

Green Your Business

Water Conservation Guide

When performing an audit:

- 1. Note how and where your business uses water.** (i.e., Toilet flushing, dishwashing, showers, ice machines, cooling towers, irrigation, etc.)
- 2. Determine flow rates on all fixtures and devices.**
- 3. If you pay your own water bill, take inventory of your water history and past plumbing maintenance,** noting the average monthly cost and usage per person.
- 4. If you are a tenant of the building, discuss your goals with the owners/property managers.** Discuss with the manager and building engineer factors affecting the property's water usage.
- 5. Review the Water Conservation portion of the checklist and collect supporting documentation for all the measures "checked off."**
- 6. Compile and review any maintenance reports from outside agencies that service water-related process equipment.** (e.g., tunnel washers, icemakers, cooling towers)

As you conduct your audit:

Go over the water conservation portion of the checklist and walk through the property and check items checked off on your checklist. This may require speaking with other building personnel. Your business should at least meet the minimum number of required measures. The points you get provides you with an idea of what needs to be done to implement measures to meet Miami-Dade Green Business standards.

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

- 1. Learn How To Read Your Water Meter**
- 2. Detect Leaks**
- 3. Toilets**
- 4. Urinals**
- 5. Faucet Aerators and Showerheads**
- 6. Dishwashers**
- 7. High Efficiency Clothes Washers**
- 8. Ice Machines**
- 9. Water Brooms and Pressure Washers**
- 10. Pre-Rinse Sprays**
- 11. Cooling Towers**
- 12. Water-Efficient Landscaping**

1. Learn How To Read Your Water Meter

There are several reasons why your business should be able to locate and read your water meter. By reading your meter at the beginning and the end of the day you can determine how much water your business has used. You can also use the reading to check for leaks. For instance, if you turn off all the taps on the property and see that the meter is still turning, this may indicate a leak.

Here are some hints to help you find and read your water meter:

- 1. Locate Your Meter** - Your water meter is generally located near the curb in front of your home or place of business in a direct line with the main outside faucet. Water meters are usually housed in a concrete box usually marked "Water and Sewer." Carefully remove the lid by using a tool, such as a large screwdriver, to pry it off.
- 2. Read Your Water Meter** - All Miami-Dade Water and Sewer Department customers have their water use measured by a meter. The water and wastewater charges are based on the amount of water that passes through the meter on a monthly or quarterly basis.

2. Detect Leaks

Once you figure out how to read the water meter, you can use it to detect leaks, notice sudden spikes in usage, and monitor daily usage. Start by turning all water-using appliances off, so that no water is being used anywhere in the building. Then check the position of the meter dial and wait. If after 15 minutes the dials have not moved, your meter is "holding" and all fixtures are tight.

However, if you notice that the dials have moved, check the toilets for leaks. Put a few drops of food coloring or dye tablets (provided by your water utility) into the toilet tank and wait a few minutes. If there is blue in your toilet tank, you have a leak, probably at your flapper valve. More information on flapper replacement is available at www.toiletflapper.org. Also check the water level in your toilet's tank. In a standard toilet, the water level should be one inch below the overflow tube. If the water is overflowing into the tube, try to set reset the water level according to manufacturer's specifications. If the valve fails to shut off, your fill valve should be replaced.

If there is no leak in the toilets, check all angle stops under your sinks and hose bib connections. If the connections are tight, there may be a hidden leak or a blind leak in an underground pipe or within the walls of the property.

3. Toilets

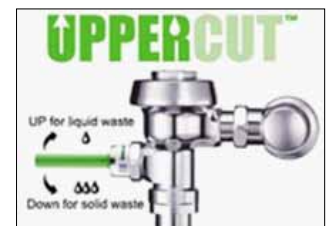
All Miami-Dade Green Businesses must use toilets with 1.2 gallons or less flush volume. WaterSense labeled HETs are approved for use.

HET's: High-Efficiency toilets (HET) flushes at least 20% below the standard model. Many HET's are dual-flush toilets, which have two separate flush volume options, a half flush (.8 gallons) and a full flush (1.6 gallons).

To download a current list of tested HET'S: http://www.epa.gov/WaterSense/product_search.html

4. Dual-flush handle retrofit for flushvalves:

This water saving mechanism retrofits to most existing valves and reduces water volume by up to 30% when activated for half-flush.



5. Urinals

All Miami-Dade Green Businesses must use urinals with 1.0 gallon or less flush volume. More efficient urinals called "High Efficiency Urinals or HEUs" that flush .5 gallons per flush or less are available on the market.

HEUs: High-Efficiency Urinals (HEUs) are defined as fixtures that function at 0.5-gpf or less. Based on data from studies of actual usage, these urinals save 20,000 gallons of water per year with an estimated 20-year life. Go to http://www.cuwcc.org/urinal_fixtures.lasso for more information about HEU's.

Urinal retrofit kit: The flush volume in typical 1.0 gallon per flush urinals can be retrofitted with a .5 gpf diaphragm kit. This is a great cost-effective way to turn the ultra-low flush urinal into a high-efficiency urinal for around \$50 a fixture.

6. Faucet Aerators and Showerheads

Installing high efficiency showerheads and faucet aerators is the single most effective water conservation savings you can do for your home and office. All green business applicants are required to use only low flow faucet aerators and showerheads.

High Efficiency Shower Heads: The flow rate stamp is usually located on the underside of the showerhead that should read 1.5 gpm or less (1.5 gpm required for Green Business recognition). If the showerhead does not have a stamp, it is likely an old (pre-1994) showerhead with a high flow rate (greater than 2.5 gpm) and needs replacement.



Miami-Dade provides free high-efficiency showerheads and faucet aerators to commercial and residential customers.

Faucet Aerators: Standard aerators are devices that are designed to reduce the flow of the water coming out of the faucet while introducing air into the water flow. That is why they are called "**aerators**". Water has to pass through very small holes and spreads out to cover more surface.



Aerated Flow

If an aerator is already installed on your faucet, it will have its rated flow (in gallons per minute or gpm) imprinted on the side. If there appears to be an aerator installed, but there is no flow rate stamped on the side, the aerator may not be a low flow type and should be replaced with a new one not to exceed 1.5 gallons per minute.

If no aerator is visible, check to see if there are threads just inside the tip of the faucet. Most modern faucets are threaded to accept aerators.

Some designer faucets have an internal built in "**laminar**" restrictor. Laminar restrictors work differently than standard faucet aerators. Aerators add air to the water stream to make the flow feel stronger. Laminar flow controls, on the other hand, work by producing dozens of parallel streams of water. You can ask the manufacturer for the flow rate of these faucets. Alternately, you can use a "flow meter bag" which can be purchased at several online conservation websites and measure the flow.



Laminar Flow

Inexpensive and simple to install, high-efficiency showerheads and faucet aerators can reduce water consumption by as much as 50%, and reduce your energy cost of heating the water also by as much as 50%. Miami-Dade provides free high-efficiency showerheads and faucet aerators to commercial and residential customers.

7. Dishwashers

Dishwashers use at least two times less water than washing by hand. Green Business applicants receive credit for using efficient dishwashers. If you are looking to purchase a new, efficient dishwasher, please visit the links below.

For residential dishwashers, visit Green Ratings of various water efficient dishwashers:

<http://www.greenerchoices.org/ratings.cfm?product=dishwasher>

Commercial dishwashers are now using less than 3 gallons per cycle. For commercial dishwashers, visit the Food Service Technology Center (www.fishnick.com) for water and energy efficient models.



**1.5 and 2.0 gpm
Kitchen Faucet Aerators**

**1.5 Lavatory
Faucet Aerators**

8. High Efficiency Clothes Washers

High-Efficiency Clothes Washers (HECWs) utilize technological advances to deliver excellent wash performance while saving both water and energy. Resource efficient models use 35-50% less water and approximately 50% less energy. The water efficiency of clothes washers is rated using the term "water factor" to describe and compare its water use. Water factor is measured by the quantity of water (gallons) used to wash each cubic foot of laundry. A lower water factor represents greater water and energy efficiency.

9. Ice Machines

Water-cooled ice machines use far more water and energy than air-cooled models. Various retrofit options for water-cooled ice machines can be found on the Food Service Technology Center website www.fishnick.com.

10. Water Brooms and Pressure Washers

A water broom uses a combination of air and water pressure to clean decking, patios, tennis courts, exterior walkways, entryways, etc., and uses 3.5 gallons per minute. Pressure washers are using as little as 1.6 gallons per minute, which might be the best option for heavily soiled sidewalks and common areas.

11. Pre-Rinse Spray Valves

A low-flow pre-rinse spray valve is one of the easiest and most cost effective energy saving devices available to the foodservice operator. In addition to minimizing water consumption, water heating energy and sewer charges are also reduced. Pre-rinse spray valves can use as little as .65 gallons per minute compared to 3 or more gallons per minute. In order to qualify for Green Business program recognition, applicants must use 1.6 gpm spray valves or less.



For more information about pre-rinse spray valves, go to <http://www.fishnick.com/saveenergy/sprayvalves/>.

12. Cooling Towers

Cooling towers help regulate temperature by rejecting heat from air-conditioning systems or by cooling hot equipment. In doing so, they use significant amounts of water. The thermal efficiency, proper operation and longevity of the water cooling system all depend on the quality of water and its reuse potential.

In a cooling tower, water is lost through evaporation, bleed-off, and drift. To replace the lost water and maintain its cooling function, more make-up water must be added to the tower system. Sometimes water used for other equipment within a facility can be recycled and reused for cooling tower make-up with little or no pre-treatment, including the following:

Water used in a once through cooling system

Pretreated effluent from other processes, provided that any chemicals used are compatible with the cooling tower system.

13. Water-Efficient Landscaping

Florida Friendly refers to the conservation of water through creative landscaping. These principles can be found in the Florida Statutes Chapter _____.

With water being a limited resource, all landscaping projects, residential or commercial, can benefit from this alternative. Florida Friendly doesn't have a single look - almost any landscaping style can be achieved. The principles can be applied to all or part of a yard.

Additional Resources:

For more information, visit:

- [Florida Friendly Landscaping](#)
- [Conserve Florida Water Clearinghouse](#)
- [General Water-Saving Tips](#)
- [American Water Works Association](#)
- [Energy Star Home Appliance Product Info](#)
- [South Florida Water Management District](#)