

Green Your Business

Energy Conservation Guide

When performing an audit:

1. Have information on what type of light bulbs you have.
2. Have information on who is responsible for the heating and cooling system in the building.
3. Find out what your business' policy is (and whether it is implemented) regarding power management of computers (talk to the IT staff).
4. Make sure to have those responsible for heating, cooling and ventilation (HVAC) and other maintenance available for questions for the self-assessment.

When performing an onsite assessment:

Go over the "Energy" portion of the checklist and collect all supporting documentation for all measures "checked off" on your checklist. Your business can obtain a high score in the audit if the minimum number of required measures is already in place. If not, the scoring system will provide you with enough information to implement other measures to meet Green Business criteria. If there are opportunities for energy efficiency improvements, you should contact the local utility for an in-depth audit of facility energy use, and rebates for upgrading to more energy-efficient measures.

Please use the following resources to help your business implement and meet the Miami-Dade Green Business energy efficiency standards.

1. Lighting
2. Heating Ventilation and Cooling (HVAC)
3. Computer Power Management
4. Appliances and Refrigeration
5. Rebates
6. Additional Resource List

1. Lighting

Lighting is often the most effective way to reduce energy demand, and the incentives make the changes an even better deal. In almost all tenant/landlord relationships, the tenant has a good degree of control over the lighting. Therefore, many energy requirements may be on the lighting side. The Miami-Dade Green Business Program allows almost no incandescent lighting for use in recognized green businesses, except when used for spot lighting in a retail environment. First, identify which light bulbs you use. Here are the most common types:

• Halogen

Common halogen bulbs are large flood lamps with a screw-in bases, or bipin bulbs that go into track or recessed light fixtures. Replace the screw-in bulbs with compact fluorescents, and the bi-pin based bulbs with a lower wattage (IR/infrared) version of the same type halogen. Remove any non-spotlighting halogen fixtures with ones that will accept screw-in CFLs. Be sure to get dimmable CFLs if the fixture uses a dimmer.



• Compact Fluorescent

There are three common types of compact fluorescent bulbs (CFLs). The first (3.1) looks quite similar to the standard incandescent, with the exception of a larger base that holds the ballast of the compact fluorescent. The second (3.2) common type is the spiral cone, which is often hidden in the other behind frosted glass.



The third type is the two-pin based lamp. These are commonly used in industrial applications, and are very common in the recessed reflective cans seen in many offices. When choosing a compact fluorescent, be skeptical of the lamps that aren't Energy Star-certified. Be sure to get bulbs that have a high color-rendering index (CRI), which is on a scale of 1-100. Also look for the color temperature on the label. A "warm white" lamp would be closest to the color of an incandescent, at about 2700K. If you'd like brighter, whiter light closer to daylight, look for color temperatures in the 300K-and-up range. Note that compact fluorescents are also made in PAR and R type shapes to replace halogens (3.3).

• Linear Fluorescent Lamps

These are the most common fluorescents in non-residential applications. The long thin tubes that we see in warehouses, offices and businesses everywhere are very efficient, but there are a few types: the T-12 the T-8 and the T-5 lamp. The T-12 has a diameter of 1.5 inches, the T-8, 1 inch, and the T-5 is 5/8 inch in diameter. The older T-12 lamps require magnetic ballasts, while T-8s and T-5s typically use the more efficient electronic ballasts.



The Miami-Dade Green Business program recommends that no T-12 lamps or magnetic ballasts be used. The T-12/magnetic ballast combination uses more energy, has higher levels of toxic materials and puts out less light.

• Exit Signs

The Miami-Dade Green Business program requires that energy-efficient exit signs be used in businesses seeking certification. It is sometimes difficult to tell which kind you have without opening the sign. Look for a strip of tiny red or green lights to indicate that you have an LED sign, one or two two-pin bulbs that indicate you have an incandescent sign, or two bulbs that look like compact fluorescents to indicate a CFL sign. The incandescent bulbs are usually 15-25 W each, and are labeled as such.

• Occupancy Sensors

For spaces with variable occupancy -- like restrooms, conference rooms, storage rooms, hotel bathrooms and lockers -- consider using occupancy sensors. When doing a survey of your facility's energy use, look for places where lights are on and no one is home. If these are spaces that are empty for long periods and have short bursts of use, they could be a good fit for an occupancy sensor. There are many options for the sensors; most used in commercial settings have a sensor integrated into the switch. In guest bathrooms, you might use a sensor with an integrated LED nightlight, so that guests don't have to leave the light on in order to find their way to the restroom at night. For spaces with one owner (like a private office) it is simpler and cheaper to educate the users to turn off lights themselves.

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2. Heating Ventilation and Cooling (HVAC)

These are the points most often skipped in the checklist. Depending on your business' situation in the building (tenant, owner, sub-letter, etc.) you will have zero to complete control over the heating and cooling systems. If you are a tenant in a multi-tenant building, the building manager is likely to have chosen the systems, and maintains them, in which case you, as a tenant, would be responsible only for the set points (76 ° F for cooling and 68 ° F for heating) on your thermostats. However, if you own the building, you would be expected to answer all questions regarding HVAC equipment and maintenance.

The small business owner who rents in a small office building may only have about 300 square feet of office space. In this case, the building owner/manager controls the central equipment and all related maintenance. The small business owner is only able to set the temperature at the thermostat in the space. In this case the only real option for controlling HVAC energy use is adjusting the setpoint. Similarly, in the identical tenant relationship, with both heating and cooling, only the tenant-controlled measures would apply in the HVAC section.

A third example is the home office, in which the business owner owns the home. In this case, the business owner is responsible for all heating and cooling points, though it is unlikely that they have air conditioning. Maintenance issues, as well as the selection of energy efficient equipment, are possible points.

3. Computer Power Management

Computers are serious energy consumers, especially considering the amount of time they sit unused: while you are at a meeting, lunch or even home for the evening. Many people assume that the screen savers indicate that the computer is in low power mode, but in fact there is little savings. Still others believe that turning the computer off and on uses more energy. Neither is true. In order to ensure that your systems are powered down, take the following steps:

- For a Windows system: Look under Start window, then Settings, then control panels, then power management. From here decide how long the computer would wait until turning off the monitor (mine is set at 10 minutes) and the CPU (mine is set at 30 minutes).
- For an Apple system, go to 'System Preferences', then 'Energy Saver', then 'Sleep'. From here you can either set a threshold for the entire system (monitor and CPU) or for each component separately. For the Green Business program, monitors should sleep after 15 minutes, and CPUs after 30 minutes. If you are a very large business with an IT manager dedicated to installing software through the network, consider [network power management](#).

4. Appliances and Refrigeration

The Miami-Dade Green Business program recommends when replacing refrigerators or freezer, be sure to purchase Energy Star certified models. See Energy Star's website to find an Energy Star model from your preferred brand.

For commercial refrigerators, as used in restaurants and hotels requirements for energy efficient appliances are set by the Consortium for Energy Efficiency. Check here to find a qualifying model.

The Food Service Technology Center is also a great resource for restaurants to find energy and water efficient appliances for their kitchens.

5. Incentives

There are incentive programs for energy efficiency implementation for businesses. Florida Power and Light provides free energy audits, rebates and incentives for commercial and residential facilities. Additionally there are Federal programs that offer tax incentives and low-interest loans to businesses implementing green initiatives.



6. Additional Resource List

- [Energy Star](#)
- [Consortium for Energy Efficiency](#)
- [PG&E Rebates](#)
- [EPEAT](#)
- [Resource Solutions \(Renewable Energy non-profit\)](#)