

19 Watt ENERGY STAR® CFLs: 5
Incandescent equivalent: 75 Watt
Lumens: 1200
Life: 10,000 hours
Kilowatt hours/year saved per bulb = 45
Kilowatt hours/year saved x 5 bulbs = 225
Pounds CO2 reduced/year per bulb = 70
Pounds CO2 reduced/year x 5 bulbs = 350

23 Watt ENERGY STAR® CFLs: 5
Incandescent equivalent: 100 Watt
Lumens: 1600
Life: 10,000 hours
Kilowatt hours/year saved per bulb = 41
Kilowatt hours/year saved x 5 bulbs = 205
Pounds CO2 reduced/year per bulb = 63
Pounds CO2 reduced/year x 5 bulbs = 315

Lighting accounts for approximately 22% of a Florida household’s energy bill. Switching to energy-efficient lighting not only reduces consumption, but these cooler-burning lights do not burden the air conditioning system.
Compact Fluorescent Bulb (CFL) Overview

CFLs use 75% less energy and last ten times longer than standard incandescent bulbs. If every American home replaced just one light bulb with an ENERGY STAR® qualified bulb, we would save enough energy to light more than three million homes for a year, more than $600 million in annual energy costs, and prevent greenhouse gases equivalent to the emissions of more than 800,000 cars (EPA, 2008). As energy costs rise and we work to reduce our carbon footprint, what could be easier than changing out a few light bulbs to compact fluorescent lights (CFLs). Although initially more expensive, you will save about $30 or more in electricity costs over each bulb’s lifetime. Energy-efficient CFLs can be used in recessed fixtures, table lamps, track lighting, ceiling fixtures and porch lights. Replacing a single incandescent bulb with a CFL will keep a half-ton of CO₂ out of the atmosphere over the life of the bulb.

To choose the ENERGY STAR® qualified CFL with the right amount of light, find a CFL that is labeled as household hazardous waste and should be disposed of properly, ideally recycled. The Environmental Protection Agency (EPA) recommends that consumers take advantage of available local recycling options for CFLs. More detailed information about CFL safe disposal options in Pinellas County is on page 7.

ENERGY STAR® Choose a Light Guide for CFLs

Every time you use an ENERGY STAR® qualified product, you save energy, money, and greenhouse gas emissions. ENERGY STAR® is a joint program of the U.S. Department of Energy and the U.S. Environmental Protection Agency, helping us all save money and protect the environment through energy efficient products and practices.

Usage Tips
To have the best experience possible, keep the following tips in mind:

- Hold the base and not the glass to screw in the bulb.
- Read the packaging to see where each bulb should be used. Not all ENERGY STAR® qualified CFLs are designed to work in every socket.
- Use ENERGY STAR® qualified light bulbs in places where you will have the light on for at least 15 minutes at a time. Frequently turning a CFL on and off will shorten the bulb’s lifetime.
- Most photocells, motion sensors, and electronic timers are not designed to work with CFLs. Check with the control manufacturer and the CFL packaging for compatibility.
- When your CFL burns out, recycle it. Go to www.epa.gov/bulbrecycling for recycling locations.
- If a bulb breaks, follow the guidance found at www.energystar.gov/CFLsandMercury.

Light Temperature Tips: Choose Your Mood

While most CFLs come in “warm” colors to match the yellowish light of incandescent bulbs, you can also choose “cooler” colors with whiter and bluish hues for reading and task lighting. Color in lighting is measured on the Kelvin scale (K) and is marked on CFL packaging. For warmer color look for 2700–3000K, 3500–4100K gives a bright white light and 5000–6500K is bluer and most like daylight.

Bulb-Specific Tips: How to Choose

Spiral Bulbs
If spiral-shaped light bulbs look familiar, it’s because they’re the most popular type of Compact Fluorescent Lamp (CFL). Spiral CFLs create the same amount of light as traditional incandescent bulbs but use less energy.

Many traditional bulbs around your home (from 60w to 150w) can be replaced with spirals. There are spirals for dimmers and three-way switches (just check the packaging). Spirals also come in a variety of colors like soft white, natural light, or daylight.

Covered A-Shaped
A-shaped bulbs combine the efficiency of the spiral bulbs with the look and feel of the traditional incandescents. These products are great for consumers who don’t like the look of the spiral bulbs but still want efficient lighting. You can use A-shaped bulbs wherever you used to use traditional incandescent bulbs, such as clip-on lamp shades. Check the packaging for compatibility with dimmers and three-way fixtures.

Covered Globe
Globe-shaped bulbs are ideal for use where you can see the bulbs, like bathroom vanity bars and ceiling pendants. A globe bulb is basically a spiral bulb with a decorative cover. Like other covered CFLs, globe bulbs need a little time to “warm up” and reach full brightness. But be patient — ENERGY STAR® qualified light bulbs generate just as much light as traditional bulbs, while using less energy.

Tubed Bulbs
Some of the first ENERGY STAR® qualified light bulbs were tube shaped. Basically straight versions of the spiral bulbs, tubed bulbs work well in lamps that have slender covers such as wall sconces.

Candle Bulbs
These products are ideal for use in decorative fixtures where you can see the light bulb. The sleek shape also allows you to use them in tight fitting light fixtures where a covered globe won’t fit.

Indoor Reflector Bulbs
Reflector bulbs are perfect for providing directional light — think of recessed ceiling lights in kitchens or ceiling fans. Indoor reflector bulbs are much smaller than those that are designed for outdoor use. Some indoor reflector bulbs can be used with a dimmer — the packaging will tell you.

Outdoor Reflector Bulbs
For use outside, reflector bulbs are sealed to withstand the rain and snow. Because of this, they’re usually much larger than the reflectors designed for use inside. Timers, photocells, and motion sensors may not be compatible with CFLs, so if you have one of these controls on your outdoor lights, check with the manufacturer of the control and the CFL packaging for compatibility.

3-Way CFLs
Fixtures or lamps with three-way switches require the use of a three-way CFL. Check the packaging to make sure that the bulb is intended for this use. Installing three-way CFLs may require extra effort since they can be slightly larger than their matching incandescents, but they still use one-third as much electricity. Three-way bulbs typically come in Soft White color temperature.

Dimmable CFLs
Fixtures or lamps with dimmer switches require the use of dimmable CFLs. Not all CFLs are dimmable, so check the packaging to make sure it is. Dimmable CFLs work differently than incandescent bulbs.
In some fixtures, the size of the CFL will be important. A lot of manufacturers are developing other CFLs for use specifically in ceiling fans. If your ceiling fan is hooked up to a dimmer switch, make sure you only use dimmable bulbs, or else the light bulbs won’t dim and might even burn out sooner.

**Wall Sconces**

Due to their smaller sizes, spiral, tubed or candle-shaped ENERGY STAR® qualified light bulbs will work well in wall sconces. If your sconce is hooked up to a dimmer switch, make sure you only use dimmable bulbs, or else the light bulbs won’t dim and might even burn out sooner.

**Outdoor Covered Fixtures**

Spiral or tubed ENERGY STAR® qualified light bulbs are both appropriate to use in outdoor covered fixtures where the weather can’t harm them. Most photocells, motion sensors, and electronic timers are not designed to work with CFLs. Check with the control manufacturer and the CFL packaging for compatibility.

**Outdoor Exposed Fixtures**

ENERGY STAR® qualified outdoor flood light bulbs are recommended for outdoor exposed fixtures. These bulbs have special cases that protect them from nature’s elements. For colder temperatures check the packaging for starting temperatures to make sure the bulb will work properly. Most photocells, motion sensors, and electronic timers are not designed to work with CFLs. Check with the control manufacturer and the CFL packaging for compatibility.

**Safe Disposal of CFLs**

CFLs contain a small amount of mercury, so they should not be broken, crushed, or discarded in the regular trash. When a CFL finally burns out, there are safe disposal options in our local area:

1. **Drop off burned out CFLs at the permanent Household Electronics & Chemical Collection Center (HEC3) or at one of the household electronics & chemical **mobile collection **events.**  This service is free for residents.

2. **Drop off CFLs at a Home Depot store (the returns counter inside the door) for recycling. They do not accept fluorescent tubes or non-spiral compact fluorescent bulbs.**

3. **Drop off at Ikea, 1103 N. 22nd St., Tampa (by Customer Service for recycling):**
   - Compact fluorescent bulbs (no fluorescent tubes)
   - Any non-fluorescent light bulbs (including incandescent or halogen bulbs)
   - Residential use only (not for businesses)

4. **St. Petersburg residents: Drop off unbroken fluorescent bulbs—tubes or CFLs—at the Sanitation Dept., 2601 20th Ave. N., St. Petersburg, from Mon.-Fri. 7:30 a.m.-4:0.p.m. (893-7398). Free service with proof of residency such as a driver’s license. Limit 10 per month.**

For more information about environmentally-friendly alternatives to trashing unwanted items, visit the online A to Z Guide for Recycling and Disposal in Pinellas County at [www.pinellascounty.org/recycle](http://www.pinellascounty.org/recycle).
Sealing-up Energy Leaks

Warm air leaking into your home during the summer and out of your home during the winter can waste a lot of energy dollars. Caulking, sealing and weather-stripping all seams, cracks and openings to the outside are the quickest and easiest ways to save money on energy leaks. You can save on your heating and cooling bill by reducing the air leaks in your home.

One package of outlet gaskets (10) and switch gaskets (10)

- Outlets are responsible for about 2% of the leakage of conditioned air in the typical home, and perhaps the easiest to fix.
- Install foam gaskets behind outlet and switch plates on walls, especially exterior walls.
- Suitable for outdoor use.

Closed-cell foam adhesive weather-strip (two rolls)

- Apply weather-stripping to top and bottom of window sash, door frames, attic hatches and inoperable windows.
- Weather-stripping is great for blocking corners and irregular cracks.
- Weather-strips can be reinforced with staples if necessary.
- Weather-stripping should be applied to clean, dry surfaces in temperatures above 20°F (-7° C).
- Measure the area to be weather-stripped twice before you cut anything.
- Apply weather-stripping snugly against both surfaces.
- The material should compress when the window or door is shut.
- When weather-stripping doors:
  - Weather-strip the entire door jamb.
  - Apply one continuous strip along each side.
  - Make sure the weather-stripping meets tightly at the corners.
- For air sealing windows, apply weather-stripping between the sash and the frame.
- The weather-stripping shouldn’t interfere with the operation of the window.

Shrink window kits (4)

Follow the instructions on the back of the indoor window insulating kit.
Here are some tips to make this task even easier:
- Take down the shade, curtain or blind so you can clearly see the window and determine where to apply the adhesive.
- Avoid placing the plastic insulation in an area where you will have to remove any window hardware.
- Choose an area around the perimeter of the window for which you will be applying the double-sided tape.
  - If your window has a frame, this is the best choice.
- Clean and dry the window frame to ensure the tape sticks.

Check Your Refrigerator’s Efficiency

The refrigerator/freezer is the only appliance that runs continuously in your home, 24 hours a day.

Refrigerator/freezer thermometer (1)

- Use the magnetic or adhesive backing to attach this thermometer to the inside of your refrigerator or freezer.
- The appropriate temperature ranges are clearly indicated for both the refrigerator and freezer as well as a danger zone where the temperature is not cool enough to keep food safely.

Light Emitting Diode (LED) night light (1)

Light Emitting Diode or LED technology is the next step in energy-efficient lighting. The technology is still very young, yet advances are being made to make this lighting available and affordable soon.
In the meantime, enjoy the brightness of your LED night light where you need a little extra lighting in the darkness. Your LED night light is smart! This is the only night light of its kind to feature a light-sensor. It turns itself on in the dark and off in the light, saving even more energy:
- 100,000 hour lifetime
- Consumes 0.350 watts per hour when lighted.

In most households, the refrigerator is the single biggest energy consuming kitchen appliance.
Low-flow shower heads and faucet aerators can reduce home water consumption and water heating costs by as much as 50%. The low-flow shower head and faucet aerators mix air and water under pressure, creating a high-velocity spray that makes it seem like more water is coming out than is actually there.

### 2.0 GPM chrome Spoiler™ shower head (1)

- Approximately 73% of the water used in a typical shower is hot water.
- Reducing hot water use saves energy because the water heater has less work to do.

<table>
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<tr>
<th>Gallons per minute</th>
<th>Typical shower head</th>
<th>5-7 gallons / minute</th>
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<tbody>
<tr>
<td>Annual water use</td>
<td>43,800 gallons / year</td>
<td>18,250 gallons / year</td>
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<tr>
<td>Annual water cost</td>
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<td>Lifetime water cost</td>
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<tr>
<td>Annual energy use</td>
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<tr>
<td>Annual energy cost</td>
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<tr>
<td>Lifetime energy cost</td>
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</tr>
</tbody>
</table>

Installing a high-efficiency shower head and faucet aerator can save the average household about 7,800 gallons of water per year.

### 1.0 GPM faucet aerator (1)

All brass, chrome plated
- Dual threaded
- Faucet aerators replace the faucet head screen.
- Standard kitchen faucets use 4 to 7 gallons of water per minute (gpm). This means that a single incidence of washing dishes may consume up to 120 gallons of water.
- A faucet aerator will reduce both the flow rate (from 4 to 7 gpm down to 1 to 2.75 gpm) and splashing while increasing areas of coverage. This conserves water and improves faucet performance at the same time.

### Easy Energy Action Plan

- Turn off lights.
- Adjust your thermostat.
- Use “smart” power strips.
- Use energy-saving light bulbs.
- Check your refrigerator’s efficiency.
- Seal any outside leaks.
- Use water saving devices (shower head & aerator.)
- Consider home improvements.
- Use ENERGY STAR® appliances.
- Unplug phone chargers when not in use.
- Clean the dryer's lint-traps.
- Use natural light, heat and cooling.
- Turn off TV, stereo and other electronics when not in use.

### Notes

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This community-wide project hopes to save more than 3 million Kilowatt hours and 1,800 tons of CO₂ emissions.