



The Business of Water Savings

01-04

Commercial / Office

Water is a resource we often take for granted. Canadians are among the highest per capita users of water in the world. Here in the Capital Regional District we use more than 500 litres per person each day.

While households use the greatest overall amount of water (70%), commercial operations and office buildings account for almost 30% of all water use. The purpose of this fact sheet is to help commercial operations and office buildings in the Capital Regional Water District use less water.

Whether your organization is a tenant or a landlord you can take action to reduce water waste, save money and benefit the environment.

Before You Begin....

Before undertaking any water efficiency program ensure your organization has pertinent, up to date information about the following:

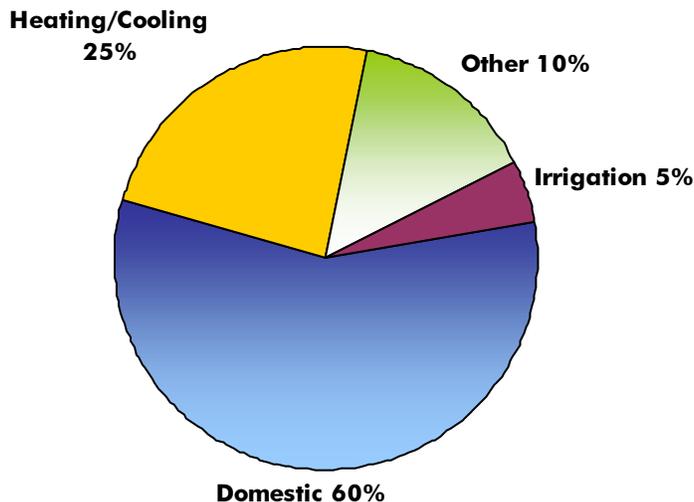
- ☑ Public health and safety requirements.
- ☑ Customer quality expectations.
- ☑ Local municipal regulations and plumbing codes.
- ☑ Anticipated water and wastewater rate increases.
- ☑ Future changes within your organization that might influence water use.



Special Points of Interest

- Typical water use breakdowns
- Water use assessments
- Checklists to help find water savings
- Heating and cooling, savings ideas
- Landscape care tips
- Employee education
- Efficient practices

Typical Water Use Breakdown



Knowing accurately where water is used within your facility is the first and most important step on the road to designing a water efficiency action plan.

In a typical commercial /office facility, the major areas of water use are domestic, usually about 40% to 60%, heating /cooling, about 25%, other uses, 10% and irrigation or landscape care which accounts for about 5% of water use.

The category identified as *other uses* includes maintenance operations such as floor washing and steam cleaning, once through cooling, leaks and other water-using operations. These figures are typical, however every facility has a unique breakdown.

Water Use Assessment

Uncovering the actual breakdown of water use will require a facility wide assessment. This assessment can be as simple as counting toilets and faucets and determining flow rates if all water use is purely domestic. In other instances water use may be more complex. The following is a brief overview for conducting an assessment.

- Do a walk through of your facility starting at the point where municipal water enters your facility and ending where it goes to the sewer.
- Take paper and pencil with you during your walk through and prepare a sketch or "map" of the facility. On this map record all water use operations and all water using fixtures and equipment. Don't forget outdoor use.
- Make notes on your "map" about the volume and flow rate used by each fixture or piece of equipment. You may have to use a bucket and stopwatch to determine the flow rate of equipment such as taps or hoses. Note if the water is hot, cold, filtered or treated and note other relevant facts on the map.
- Other equipment or machines, such as a water-cooled air conditioner, will have water use figures in the owner's manual. If you are unable to find figures, call the manufacturer, tell them the model you have; they may be able to help.



These steps help ensure that you don't miss any savings opportunities and you will have a good idea where your operation uses water, and how much water is being used.

This information will show where to prioritize your organization's efforts and resources for maximum water savings.

Finding Water Savings

Domestic Uses

Domestic uses including toilets account for a high percentage of water use in commercial operations, especially in office buildings.

Toilets

- If your toilets are “tankless” they can be adapted to reduce water use with water-saving diaphragms.
- Replace older toilets with low flush models (6 litres) or the newest dual flush toilets (3 litres and 6 litres) as part of a regular maintenance process. Low flow toilets in office buildings offer an estimated yearly water saving of 40,000 litres per toilet.
- Conduct maintenance checks on a minimum 6-month basis.
- Check for leaks on a regular schedule. A leaking toilet can waste more than 200 litres of water per day. Repair all leaks quickly.



Faucets/Showerheads

For both faucets and showerheads reducing flow means reducing heated water energy costs, and of course, reducing greenhouse gas emissions.

- Check faucets to ensure that they are low flow models using 8.3 litres a minute or less.
- An aerator can help reduce the flow of water making faucets more water efficient.
- You can conserve in shower areas by installing low flow showerheads using a maximum of 9.5 litres a minute.



Urinals

- Make sure urinals flush only when used and that they are not flushing on a timer. Automatic flushing wastes countless litres of water since the urinals are flushing even when the facility is closed and when they are not in use.
- Consider replacing with low flush (3.8 litres) urinals.

Heating/Cooling

Heating and cooling accounts for the second largest operational water use. Examine and implement some or all of these water use reduction methods. If your facility has a large heating and cooling capacity the installation of a cooling tower may be appropriate.

- If your building has a cooling tower, optimizing the operation can mean significant reductions in water use. Use proper treatment processes, optimize blow-down and keep the need for make-up water to a minimum.
- Eliminating once-through coolant water in things such as refrigeration units, and water-cooled air conditioners is a quick and effective way to save large volumes of water. Designed in a time when water and energy were both considered to be cheap and plentiful, these units are often very inefficient in the way they use both water and energy resources. Replacing them with more efficient models, or retrofitting them to re-circulate the cooling water may offer significant water savings.
- As older inefficient units age, replace them with models that conserve water and energy making them cheaper to operate.
- If your building has water-cooled ice machines, consider changing to air-cooled models. See the food services fact sheet for more details about ice machines and other food chilling units.



Contact CRD Water for more information about native species.

Tips For Increasing Water Use Efficiency

- Review water, sewage and energy bills each billing period. This will pinpoint the value of potential savings.
- If possible sub-meter your facility. More meters allow more accurate accounting of water use and help to quickly locate leaks.
- Establish a regular leak check and repair program for all fixtures, equipment, appliances and valves.
- Maintain and clean cooling and heating systems.

Landscape Care Tips

- ◆ Check local watering regulations before using water outdoors.
- ◆ Use micro-drip irrigation to water trees, shrubs and flowers.
- ◆ If you have automatically timed in-ground sprinklers, alter the setting to ensure they operate only when needed. Be sure to comply with the CRD Water Conservation By-law.
- ◆ Use a broom to sweep patios and walkways instead of a hose.
- ◆ Use mulches to keep moisture in and weeds out.
- ◆ Find out about the many species of beautiful native plantings available locally. Once these plantings are established, they need little or no water beyond nature's normal rainfall and are very low maintenance.

EMPLOYEE EDUCATION

It is important to communicate with all staff about conservation and efficiency efforts. Remind people to:

- Turn off taps not in use.
- Avoid unnecessary flushing such as tissues and other garbage.
- Report leaks immediately.

If you are an organization where changes in fixtures or equipment may be noticed by customers, it is especially important to communicate with them about the benefits of water conservation.

IT'S YOUR CALL!

CRD Water Department would be pleased to offer more information, ideas and assistance.

Contact us to find out what you can do to help conserve our precious water resources.



CRD Water Department

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Visit us on-line at - www.crd.bc.ca/water

Additional fact sheets are available that are focused on other types of businesses and industries, call or visit us today to get your copy.