



Eco-Efficiency Centre

Committed to Excellence and Efficiency

Fact Sheet: Eco-Efficiency and Organic Waste Management

Introduction

On November 30, 1998, organic materials were banned from Nova Scotia landfills by the provincial government. These regulations have required a new way of dealing with organic wastes for all Nova Scotians, including small and medium sized businesses.

Organic material is a very valuable resource and includes food waste, boxboard, yard waste, and soiled and non-recyclable paper products. The use of compost can increase the fertility of soil in large agricultural sectors as well as in small backyard operations.

Since 1989 the number of centralized composting facilities in Canada has tripled from 30 to 120. There are many other facilities that operate on a smaller scale and are not included in this figure. In Nova Scotia the addition of these facilities and the commitment of the people has led to a 50% reduction in waste over the same period. With 40% - 60% of the entire waste stream being composed of organic waste there is an opportunity to improve the overall efficiency of our waste diversion effort through diligent practices around organic waste. All companies, including industrial, should have a comprehensive organic materials program in place.

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.

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.

What is Composting?

Composting is nature's way of recycling. The process is the decomposition and transformation of organic material into a soil-like product called humus. The composting process uses micro organisms to break down the material. Composting not only reduces the amount of waste being transported to landfills, the humus produced improves the texture and fertility of the soil

Benefits of Organic Separation

Benefits produced by separating organics from the regular waste stream are:

- Fewer and safer landfills.
- Reduction in leachate (a landfill run-off) and methane (a global warming gas).
- A valuable product to enhance the soil (humus).
- New businesses and job opportunities.

Organic Options for Businesses

There are many different options for implementing an organics program in a place of business, that range from a "take-it home" policy, to having local farmers pick up materials, to a contract with your regular waste hauler. However, the two basic ways of handling organics is to either compost on-site or off-site. Consider the different ways of composting to find out which method is best for your business.

- Off-site composting is suitable for any business in Halifax Regional Municipality who receive waste pick-up by a local hauler. The hauler picks up the separated organic material for a disposal fee and delivers it to a local composting facility.
- On-site composting is a method that can vary from a small backyard composter, to an indoor vermicomposting system, to a large-scale in-vessel composting system.

How to implement an organics collection system at work

- Establish where organic materials are generated and collected. Determine waste levels by keeping track of the number of bags generated per week. This will provide enough information to determine the size of compost bins needed for the specific area.
- Explore various methods (such as containers or bags) of keeping organics separate.
- Introduce and inform employees and customers on what should and should not be separated for composting by posting appropriate signs.

Off-Site Composting

Many companies contract a local waste hauler to pick up their organic waste. At the composting facility, the material is shredded, composted, and sold as a product to enhance soil. Talk to your hauler or landlord about picking up the organic material produced by your establishment and disposing of it at one of the centralized facilities around the municipality.

Things to ask your hauler

- Does the hauler supply the tools to separate organics and what type containers are used?
- What is the frequency of pick-up for the amount of material being produced?
- Will the hauler clean containers when they are picked up?
- Will the hauler provide records of volumes or weights of materials collected?

Organic Waste

The following items are accepted at the municipal composting facilities from both residential and business communities:

- **Food Waste:**
Fruit & vegetable peelings, table scraps, meat, chicken & fish, shellfish, dairy products, cheese, cooking oil, grease & fat, bread, rice, pasta, bones, egg shells, tea & coffee grounds & filters
- **Yard Waste:**
Grass, leaves & brush, small branches, house & garden plant waste, sawdust & wood shavings
- **Boxboard:**
Cereal, shoe, tissue, detergent, cracker, cookie, baking product & compostable frozen food boxes, toilet paper & paper towel rolls
- **Soiled & Non-Recyclable Paper:**
Soiled food napkins, paper towels, soiled pizza boxes & paper fast food wrappers, wax paper, file folders, manila (yellow) envelopes, wrapping paper, paper plates & cups, damp or soiled newspapers & flyers, sugar, flour & potato paper bag

Do you have a unique item that you do not know how to deal with???

Contact:

HRM Metro Info – (902) 490-6600
Miller Composting Corporation –
(902) 468-3161



Another Option for Off-site Composting

The Downtown Halifax Business Commission has implemented a new program called “Curbside” ~ the DHBC Garbage Collection Service. This program is a curbside collection service for businesses in the greater Halifax region, including Burnside. The program is the first totally user-pay system in North America and allows businesses to only pay for the material they generate. Regular, recyclable, and organic tags are purchased from the DHBC office and are affixed to the body of each separate bag. Only bags with these specific tags will be picked up. For more information on this program, contact the Downtown Halifax Business Commission:

In person: 1668 Barrington Street, Suite 301; or by phone: (902) 423-2179

On-Site Composting

Although the majority of businesses contract with a specific hauler to transport their organic material, other businesses have found ways to compost the organic materials on-site. This option allows a business to build or purchase their own composting equipment and the compost generated could be used around the building or given to employees.

Advantages

- On-site composting may be the least-expensive alternative.
- Compost is a very valuable resource which can be used in landscaping.
- The composting system may enhance the public image of the business.

Disadvantages

- On-site composting requires space in or around the facility and labour requirements are greater.
- Extra cost incurred from capital costs of the equipment, electricity, water, and maintenance and repair.
- The process could incur problems if not operated properly.

Landfill Bans

Nova Scotia achieved its goal of 50% waste diversion by 2000. This was accomplished by adherence to the landfill bans that remain in place for many items including: corrugated cardboard, newsprint, beverage, steel/tin and glass food containers, automotive batteries and antifreeze, used tires, waste paint, compostable organic material and several types of plastics, including shrink wrap. Speak to local waste haulers, recyclers and organizations like the Eco-Efficiency Centre about options available to your business.

Types of On-Site Composting

Ways of dealing with organics on-site range from a simple ‘backyard’ composter to large hi-tech composters that can handle a large amount of material. One organic diversion technique (for small settings with small amounts of food waste generated by employees) is to encourage staff to take their organic waste back home and put it in their own ‘green bin’ or home composter. Other options for on-site organic systems are:

Backyard Composting

Backyard composting is essentially a vessel placed in your "business backyard" which collects organic material and provides a good source of compost. This option requires attention and dedication. Backyard composters need to have a good mix of foodstuffs, yard wastes, moisture and air to be trouble-free. Not all material can be included in this system (examples are dairy products and bones) as they tend to break down very slowly and are more apt to cause a smell and attract animals if they are not managed properly. Backyard composting systems are not practical for many business settings in a mall. In areas where a business has extra space outdoors, a small to moderate amount of organic material, and someone interested in taking care of the bin, they are a good alternative. They are also low cost and will provide a supply of valuable compost for the business to use in landscaping or provide to employees.

Vermi-Composting

Commonly known as 'worm composting', vermi-composting is the process of using red or other types of worms and micro organisms to transform food scraps and other organic materials into compost. Plastic containers are partially filled with bedding (made from organic material and shredded paper fibre) and red worms. Bins need to be kept aerated and moist for ideal composting conditions. Food scraps are buried under the bedding, and the worms aid in the decomposition process. The worms eat half their weight in food scraps per day and produce a very generous amount of casting, which is a valuable resource. Every 4-6 months, the finished compost and worm castings are harvested. Employees could be welcomed to use the compost for gardens or houseplants. Small-scale vermi-composting is a low cost option for small office settings if there is someone willing to tend to the composter on a regular basis. There are some pilot projects exploring vermi-composting on a larger scale in Nova Scotia.

In-Vessel Composter

In an in-vessel composting system, environmental conditions are closely controlled and organic materials are slowly turned into compost. Organic material is fed into a drum or silo where it becomes aerated and mechanically agitated to speed up the process of producing the compost. The material must be spread into long piles or rows called 'windrows' to finish up the process. Because these factors can result in high labour and maintenance costs, this option may be best suited for those businesses with a large amount of space and in-house labour available. These systems tend to have higher capital costs as well.

Uses for On-site Compost

Businesses that operate their own on-site composting system find many uses for the compost.

- Compost can be used to feed and pot indoor plants throughout an office.
- Staff may use it for landscaping needs. In larger companies, the compost may be used for a mulch or aid to the grounds.
- The compost may be sold at a marketable price or taken home by employees for personal use.

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.

Composting Facts!

- Each day, the average Canadian produces approximately 2 kilograms of waste. Per capita, that is roughly twice as much waste as in Sweden!!
- As much as 40% - 60% of your garbage can be composted!
- By recycling and composting, you can cut your solid waste by up to 75%!!
- Compost keeps soil moist. Compost is able to retain nine times its weight in water.

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 these organizations, and agencies for information.

- **Canadian Restaurant and Foodservices Association** - "Going Green Without Seeing Red" <http://www.crfa.ca/>
- **Clean Nova Scotia** - "How to Start a Composting Program in a Place of Business"; <http://www.clean.ns.ca/>
- **Composting Council Research and Education Foundation** - "A Guide to Commercial Composting" - <http://tmecc.org/>
- **Halifax Regional Municipality** - "Managing Organics" - *Let's WasteLess* Fact Sheet; <http://www.halifax.ca/>
- **Halifax Regional Municipality - Waste Resource Division** - <http://www.halifax.ca/wrms/>
- **Nova Scotia Department of the Environment** - "Too Good to Waste" Fact Sheets - <http://www.gov.ns.ca/enla/waste/>
- **Resource Recovery Fund Board** <http://www.rrfb.com/>

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 & 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.rrfb.com

Directory of Solid Waste, Reuse, Recycling and Composting

Contacts in Nova Scotia

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

For more information, contact:

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



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