



Eco-Efficiency Centre

Committed to Excellence and Efficiency

Fact Sheet: Eco-Efficiency and Responsible Water Use

Introduction

Water conservation is one of the most important aspects of ecological efficiency. It is one of the earth's most precious, yet undervalued, resources. The demand for water is on the rise however pollution, misuse and declining water tables are shrinking the safe and secure supply that was once thought to have existed.

Businesses play a huge role in water usage and consumption. Employees at these businesses use water in many ways at work such that it is usually taken for granted. Easy conservation practices which use water wisely and return it to the environment in a non-hazardous form can positively influence the water supply.

Business use water for a variety of reasons:

- A raw material
- A coolant
- A solvent
- A source of energy
- A source of pressure
- Domestic use

Municipal Water Use by Sector

- Leakage (10%)
- Industrial (20%)
- Commercial (25%)
- Residential (45%)

The Four Main Water Uses in Canada

- Agricultural (8.4%)
- Municipal (11%)
- Manufacturing (20%)
- Thermal Power Generation (60%)

Did You Know?

If a faucet drips once every second, 10,000 litres of water are wasted in one year!!



Eco-Efficiency

What is Eco-Efficiency?

Eco-efficiency is a practical and systematic approach that businesses can adopt in setting and achieving environmental and business performance objectives. It is very closely associated with and complementary to other concepts such as Occupational, Health and Safety

(OHS), Total Quality Management (TQM), and Pollution Prevention (also known as source reduction). It involves changing processes, finding alternatives, and reducing or eliminating the generation of toxic wastes instead of dealing with problems of cleanup or disposal after the fact. It also includes extending product liability, enhancing material recyclability and maximizing the use of renewable resources. Eco-efficiency means doing more with less, creating and providing quality products and services while reducing resource use, waste and pollution along the entire value chain. It is not only about managing waste after it is created, but strives towards preventing and minimizing waste in the first place.

Money Saved by Being Water-Efficient

Being water-efficient can be a great cost saving mechanism for an individual or a place of business:

- Less water use results in fewer pumping and treatment costs.
- Saving money on water and wastewater operations frees money for meeting water quality, public health and water treatment goals.
- Water saved is also energy, and money, saved for you or your business.

This fact sheet was prepared by the *Eco-Efficiency Centre* - a non-profit, non-government educational and environmental management support centre for small and medium-sized enterprises in Nova Scotia. The Eco-Efficiency Centre was established in 1998 as a partnership between Dalhousie University and Nova Scotia Power Inc., and is supported by private corporations, governments and foundations. The Centre assists companies to achieve better environmental and economic performance through resource conservation, pollution prevention, recycling, reuse, and general good environmental practices.

Benefits of Using Less Water

There are many benefits to conserving water on top of the cost savings.

- Water conservation leads to more efficient processes.
- It will provide greater competitiveness and an enhanced public image.
- Water conservation will also lead to cleaner water and a better environment.

Don't Dump Down Drains!!

Do not dump any toxic agents down the drain as this will negatively affect the harbour. Products that contain chemicals, solvents, paints, oil, grease, or pesticides should be kept away from the drains and disposed of appropriately.

How does a Business start conserving?

For a business to implement a water conservation program, an employee or environmental committee should be appointed to develop a water efficiency program specifically suited for the business. To start an efficiency program, the following guidelines can be followed:

- Gain senior management's support and commitment.
- Get to know your facility by conducting a water audit. An audit allows one to get to know their water system, develop an inventory of how water is used and to prepare a water balance for each area of the facility.
- Decide on what to do to reduce the amount of water used and eliminate wasteful water practices and habits. Develop a water efficiency plan that outlines water reduction goals and strategies.
- Develop an employee participation and awareness program.

Sewer Watch

Keep all flammable, corrosive and toxic materials out of the sewers. Source control to regulate hazardous and toxic waste discharges is coming, in the form of legislative and enforcement tools. Nova Scotia businesses have an opportunity to comply through voluntary programs now.

Tips for Businesses

There are many ways to conserve water in the workplace. Consider the following ideas:

- Educate employees to conserve water, e.g. turn off taps when not in use, do not run water unnecessarily, and report leakage.
- Install water conserving equipment, such as flow restrictors, toilet dams, timer controls.
- Maintain water usage equipment. Repair all leaks on taps, hoses, and couplings immediately.
- Many businesses use large amounts of water in their processes. Look for ways to reduce, reuse, and recycle this water. Examples: reuse process water for cooling, and clean floors with a broom rather than washing them with water.
- Maintaining grounds and a building's exterior can use a lot of water. If you have to water lawns or gardens, collect rain water from the roof of your low rise building into barrels for occasional watering.

How do I get staff interested?

To capture employees' attention about the issue of water conservation and other environmental issues, an Employee Awareness Program could be implemented. Suggestions on developing an Awareness Program include:



- Create a suggestion box and an incentive program, to recognize employees with water-saving/cost saving ideas.
- Post special bulletins on cost savings, new incentives, or outstanding employee involvement.
- Sponsor a slogan or a poster contest.
- Offer water-saving devices to employees for home use (which also are a low-cost alternative).

What Can Individuals Do?

Small amounts of water add up, so any water conservation practices will help. Some general tips for conserving water are:

Indoors

- Install a toilet dam or plastic bottle filled with sand in your toilet tank.
- Install a water-efficient shower head (2.5 gallons or less per minute) and take shorter showers.
- Do not leave the water running when brushing teeth.
- Rinse your razor in the sink instead of under running water.
- When you buy a toilet, purchase a low flow model (1.6 gallons or less per flush).
- Use your automatic dishwasher and washing machine for full loads only.
- If washing dishes by hand, do not leave the water running for rinsing. If you have a double sink, fill the other for rinsing.



Outdoors

- Water lawns in the morning or evening to minimize evaporation.
- Install a drip-irrigation system for valuable plants.
- Use drought-tolerant plants and grasses for landscaping, and reduce grass covered areas.
- Place a layer of mulch around trees and plants to prevent evaporation.
- Use a broom, not a hose, to clean surfaces.
- Do not let the hose run while washing your car.
- Check for leaks in hoses and faucets.

More Tips on Conserving Water in the Home, Community and at Work

Remember, there are three ways to conserve water at home or at work.

Reduce

- Don't use the toilet as a waste basket or flush it unnecessarily.
- Keep drinking water in the fridge rather than letting the tap run to get cold water when you want to drink.

Repair

- A worn-out washer that costs pennies to replace often causes leaking faucets.
- Toilets that continue to run after flushing can waste up to 200,000 litres of water per year.

Retro-fit

- Adapt or replace an older water-using fixture or appliance with one of the many water-efficient devices now on the market. These include toilet retro-fits as

well as low-flow showerheads, faucets and outdoor equipment (hoses, etc.).

Did You Know?

It is estimated that 40% of all toilets leak!!

References and Resources

We have used and referred to publications, fact sheets and web-sites from a number of sources to compile this fact sheet. We would like to acknowledge the following organizations, agencies and individuals:

- **American Water Works Association** - www.awwa.org/
- **Environment Canada** - www.ec.gc.ca/
- **Halifax Regional Water Commission** - <http://www.hrwc.ns.ca/>
- **Water Conservation Tips**- http://www.on.ec.gc.ca/reseau/watertips/watertips_e.html

Telephone and Website Guide

Eco-Efficiency Centre

Tel - 902-461-6704

Website - www.dal.ca/eco-burnside

Atlantic Canada Opportunities Agency (ACOA)

Tel - 902-426-6743

Website - www.acoa-apeca.gc.ca/e/index.shtml

Atlantic Region, Environment Canada, P2

Tel - 902-426-7231

Website - www.atl.ec.gc.ca/epb/pollprev/

NS Dept of Environment and Labour

Tel - 902-424-5300

Website - www.gov.ns.ca/enla

NS Materials Exchange

Website - www.nsmaterials.com

RRFB Nova Scotia

Tel - 1-877-313-7732 (toll-free)

Website - www.rafb.com

Directory of Solid Waste, Reuse, Recycling and Composting

Contacts in Nova Scotia

Website -

<http://www.gov.ns.ca/enla/emc/wasteman/contents.htm>

For more information, contact:

The Eco-Efficiency Centre

Burnside Industrial Park

Dartmouth, NS B3B 1P9

902-461-6704 (telephone)

902-461-6703 (fax)

eecentre@dal.ca (email)

<http://www.dal.ca/eco-burnside> (website)



DALHOUSIE
University

The Eco-Efficiency Centre
is a project of
Dalhousie University

Last updated Jan 2008