THE CITY OF WINDSOR

Sustainable Purchasing Guide

windsor environmental master plan

Contents

Background

In July 2006, City Council approved Windsor's first Environmental Master Plan. The Plan describes a series of potential actions for the municipality to take, over the short and long term, to improve the City's environment.

The Environmental Master Plan includes many goals and actions related to sustainability. Implementation of this Environmental Purchasing Policy accomplishes *Objective D(a): Adopt an environmentally friendly purchasing policy* under *Goal D: Use Resources Efficiently.*

City of Windsor employees and citizens share many common environmental values. Environmental purchasing is an important way for City staff to demonstrate leadership for the environment. Every day, someone working for the City of Windsor is considering or carrying out a buying decision. This guide shows how we can use our purchasing power to demonstrate commitment to the environment.

Environmental Purchasing Defined

Environmental purchasing means purchasing products or services which minimize, or provide favourable environmental impacts. Environmental purchasing involves considering the costs and environmental consequences of a product in all stages of its life cycle, from product development and manufacturing through product use to the ultimate disposal of whatever remains of the product at the end of its life span.

When we practice environmental purchasing, we evaluate potential purchases not just by standard criteria such as price and performance but by environmental criteria such as recycled content, packaging and energy efficiency as well.

Environmental Purchasing Benefits

There are many compelling reasons to practice environmental purchasing.
Consider these:

○ Make Efficient use of Natural Resources

Natural resources include but are not limited to oil, water, electricity, minerals, metals and forests. There are many certification systems used to verify whether a product of service was made with natural resource conservation in mind.

○ Minimize Waste

The City of Windsor along with the Essex-Windsor Solid Waste Authority continue to encourage waste reduction and increase waste diversion.

Waste reduction refers to limiting the waste we generate by:

- Limiting our overall purchases especially disposable and single use items;
- Refusing to purchase and use Styrofoam, plastics and other materials that are not recyclable in Windsor;
- Purchasing items with less or no packaging that requires disposal; and
- Requesting the same of our suppliers and renters.

Waste diversion refers to directing your expired purchases and packaging out of the actual garbage and into either a recycling, re-use or composting program.

○ Support Recycling Programs

When we buy products with recycled content we help build and sustain markets for the materials collected in residential and business recycling programs. It makes no sense to separate materials like paper and plastics from the garbage if no one will use them productively again.

Recycling old materials into new products can save natural resources, energy and water, as well as reduce air pollution and the need for landfills or incinerators. By “buying recycled” we ensure a market for the materials we so diligently put into the Blue Box and other recycling programs.

○ Give Preference for High Quality Materials that can be Repaired or Upgraded

Building the case for sustainable purchasing involves taking the entire life-cycle of a product into consideration before purchasing. The life-cycle of a product includes all stages of a products development including extraction of fuel for energy used in production, marketing, transportation, maintenance, use and disposal. By purchasing items made from high quality materials that can be repaired or upgraded we are ensuring this product will last and once outdated can be outfitted or retrofitted instead of discarded.

○ Minimize Toxicity

There are many product lines on the market that are certified to contain less toxic ingredients compared to the competition. Toxic products and hazardous waste are usually labelled as corrosive, explosive, poisonous or flammable. Purchasing hazardous waste should be avoided when possible.

There are also toxic chemicals found in various products such as household cleaners that may not be labelled. For example, “scent” or “fragrance” on a label can indicate the presence of up to 4,000 separate ingredients, most of which are synthetic compounds made from petroleum products. Many compounds in fragrance are human toxins and suspected or proven carcinogens (Canada Lung Association, 2011).

○ Protect Indoor and Outdoor Air Quality

Chemical pollutants can be found in our daily work environment both indoors and out. The primary sources of chemical indoor air pollution are janitorial products, office equipment, internal furnishings, paints and coatings. We can greatly reduce their persistence in our indoor environment by making more sustainable purchasing decisions.

○ Increase Demand for Environmentally Sound Products

As more customers demand products and services that have a minimal effect on the environment, business practices change to meet the demand. As more buyers seek out recycled products of the same quality as their virgin product counterparts, industry alters its processes. And as more contract managers set down environmental specifications, bidders refine their practices to meet the environmental standards.

We can use our buying power as a powerful engine for positive change in how products and services affect the environment.

○ Take Responsibility

While taking care of our environment can seem like an overwhelming responsibility for one person, there is a simple starting point for each of us: making incremental changes in how we consume and dispose of items. Small changes in purchasing — choosing a durable product over a disposable one, adding environmental criteria to a tendering process, selecting items with recycled content — can make a world of difference.

○ Long-term Financial Benefits

Ensuring the Environmental Purchasing Policy is used throughout City of Windsor operations to make more sustainable purchasing decisions will help lower long term costs. These costs could include materials and utility costs, waste disposal costs, operating, maintenance and replacement costs. Environmental purchasing will also increase operation and economic efficiencies.

The Environmental Purchasing Policy

1. POLICY

1.1 The City of Windsor recognizes the impact it has on the public market through the purchase of goods and services necessary for municipal operations. In 2006, City Council adopted the Environmental Master Plan (CR 12241/2006). The EMP calls for the development and implementation of sustainable purchasing to further the City's goal to *Use Resources Efficiently*. The Sustainable Purchasing Policy and Guidebook provides a framework for purchasing decision makers to encourage environmentally conscious decision making when purchasing goods and services.

2. PURPOSE

2.1 The purpose of this policy is to increase the development and awareness of environmentally preferred products and services, and align the City of Windsor's purchasing practices with the Environmental Master Plan goal of resource efficiency by:

- **2.1.1** Recommending the inclusion of environmental criteria into the City's purchases where practicable;
- **2.1.2** Identifying and setting specifications for goods and services that achieve environmental benefits including but not limited to increased energy efficiency, reduced toxicity and pollution and minimized waste wherever possible;
- **2.1.3** Adhering to the principles of public procurement by continuing to support a process that is open, fair, transparent and competitive;
- **2.1.4** Striving to reduce the overall consumption of goods and services where possible;
- **2.1.5** Advancing a corporate culture at the City that recognizes and places a priority on becoming a more Environmentally Sustainable Community.

3. SCOPE

3.1 This policy applies to the purchase of goods, services and construction by all Departments.

3.2 This policy must be used in conjunction with the City of Windsor's Purchasing Bylaw.

3.3 Nothing in this Policy will require the purchase of goods, services and construction services, materials that do not perform to the operating specifications or requirements of the issuing Department or are not available at a commercially competitive cost.

4. RESPONSIBILITY

4.1 This policy will be used by the Purchasing Department, Environmental Sustainability and Climate Change staff, as well as all employees with purchasing decision-making responsibilities.

4.1.1 All City Department staff responsible for purchasing

a. Individuals with authority to approve procurement contracts, as well as those with purchasing responsibility, will apply the principles outlined in the Sustainable Purchasing Policy and Guide to purchasing activities.
b. Share successes and challenges of Policy implementation with the Purchasing Department and Environmental Sustainability and Climate Change staff.
c. Identify and pursue opportunities to reduce consumption, increase efficiency and re-use of products in City operations.

4.1.2 Purchasing Department

a. Act as a resource and provide support to city departments in the implementation of the Sustainable Purchasing Policy tasks listed above.
b. Develop and maintain resources including standard tender clauses and evaluation matrices.
c. Introduce the Sustainable Purchasing Guide and the Policy during any Purchasing Bylaw training.
d. Guide the application of the Policy through promotion and awareness.
e. Discuss the progress, challenges and successes of the Policy with Environmental Sustainability and Climate Change staff.

4.1.3 Environmental Sustainability and Climate Change staff

a. Act as a resource and provide support to the Purchasing Department in the implementation of the Sustainable Purchasing Policy tasks listed above.
b. Guide the application of the Policy through promotion and awareness.
c. Develop and maintain resources including the Sustainable Purchasing Guide and any education and training tools.
d. Report successes and challenges during the implementation of the Policy in any Environmental Master Plan updates to Council.

5. GOVERNING RULES AND REGULATIONS

5.1 Implementation Framework

5.1.1 Using the Sustainable Purchasing Guide as a resource, employees will bring ideas, information and recommendations forward and apply specifications to increase the sustainability performance of goods and services purchased by the Corporation.

5.1.2 As appropriate, employees will embed sustainability considerations into the City's purchasing processes by:

a. Assessing whether or not the product, service or construction is necessary, prior to initiating the procurement process.
b. Assessing the Life Cycle Cost or the Payback Period of the product or service, wherever practical.

5.1.3 As appropriate, employees will specify goods, services and construction that:

a. Are Environmentally Preferred and have desirable environmental features such as those explained in the Sustainable Purchasing Guide.
b. Meet third-party environmental standards and certifications. When third-party environmental standards and certifications are not available, Supplier declarations of environmental attributes will be considered.

5.1.4 When appropriate, incorporate sustainability standards into standard tender clauses and evaluation matrices to be utilized across Departments.

5.1.5 Where appropriate, consult the Essex Windsor Solid Waste Authority at www.ewswa.org or 1-800-563-3377 to learn more about which products can be recycled at the end of their use.

5.2 Definitions

Construction – Construction, reconstruction, demolition, repair or renovation of a building, structure or other civil engineering or architectural work and includes site preparation, excavation, drilling, seismic investigation, the supply of products and materials, the supply of equipment and machinery if they are included in and incidental to the construction, and the installation and repair of fixtures of a building, structure or other work, but does not include Consulting Services related to the Construction unless they are specifically included in the Purchase.

Contract – A document to evidence an agreement for the purchase of Deliverables, and includes both a Purchase Order and a Formal Agreement.

Environmentally Preferred – Means goods, services and construction that have less impact on the environment and human health over their life cycle when compared to competing goods, services and construction serving the same purpose.

Environmentally Sustainable Community – A community that provides a healthy environment for its citizens by minimizing the impact of its activities on the air, land and water systems while reducing the need to import natural resources.

Goods – Any moveable property, including the costs of installing, maintaining or manufacturing such moveable property, including raw materials, products, equipment and other physical objects of every kind and description, whether in solid, liquid, gaseous or electronic form, unless they are purchased in connection with Construction.

Total Life Cycle Cost – An estimate or calculation that considers all direct and indirect costs of a deliverable over its useful life, from acquisition to disposal including Contract Prices, implementation costs, upgrades, carrying costs, maintenance contracts, support contracts, licence fees and disposal costs.

Payback Period – The period of time required to recoup the funds expended in an investment, or to reach the break-even point.

Purchase – The acquisition of deliverables by any means, including rental and leasing, and the functions that pertain to the acquisition of Deliverables, and "Purchasing" shall have a corresponding meaning.

Services –Intangible products not having a physical presence.

Supplier – A person, corporation or other entity that responds or intends to respond to a Solicitation or provides Deliverables to the City including but not limited to contractors, consultants, suppliers, service organizations.

Sustainable Purchasing – The process by which organizations buying foods, services and construction take into account the economic value of the good or service while also considering the environmental and social impacts of the good or service.

Third Party Certification – An independent assessment declaring that specified requirements pertaining to goods or services have been met. Examples include ECOLOGO certified by Underwriters Laboratories (UL) or Green Seal certified by an independent non-profit organisation.

A Comprehensive Environmental Checklist

The following checklist, drawn in large part from Environment Canada's "Green Procurement Checklist", suggests a number of questions to consider when contemplating the purchase of a product or service.

1. Confirm the Need to Buy

- Is the product/service necessary?
- Have other options for meeting the need been explored? For example, is there a comparable product available internally?
- Can the product be shared, borrowed or rented?
- Is the quantity requested appropriate and sure to be used?
- Are all the features/elements necessary?
- Will the product be used to the end of its useful life? If not, can it be easily reallocated or donated?

2. Consider Environmental Attributes – Is the Product:

- Certified by the ECOLOGO program, Green Seal, FSC or other third party certification? Learn about these certifications on page 15.
- Made from recycled content?
- Energy efficient (for example, office equipment with a power-saving "sleep" mode)? Does its energy use compare favourably to other products in the same category?
- Less polluting during its use than competing products (for example, non-toxic, scent free cleaners)?
- Free from hazardous ingredients that would require special disposal (for example, mercury)?
- Free from resources that come from environmentally sensitive regions (for example, contains no lumber from tropical rainforests)?
- Durable, with a long service life?
- Easy to maintain in good operating condition?
- Economical to repair?
- Easy to upgrade?
- Reusable, or have reusable parts (for example, rechargeable batteries)?
- Packaged with the intent to minimize waste (for example, bulk packaging)?
- Packaged in recycled or recyclable materials?

3. Consider Disposal – Can the Product and Its Packaging Be:

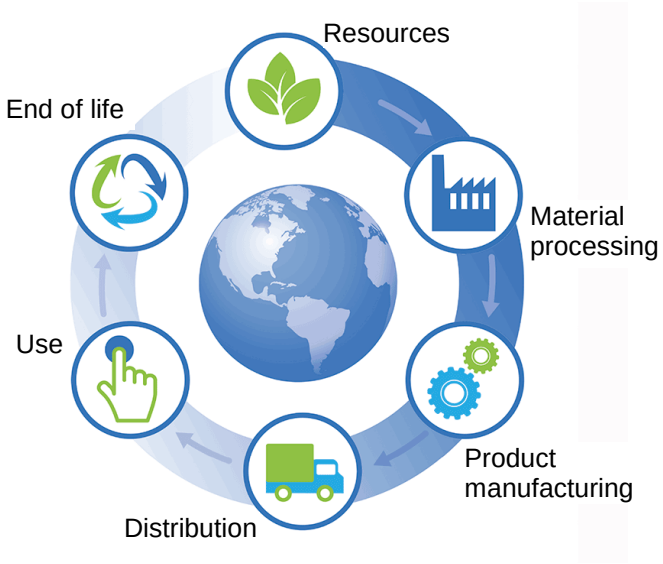
- Reused or refurbished for further use (for example, furniture)?
- Resold or reallocated?
- Returned to the supplier for reuse, recycling or recovery?
- Recycled locally? Ask the Essex Windsor Solid Waste Authority at www.ewswa.org or 1-800-563-3377.

The relative importance of these questions will vary depending on the product or service you seek. In general, choose the option that meets the greatest proportion of these criteria and as part of your purchasing process, **be sure to advise suppliers that you will evaluate products and service according to these factors.** Of course, you will integrate environmental considerations with other criteria such as performance, life expectancy, quality and value for money.

Assessing Life Cycle Impacts

Life cycle assessment (LCA) seeks to answer the question: What is the environmental burden of a product or service, from its design through to production and then final disposal? A LCA seeks to determine the impact of a product or service over its entire life, from "cradle to grave" as it is sometimes described.

Certification programs such as UL's ECOLOGO Program (described on the next page) carry out life cycle assessments to evaluate existing products. In a LCA the air, water and solid waste pollution generated when raw materials are extracted are all considered. The assessment includes the energy used in the extraction of raw materials and the pollution that results from manufacturing the product. It also accounts for environmental harm that might occur during the distribution and use of the product. Lastly, a LCA examines the solid and liquid wastes that are loaded on to the environment following final use of the product.



While it may not be feasible for civic employees to carry out LCA's, it is possible and desirable for staff to consider the independent recommendations of agencies that undertake such analysis.

End of Use

It is very important to consider the end of use disposal of the products you are purchasing. All inquiries about whether the product can be recycled in Windsor can be directed to the Essex Windsor Solid Waste Authority at 1-800-563-3377 or www.ewswa.org. They can tell you if they can take the product for recycling or direct you to a private company that recycles the product.

TIPPING FEES FOR WINDSOR PUBLIC DROP OFF DEPOT

3540 North Service Road East, Windsor (corner of EC Row & Central Ave)

Effective: February 1st, 2014

This document is available in alternate formats upon request

NOTE: RATES ARE SUBJECT TO CHANGE WITHOUT NOTICE

Waste Type	Residential	Industrial/Commercial/ Institutional
Refuse/Garbage	**Loads delivered in a rental vehicle, rental trailer or a dealer plated vehicle will be assessed a fee at a rate of $6.40 /100 kg, otherwise the following applies:** **4 loads $4.00 each annually, if load weighs 0-100 kg.** Further loads weighing 0-100 kg AFTER 4 loads will be assessed a flat fee of $10.00 each. Loads weighing more than 100 kg will be assessed as: Over 100 kg $10.50 / 100 kg. (on total weight)	Charge Account Customers: $64.00/tonne Cash Customers: $6.40/100 kg ($6.40 minimum charge applies)
Railway Ties	Railway ties are charged at the rate of $10.50 per 100 kg **Maximum 6 railway ties**	
Tree Trimmings Brush/Leaves	FREE	Charge Account Customers: $46.00/tonne Cash Customers: $4.60/100kg ($4.60 minimum charge applies)
Grass	$3.00 per container/$15 per truck **or** trailer	(same rate as above)
Tires (with or without rim) Included: Passenger Tires, Truck Tires, Off-Road Tires, Tires of ALL sizes. Excluded: Bicycle Tires, Airplane Tires.	FREE (8 tires or less on an annual basis) Air MUST be removed from tires with a split rim. After 8 tires the following fees are assessed per tire: Car Tires → $3.00, Light Truck Tires → $4.50, Med. Truck Tires → $15.00, Farm Tractor Tires → $35.00	
White Goods/Appliances Scrap Metal	Free/$15 charge for items with a compressor	Free/$15 charge for items with a compressor
Recyclables	FREE	FREE
Household Chemical Waste	FREE	**For small commercial users only** *by appointment* Call 519-974-9526
Electronics	FREE	

NO PARTIAL DUMPING OF LOADS

NOT ACCEPTED: Radioactive Waste, Biomedical Waste, Industrial/Commercial Chemical Waste, Unidentified Chemical Waste

Windsor Public Drop Off & Household Chemical Waste (HCW) Depot:

HOURS OF OPERATION:

(Hours Subject to Change without notice)

WINTER:
Dec. 1, 2014 to Mar. 28, 2015
M – F 8:30 AM to 3:45 PM,
Sat. 9AM – 12:45 PM

SPRING/SUMMER/AUTUMN:
Mar. 31 – Nov. 29, 2014
Mon. to Sat. 8:00 AM – 4:45 PM

CLOSED SUNDAYS YEAR ROUND

METHODS OF PAYMENT:

Cash▪Account▪Cheque▪Debit▪Master Card▪Amex▪VISA▪or Drawdown Account*
(A $25 charge will be applied against NSF cheques.)
*DRAWDOWN CONSTITUTES PAYMENT IN ADVANCE
Payment is credited to your account and tipping fees are deducted after each use.
For more information call **519-776-6441 ext. 1433**

Essex-Windsor Solid Waste Authority
360 Fairview Ave. W, Suite 211 Essex, ON N8M 3G4
Internet: www.ewswa.org
1-800-563-3377 TTY#1-877-624-4832

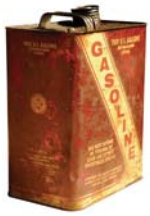
MHSW / DROP IT OFF
Municipal Hazardous & Special Waste

Hazardous waste should NEVER be thrown in the garbage or flushed down the sink, toilet or storm sewer. Just drop it off for free at one of our convenient locations.

Paints / Stains

Paints, stains, paint strippers, paint thinners, primers, turpentine, varnish, shellac, etc.

Fuels



Fuels, gasoline, kerosene, lighter fluid, etc.

Batteries

Car batteries, rechargeable batteries, dry cell batteries, etc.

Propane Tanks

Propane tanks, mini propane tanks,

Aerosols

Cleaners, paints, adhesives, etc.

Drain Cleaners

Leftover drain cleaners, window cleaners, oven cleaners, etc.

CFL's

Fluorescent lights, fluorescent tubes, thermometers, thermostats, etc.

Call Or Visit Our Website For More Detailed Information

ESSEX-WINDSOR SOLID WASTE AUTHORITY • www.ewswa.org • 1-800-563-3377

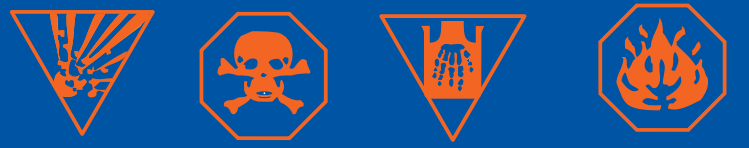
We Can Recycle More!

3 Locations in Windsor / Essex

#1 - Windsor:
3560 North Service Rd. E

#2 - Kingsville:
2021 Albuna Townline

#3 - Essex:
7700 County Rd. #18



If the product has a symbol that looks like one of these - bring it to us!

It's Easy To Do...

Just set aside a cardboard box and collect the following materials. When the box is full, drop it off at one of the MHSW Depots - FREE.

Accepted Materials

- Batteries
- Paints
- Latex Paint
- Paint Additives
- Paint Strippers
- Paint Thinners
- Primers
- Stains
- Turpentine
- Varnish
- Shellac
- Fuels
- Glues/Adhesives
- Fire Extinguishers
- Gasoline
- Lighter Fluid
- Kerosene
- Propane Tanks
- Pesticides
- Fungicides
- Herbicides
- Insecticides
- DDT
- Weed Killer
- Wood Preservatives
- Flea Collars / Sprays
- Fluorescent Lights
- Pharmaceuticals

NEVER THROW HAZARDOUS WASTE IN THE GARBAGE, SINK, TOILET OR STORM SEWER!

Call / Check Website For Current Hours of Operation / 1-800-563-3377 / www.ewswa.org

Environmental Labelling

Shifting through all the products that claim to be “green” or “environmentally safe” or “recyclable” can be a daunting task. Not all claims are valid and many are misleading.

Thankfully, there are a number of organizations putting considerable time and effort into evaluating products and services based on environmental impacts. Four programs of particular note are described below.

The ECOLOGO Program

The ECOLOGO Program is a comprehensive, environmental labelling program originally initiated by Environment Canada. This program is now being administered by Underwriters Laboratories (UL).

UL Environment’s ECOLOGO Certification is based on multi-attribute, lifecycle based standards. All products certified to an ECOLOGO standard must meet or exceed each of the listed criteria before receiving the mark.

As the program transitions to UL, look for either of the logo’s on the left to represent the ECOLOGO certification.

For more information about the ECOLOGO program, visit the environment section of the UL website: http://industries.ul.com/environment. To search for products that have been ECOLOGO certified, visit http://productguide.ulenvironment.com.

GREENGUARD

GREENGUARD Certification is also administered by UL Environment. This certification helps buyers identify interior products and materials that have low chemical emissions, improving the quality of the air in which the products are used.

As the program transitions to UL, look for either of the logo’s on the left to represent the GREENGUARD certification.

For more information about the GREENGUARD program, visit: http://greenguard.org/en/index.aspx.

To search for products that have been GREENGUARD certified, visit http://productguide.ulenvironment.com.

Green Seal

Green Seal is an independent, non-profit organisation in the U.S., dedicated to protecting the environment by promoting the manufacture and sale of environmentally responsible consumer products. It sets environmental standards and awards a "Green Seal of Approval" to products that cause less harm to the environment than other similar products. For more information, visit Green Seal's web site at www.greenseal.org.

Forest Stewardship Council Canada

The Forest Stewardship Council works with Environmental, Economic, Social and Aboriginal organizations and individuals to set strict environmental and social standards for forests. By setting such Standards FSC creates an incentive for forest owners and managers to voluntarily meet the best social and environmental practices.

By tracking Fibre from certified forests, through the FSC Chain of Custody system, FSC-certified wood, paper and other forest products can be sold with the FSC label by certified companies in the marketplace. Their website is: www.ca.fsc.org/.

Energy Star

Sponsored by the U.S. Department of Energy and the U.S. Environmental Protection Agency, ENERGY STAR labels products such as computer CPUs, monitors, printers, copiers, fax machines and controlling devices that exceed US energy efficiency standards. ENERGY STAR also includes lighting, appliances, windows and many other products. For more information and energy-saving advice, visit their web site at www.energystar.gov.

EnerGuide

EnerGuide is an official Government of Canada mark associated with the labelling and rating of the energy consumption or energy efficiency of household appliances, heating and ventilation equipment, air conditioners, houses and vehicles.

Many Canadians recognize the EnerGuide labels that allow them to compare the energy efficiencies of different household appliances and heating and cooling equipment. There is now a similar label on all new cars, vans and light duty trucks for sale in Canada. For more information about the EnerGuide family of programs go to the Office of Energy Efficiency web site at http://oee.nrcan.gc.ca/energuide/15896.

Guidelines for Purchasing Specific Types of Products

General Building Maintenance

Building Maintenance is an area of municipal operations that has seen enormous changes since the advent of "smart buildings" and the increased focus on energy conservation and workplace safety. Gone are the days of buying the least expensive paint, carpet or fixture. Purchasers should now consider a wide variety of immediate impacts on users of a facility, as well as longer-term implications on operating budgets.

By and large, products containing commonly recognized "environmentally hazardous" elements (such as asbestos, PCB's or lead) are no longer offered for sale in Canada.

This section deals with the most typical "day to day" building maintenance purchases. They do not deal with heating, ventilation, or air-conditioning systems that are typically engineered under larger scale contracts and require particular specifications.

Paint

An Overview

Paints are among the most widely purchased products in the area of building maintenance. Paints are sometimes called "surface coatings" in reference material on specifications, as this is the class of product to which they belong. Surface coatings include paints, stains and varnishes.

These products range in environmental impact, but all have the potential to adversely affect the environment through improper use, waste, and end disposal.

- Latex and acrylic paints (water based) are generally considered less damaging to the environment than oil based paints. All automotive paints used by the City of Windsor are water based.
- Oil based paints have traditionally been called "enamels", "stains" and "varnishes". Their application has generally been promoted because of durability in "tough wear" and adverse exposure conditions.
- Oil based paints in the past had used lead as an additive. This is no longer the case.
- In 2005, it was estimated that 51 kilotonnes of Volatile Organic Compounds (VOC) were emitted from architectural coatings in Canada. In response, the federal government has introduced regulations to reduce VOC concentrations in architectural coatings, including paint. These regulations will be fully implemented in 2016 and will result in an annual reduction in VOC emissions from these sources of approximately 28%.

Paint is produced in a highly regulated industry governed by several associations. Paint products are produced to specific industry standards that also incorporate environmental criterion. There are many types of seals of approval or guidelines on which to rely when purchasing such product.

Potential Environmental Impacts

- Volatile organic compounds (VOC) and fumes.
- Unused product disposal, if not performed properly, could lead to environmental problems. Please bring unwanted paint to the Municipal Hazardous or Special Waste Depot at 3560 North Service Road East.

Things to Consider In Your Specifications

This is an opportunity to add clauses in paint specifications to address:

- Highest recycled content.
- Recyclable products with ECOLOGO, Green Seal or GREENGUARD certifications.
- Low or no fumes (off-gassing) and preferably no volatile organic compounds (VOCs).
- Desired absence of mercury or mercury compounds.
- Desired absence of lead, cadmium, chrome VI or their oxides.
- Longevity of application.

Insulation

An Overview

There are many thermal insulation materials on the market. They may be purchased as two types: plastic foam insulation or fibrous material. More thermal insulation is used now than in the past, as the trend has been to curb the use of energy and non-renewable resources.

In addition to the energy conserved by using insulation materials, increasing the use of recycled materials will reduce the amount of materials entering the waste stream and reduce total resource consumption. In the case of use of fibrous material and cellulose filler, recycled mixed paper has become a potential ingredient.

Potential Environmental Impacts

Potential environmental impacts include:

- Health hazards from dust and fumes during and after insulation.
- Energy and resource consumption in manufacturing the product.
- Incorporation of ozone depleting substances in the manufacture of the product.

Things to Consider In Your Specifications

This is an opportunity to add clauses in insulation specifications to address:

- Highest recycled content.
- Recyclable products with ECOLOGO or GREENGUARD certifications.
- Low or no fumes (off- gassing) and preferably no volatile organic compounds (VOCs).

Sealants and Caulking Compounds

An Overview

Sealants and caulking compounds are used to fill and seal joints in buildings and other structures. They are applied to accommodate relative movement and significantly reduce unintentional air exchange. They assist in lowering heating and cooling losses and conserving energy.

The very reasons that these compounds have been developed to be soft and pliable results in their environmental impacts. The compounds dry very slowly, thereby remaining pliable. While longevity of application is sought, their slow drying results in long duration of off-gassing due to VOC.

Potential Environmental Impacts

- Many sealants and caulking compounds contain volatile organic compounds (VOC) which off-gas (release fumes) after application. Increased levels of VOC in buildings have been attributed to the use of sealants and may contribute to reduced interior air quality.
- Unused product disposal, if not performed properly, could lead to environmental problems. Please bring unwanted sealants and caulking to the Municipal Hazardous or Special Waste Depot at 3560 North Service Road East.

Things to Consider In Your Specifications

This is an opportunity to add clauses in sealant and caulking specifications to address:

- Highest recycled content.
- Preference for products with ECOLOGO, Green Seal or GREENGUARD certifications.
- Low or no fumes (off- gassing) and preferably no volatile organic compounds (VOCs).
- Longevity of application.

Adhesives

An Overview

Adhesives come in many forms and mixtures and are used for bonding in fabrication, maintenance and repair applications. Like sealant and caulking, many adhesives contain volatile organic compounds (VOC's) that, when released, may contribute to reduced interior air quality.

Adhesives may be specified as one component required to complete a building maintenance job (e.g. re-flooring) or as a part of a pre-assembled item (e.g. cabinetry). In both these examples VOC and fumes could be adverse or left-over adhesive could become difficult to dispose of.

Potential Environmental Impacts

- Volatile organic compounds (VOC) and fumes.
- Unused product disposal, if not performed properly, could lead to environmental problems. Please bring unwanted adhesives to the Municipal Hazardous or Special Waste Depot at 3560 North Service Road East.

Things to Consider In Your Specifications

This is an opportunity to add clauses in adhesive specifications to address:

- Preference for products with ECOLOGO, Green Seal or GREENGUARD certifications.
- Low or no fumes (off- gassing) and preferably no volatile organic compounds (VOCs)
- Longevity of application.

Carpeting

An Overview

The vast amount of carpet manufactured and installed in North America is made of synthetic materials — nylon, polyester and polypropylene (PP) face fibres with most backings being a sandwich of polypropylene fabric and latex, or vinyl. Most commercial carpet is made by bonding a face fibre to a backing fibre, using one of a variety of strong bonding agents. Nylon accounts for nearly two-thirds of the face fibre market, with PP being the next most commonly used fibre.

Recycled content and recyclable carpet options each have their own merits and considerations, depending on specific need, location, and use. Nylon, polyester, and plastics are made from petroleum, a non-renewable resource. Since the face fibre backing can contribute up to 60% of the carpet material, purchasing a nylon face fibre with 100% recycled content backing is worth consideration.

Closed-loop systems, where used carpet fibre and backing are made into new carpet and backing (and which can be recycled into new carpet after its useful life) are important to consider. Leasing is another option for commercial applications; the manufacturer bears responsibility for replacing worn sections of carpet and recycling the used carpet.

Note that new developments have been made using recycled PET materials:

- 100 per cent of the yarn is extruded and spun from recycled polyethylene terephthalate (PET), principally derived from recycled soft drink bottles.
- Virgin fossil fuel raw materials are not needed to produce this carpet, saving several million barrels of crude oil per year.
- The carpet is finished with materials that do not contain formaldehyde.
- The carpet is dyed in high-pressure jet dye becks, eliminating the need for biphenyl ingredients as dye carriers. This method of dyeing uses approximately 66 per cent of the water needed for conventional dyeing.
- PET recycling does not generate nitrous oxide nor emit nitrous oxide into the air, so it does not contribute to ozone depletion or global warming.
- PET carpet production uses more than 40 million pounds of PET bottles per year that would otherwise have become landfill.

Potential Environmental Impacts

- Indoor air quality concerns from fumes given off by new or recycled synthetic materials may favour “natural materials” such as wool, cocoa matting, hemp and similar materials.
- Conventional synthetic carpets are made from non-renewable resources.
- Disposal issues at end of product life span.

Things to Consider In Your Specifications

This is an opportunity to add clauses in carpeting specifications to address:

- Any extraordinary requirements for natural products or materials.
- Highest recycled content.
- Recyclable products with GREENGUARD certification.
- Products that minimize volatile organic compound emissions.
- Carpet that is not SB latex-backed (latex without 4-PC content).
- Products that contain natural or vegetable dyes and additives.
- Colours that match natural soiling to hide dirt and stains.
- A minimum 10-year warranty.
- A minimum of 28 ounces per square yard for loop pile carpet and 34 ounces per square yard for cut pile carpet.

Ceiling Tile

An Overview

Ceiling tiles generally fall under the product category of acoustical products. By requiring products to have at least a minimum percentage recycled content, the amount of material entering the waste stream and total resource consumption will be reduced.

Ceiling tiles are generally designed to be light, to be acoustically deadening, and to be durable and low maintenance. At one time ceiling tiles had high asbestos content. Ceiling tiles are continuing to improve with the advent of new recycling technologies. However older properties requiring maintenance may still contain some of this product. Some products now on the market have a minimum of 70 per cent recycled content (mineral fibre). They are durable and tear resistant, so they can be reused.

Potential Environmental Impacts

- Health hazards from dust and fumes during and after insulation.

Things to Consider In Your Specifications

This is an opportunity to add clauses in ceiling tile specifications to address:

- Desirability of tiles made from cellulose fibres, mineral and slag wool by-products and/or recycled fibreglass.
- Tiles that do not contain asbestos fibres.
- A high percentage of recycled content.
- Preference for products with GREENGUARD certification.
- Durable construction, low maintenance

Roofing

An Overview

Roofs tend to have low albedo but high emissivity, which means that they readily absorb solar radiation, heating both the roof and the building. This can result in elevated cooling costs, higher energy use, poor thermal comfort, and

early roof deterioration.

Unlike traditional roofs, cool roofs are built with materials that give them high albedo and high emissivity in order to minimize the absorption of solar radiation, and to maximize the release of outgoing radiation. By doing this, cool roof applications help to minimize the urban heat island effect and keep the building cooler during the summer months.

Other concerns such as stormwater management can be addressed through the construction of garden roofs. Garden roofs are contained vegetation areas situated on built structures. They consist of many components including: vegetation, a growing medium, filter, drainage system, root barrier, waterproof membrane, insulation and structural support.

The City of Windsor has currently constructed both garden and cool roofs on our buildings. In general, when roofing materials are ready for replacement, efforts have been made to replace dark membranes with more reflective and cool alternatives.

Potential Environmental Impacts

- Depending on material specified, air quality may be impacted adversely during time of installation.
- Depending on material specified, off-gassing and VOCs may have a negative impact over longer term.
- Depending on material specified, there may be use of non-renewable resources.
- Disposal issues at end of product life span.

Things to Consider In Your Specifications

This is an opportunity to add clauses in roofing specifications to address:

- Highest recycled content.
- Preference for products with GREENGUARD certification.
- Preference for reflective or light coloured material.
- Preference for low maintenance vegetation where feasible.
- Low or no fumes (off- gassing) and preferably no volatile organic compounds (VOCs)
- Longevity of application.

Walls (Gypsum-dry wall)

An Overview

Gypsum-drywall is one of the most used building materials of the last 50 years. Many older facilities may still have plaster walls but a combination of plaster and drywall is more the norm. Newer facilities likely have drywall construction as the norm.

Gypsum-drywall (called drywall or rock wall or gyproc) is made from gypsum based filler sandwiched between membranes. While designed to be a particularly fast and convenient way of installing walls to a stage ready for a prime coat of paint, disposal of the walls has an environmental impact. In a landfill, drywall breaks down, emitting the readily-recognizable rotten egg smell associated with sulphur. The gases formed create problems at landfills. Check with local suppliers to see if gypsum drywall is recyclable.

Building maintenance purchases with regard to drywall will most likely not be influenced by specifications for a better drywall as the industry has well-accepted standards and the use of the ECOLOGO is prevalent.

Potential Environmental Impacts
▪ End-of-use disposal is a potential problem at landfills due to off gassing.
Things to Consider In Your Specifications
This is an opportunity to add clauses in Gypsum-drywall specifications to address: ▪ A high percentage of recycled content. ▪ Preference for products with ECOLOGO or GREENGUARD certifications. ▪ Signs of durable construction, low maintenance.

Janitorial Products

Janitorial products include cleaners, disposable papers and tissues that are used on a daily basis in most workplace settings. Environmental procurement can have a large impact here because of the larger volumes of product in this material category.

Products range from general purpose cleaning agents to commercial and industrial strength cleaners to disposable papers and tissues. All of these products are commonplace and are also packaged for use in residential settings.

General Purpose Cleaning Agents

An Overview

The primary function of general purpose cleaners is to remove soils from hard surfaces. Statistics indicate over 54,000 tonnes of general purpose cleaners are consumed annually in Canada.

The major ingredients in general purpose cleaning products are surfactants, builder, solvents, and scouring abrasives. Surfactants lower the surface tension of the water, allowing the cleaning solution to penetrate and suspend soils.

Cleaning products on the market have been labelled "environmentally friendly" because they are phosphate free or are considered biodegradable. However, this determination has been difficult to assess in the past due to the lack of definitive standards for biodegradability and other environmental factors.

Potential Environmental Impacts

- May be a burden on the environment in terms of wastewater loading and treatment, emissions of volatile organic compounds (VOCs) and resource consumption.
- If surfactants are not easily biodegraded, they may persist and harm ecosystems.

Things to Consider In Your Specifications

This is an opportunity to add clauses in general purpose cleaners to address:

- Preference for natural products or materials like reusable towelling.
- Scent free products, or products scented with essential oils only.
- Preference for highest recycled content (for example in paper products).
- Preference for products with ECOLOGO, Green Seal or GREENGUARD certifications.
- Preference for products that are biodegradable, not toxic or chlorinated, and standardized as much as possible to reduce the number of chemicals in use.
- Preference for products that minimize volatile organic compound (VOC) emissions.
- Preference for products with minimal packaging in refillable or recyclable containers.

Industrial and Commercial Cleaners

An Overview

Industrial and commercial cleaners are used primarily for facility and machinery cleaning. The selection of a cleaner is influenced primarily by the nature of the surface to be cleaned, the nature of the soiling, and the degree of cleanliness required. The key active ingredients in industrial and commercial cleaners are: surfactants (to lower water tension and allow cleaning solution to work), builders (to control water hardness and improve surfactant performance), alkalis and organic solvents.

Potential Environmental Impacts

- If the surfactants are not easily biodegraded they may persist and harm ecosystems.
- Similarly, the products of degradation may also pose an elevated risk to the environment.
- Cleaners may have adverse impacts on aquatic systems and water quality if present at excessive concentrations.

Things to Consider In Your Specifications

This is an opportunity to add clauses in industrial and commercial cleaner specifications to address:

- Scent free products, or products scented with essential oils only.
- Preference for products which are non-hazardous and low in phosphate.
- Preference for water based cleaners over those of organic solvents with VOCs.
- Where biodegradability is requested, the product's ability to degrade at the disposal site must be evaluated based on specific criteria such as: time required to degrade, recognized test method used, degradation by-products, and overall toxicity of substances generated during the degradation process.
- Products of degradation and the product in question must not contain ingredients that are known to be damaging to the environment and/or the sewage collection or treatment facility.
- Preference for products that require only a small amount to clean well, over others that require a larger amount, provided that all performance criteria are met (e.g. concentrates).
- Cleaning products should be purchased in containers which are reusable (refillable), returnable or recyclable (where recycling programs accept the containers).
- Contracts for janitorial and cleaning services should specify the use of ECOLOGO, Green Seal or GREENGUARD approved products where applicable.

Disposable Papers and Tissues

An Overview

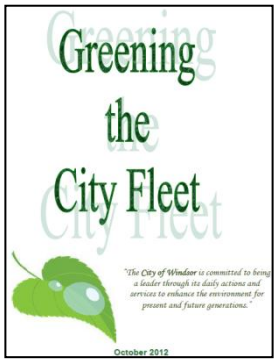
Statistics indicate that more than 500,000 tonnes of paper, including disposable paper, toilet tissue, kitchen towels, facial issues, table napkins and hand towels, are manufactured in Canada each year.

Alternatives in the choice of pulp finish, pulp and paper technology and emission control are available to manufactures. The ECOLOGO Program has developed five separate guidelines that address: toilet tissue, paper towels, facial tissue, table napkins and hand towels.

Potential Environmental Impacts
▪ Manufacture of product may release substances that contaminate the environment and enter the solid waste stream. ▪ Unsustainable forestry practices.
Things to Consider In Your Specifications
▪ A requirement for minimum recycled content. ▪ Bleach free products, for example brown paper towels instead of white. ▪ Environmentally friendly packaging. ▪ Preference for products with ECOLOGO, Green Seal or FSC certifications.

Vehicle Maintenance

"Vehicles and Maintenance" encompasses a category of environmental purchasing that addresses not only the procurement of environmentally friendly products, but also of improving performance of equipment so that it has the least impact on the environment.



The City of Windsor is committed to managing our fleet of vehicles more sustainably. In 2012, Council approved the Greening the City Fleet Manual which aims to better manage fuel consumption, find efficiencies within the fleet and consider purchasing more environmentally friendly vehicles. A "green fleet" is a fleet that tries to minimize fuel consumption and exhaust emissions by encouraging fuel efficiency and reduced use.

Environmental purchasing encompasses the search for more fuel efficient, less polluting **vehicles**. Similarly, environmental purchasing encompasses use of **high quality components** during vehicle maintenance. This helps to ensure longer and cleaner service, lower maintenance costs, and less polluting waste. Examples include use of platinum tipped spark plugs, longer life coolant, (semi) synthetic transmission fluid, asbestos free brake pads, deep cycle batteries and higher quality gaskets. Use of synthetic engine oils and enhanced oil filters can double oil change intervals while prolonging engine life, decreasing fuel consumption, and providing longer catalytic converter life. Recycling of antifreeze, not common a decade ago is now becoming common practice in fleet maintenance. Moreover, all plastic containers and filters are picked up for recycling and all metal vehicle parts are recycled.

Environmental purchasing opens up the possibility for **alternative fuel** systems. These include propane, propane-gasoline, compressed natural gas (CNG), CNG-diesel, pure ethanol, E-85 ethanol and bi-fuel combinations, sulphur free diesel. In the future, bio-diesel, cellulose ethanol, oxygenated diesel and synthetic or waste derived diesel fuels may join these. All hold promise for less pollution, longer engine life, and maintenance economy.

Oils

An Overview

Statistics show that over one billion liters of lubricating and related oils are sold in Canada annually. Fully 50% of these oils are consumed while 500 million liters are available for reclamation. Only about 35% of this 500 million liters is re-refined. Another 10% is burned as fuel in an environmentally satisfactory manner. The remaining 275 million liters represent a significant pollution burden.

Used oil can be collected, cleaned and re-refined into new oil products. Used engine oil and solvents are considered waste and must be transported accordingly under applicable

regulations.

Used engine oil is recycled by one of two ways:

- Re-refined for blending with additives
- Re-used as a supplementary heating fuel.

Re-refined oils typically meet or exceed manufacturers' specifications for virgin crude oil, and they are generally less expensive to purchase.

Potential Environmental Impacts

- Unused product disposal, if not performed properly, could lead to environmental problems. Please bring unwanted oils to the Municipal Hazardous or Special Waste Depot at 3560 North Service Road East.

Things to Consider In Your Specifications

This is an opportunity to add clauses in automotive oil specifications to address:

- Preference for products bearing the ECOLOGO.
- Assurance of product meeting SAE, API, or equipment manufacturers specifications so that vehicle /equipment warranty is not affected.
- Service maintenance garages use re-refined and recycle used oil.
- Assurance from collection companies of final use for used materials and verification of the same.
- Assurance that collection companies are properly licensed.

Fuels

An Overview

Canadian annual demand for gasoline reaches about 35 billion liters. Gasoline is by far the most commonly used automotive fuel.

It is reasoned that environmental benefits may accrue from either modification of existing fuels such as gasoline and diesel or through the use of alternative fuels in combination with specialized vehicles.

Only a small proportion of the country's vehicles are designed for dedicated alternative fuel use. The most immediate benefits will be gained using alternative fuels in combination with conventional gasoline. One option is the modification of the "hydrocarbon feedstock" and the use of a variety of additives.

Potential Environmental Impacts

- Increased level of air pollution.
- Consumption of a non-renewable resource.
- Unused product disposal, if not performed properly, could lead to environmental problems. Please bring unwanted Fuels to the Municipal Hazardous or Special Waste Depot at 3560 North Service Road East.

Things to Consider In Your Specifications

This is an opportunity to add clauses in fuel specifications to address:

- Preference for fuels that carry the ECOLOGO.
- Preference for blended fuels such as ethanol blended gasoline. As of March 2015, the City

of Windsor uses gasoline blended with 10% ethanol.

- Preference for ethanol derived from biomass (material of plant origin, including agricultural waste wood and animal manure.

Tires

An Overview

Tires purchased for fleets of vehicles have the potential for affecting the environment from two standpoints. Product performance of the tires affects the environment in terms of use of rubber and petroleum resources and disposal, but the immediate secondary impact on fuel economy may have far greater consequences over the longer time frame. Typically there is less pollution if the correct tire is chosen.

Tires are categorized into two types:

- Radial
- Bias Ply.

In addition tires are broken into two groups:

- Smaller diameter tires used for passenger and service vehicles
- Larger diameter tires used for transport vehicles and “off-road” heavy construction.

Both tire types have a wide range of environmental impacts. They have the potential to adversely affect the environment both through improper use, and end disposal.

- Radial tires are named such by virtue of their construction. The tire carcass is constructed in such a way that the belts, to which the actual rubber and tread are attached, are radial to the cross section of the tire. The belts have typically been made of steel. Because of their design and construction radial tires deform less than bias ply tires when rolling. This in turn causes them to heat less, wear out less quickly, and provide higher gas mileage. Typically radial tires of good quality have a wear life of between 80,000 and 100,000 KM. Radial tires are more appropriate for use on paved surfaces and for wheels less than 19 inches.
- Bias Ply tires are named such by virtue of their construction. The tire carcass is constructed in such a way that the belts are wound on a bias to the cross section of the tire. Belts traditionally have been made of rayon or nylon but can also be made of steel. Because of their design and construction bias ply tires deform more than radial tires when rolling. In turn they heat more, wear out more quickly and provide lower gas mileage. They do however provide a much greater strength sidewall and are most appropriate for off-road use or where travel is frequently “over curb”. Bias ply tires are typically better suited for high impact uses.

With regard to tire size:

- Smaller tires are easier to put into a recycling loop. They can be made into athletic track, artificial turf, flooring and colour landscaping mulch among other things.
- Larger size transport tires and off road tires can be reconfigured into “blasting mats” used in heavy construction. Transport regulations limit the amount of times that a transport tire can be re-used. Typically a cold vulcanization process is employed. Retreads that involve gluing material onto the carcass may be preformed 3 to 6 times depending on if the tires are used for steering or not.
- All tires from City of Windsor vehicles are recycled through the Ontario Tire Stewardship program.

Potential Environmental Impacts

- Higher use of non-renewable resource if incorrect type of tire is used.
- Unused product disposal, if not performed properly, could lead to environmental problems. Please bring unwanted tires to the Municipal Hazardous or Special Waste Depot at 3560 North Service Road East. For residential, commercial, industrial and institutional users 8 tires per year can be dropped off free of charge for recycling.

Things to Consider In Your Specifications

This is an opportunity to add clauses in tire specifications to address:

- Highest recycled content.
- Vehicle manufacturer's recommendations such as size and type.
- Longer life and wear performance.

Furniture and Office Systems

Office furniture and panel systems are made with any one or a variety of materials including gypsum board, metal, wood and wood based products, plastic and fabric. As a result of the different materials that may be used in manufacture, various environmental issues must be taken into account.

The City of Windsor tries to re-use office furniture. Check with Facilities to see if they have anything you need before you buy it.

Office Furniture and Workstation Panel Systems

An Overview

The design and manufacturing of office furniture and panel systems can effect resource utilization, pollution, and worker health and safety. Waste generated as a result of manufacturing and disposal of these products can be minimized through reuse, remanufacture and recycling.

Office furniture has traditionally been re-usable and of long life and usefulness if use and potential future use has been taken into account. Workstation panel walls are reusable. These walls can be re-configured into new partitions or recycled. They may contain from 20 per cent to 50 per cent recycled materials. Vinyl board panels can be disassembled intact and ground up to produce gypsum board. Vinyl face and the drywall paper are either screened or burnt off to expose the gypsum for recycling.

Potential Environmental Impacts

- Materials used in office furniture and workstation panel systems may emit VOCs when installed, immediately impacting indoor air quality.
- Building agents such as resins used in composite wood products can also affect indoor air quality, but the use of veneers and laminates can help to minimize these effects, as can low VOC content or water based liquid surface coatings.
- Materials used in the manufacture, treatment, installation, and final cleaning of fabrics can contain VOC, which in turn become secondary sources of VOC emissions.

Things to Consider In Your Specifications

This is an opportunity to add clauses in furniture and panel system specifications to address:

- Re-use of existing furniture where possible and refurbishment if desired. Refurbishing eliminates the need to purchase new furniture and reduces the manufacturing processes (including the use of new materials) that have adverse effects on the environment. Check with Facilities to see if they have anything you need before you buy it.
- By promoting the re-use of existing furniture, used/surplus furniture does not go to the landfill.
- When new furniture is required, choose a company that demonstrates environmental responsibility in its manufacturing processes (i.e. on-site recycling centres for fabric, etc.).

- Request for re-usable or returnable packaging and shipping materials.
- When alternatives exist, avoidance of volatile organic compounds and PVC materials.
- Reusable demountable panel systems.
- Recycled content (the higher the better).
- Drywall that does not contain fibreglass reinforcement.
- Preference for products with ECOLOGO, Green Seal, FSC or GREENGUARD certifications.

Demountable (full wall) Partitions

An Overview

Demountable partitions are fully or partially prefabricated gypsum board based units whose primary functions are to restrict vision, sound and passage. These walls are 100 percent reusable. The most environmentally sound products feature:

- Materials that are 100 per cent reusable.
- An electrostatic powder coating system that collects and recycles over 95 per cent of paint overspray and contains no solvents, eliminating emission of dangerous air-borne particles.
- Excess fabric that is recycled as automobile insulation.
- Scrap gypsum that is recycled and reused.
- Panels shipped unboxed eliminating additional waste.

Potential Environmental Impacts

- End- of- use markets or deconstruction still to be proven.

Things to Consider In Your Specifications

This is an opportunity to add clauses in demountable partition tile specifications to address desirability of:

- Recycled steel framing.
- A fibre core made of recycled paper products.
- Paint applied by an electrostatic powder coating process.
- Longevity.
- Preference for products with GREENGUARD certification.

Office Equipment and Related Services

Office equipment consists of all the "hard" materials that make an office function. The items in this category focus on printing and printing services, and production of photocopies and facsimiles.

Photocopiers and Fax Machines

An Overview

Photocopiers and facsimile (fax) machines are widely used in both traditional office and home workplaces.

The variety of models on the market that perform "multifunction" tasks -- from acting as a photocopier, an answering machine, a fax machine, a computer printer or a computer scanner -- has made it possible for units to appear in the smallest of "home offices."

With improvements to the environmental friendliness of this category of product there should be reduction in waste-to-disposal, a reduction of chemical emissions and conservation of energy.

Potential Environmental Impacts

- Consume both significant quantities of energy and paper.
- Release emissions in the form of noise and chemical substances such as ozone.
- Please recycle unwanted photocopiers and fax machines for free at the Municipal Hazardous or Special Waste Depot at 3560 North Service Road East.

Things to Consider In Your Specifications

This is an opportunity to add clauses in photocopier specifications to address:

- Preference for units that carry the ECOLOGO, Energy Star, EnerGuide or GREENGUARD certifications.
- Preference for multifunction units that reduce the need for additional machines to perform office tasks.
- Preference for machines that use standard paper.
- Preference for photocopiers that make two sided copies.

Printing Cartridges

An Overview

Printing cartridges are widely used in photocopy and facsimile equipment, as well as in laser printers. Statistics indicate that in Canada over one million cartridges are disposed of annually. Most are not reused.

Cartridges are often thrown away once the toner inside the cartridge is used up or the "toner waste sump" is filled. This typically occurs after several thousand copies have been made, depending on the make and model of the printing cartridge.

Single use cartridges contain many components that are in perfect condition at the end of the expected life of the cartridge. The practice of re-manufacturing printing cartridges involves disassembling the unit, inspecting and cleaning components replacing or refurbishing the unit's

organic photoreceptor cell and replacing the supply of toner.

Potential Environmental Impacts

- End-of-use disposal problems. Most companies will take back used printer cartridges – ask the company you use if they do. Cartridges used at home can be returned to any Staples store for recycling.

Things to Consider In Your Specifications

This is an opportunity to add clauses in photocopier specifications to address:

- Preference for units that carry the ECOLOGO.
- Preference for remanufactured print cartridges.

Printing Inks

An Overview

Printing inks, used to produce an image on a "substrate" (usually a paper), are generally made of 3 components: pigments, "the vehicle" (the carrier and binding agent) and additives.

Pigment is the solid coloring that we see. The "vehicle" is the largest component of ink and acts as a carrier medium for the pigment as well as a binder to fix the pigment to the "substrate". Additives modify the performance of ink and include materials such as dryers, waxes, lubricants, reducing oils and solvents, binding varnish antioxidants and resins.

Potential Environmental Impacts

- The manufacture, use, and disposal of printing inks which contain heavy metals, petroleum distillates and volatile organic compounds (VOCs).

Things to Consider In Your Specifications

This is an opportunity to add clauses in ink specifications to address.

- Preference for units that carry the ECOLOGO.
- Preference for inks with lower levels of heavy metals and petroleum distillates.

Office Supplies

Office supplies consists of all the “soft” materials that make an office function. The items in this category focus on the feedstock for office equipment.

Batteries

An Overview

In Canada, performance standards for batteries are published by the International Electrotechnical Commission.

Traditionally, batteries contained a high degree of mercury, a highly toxic metal. Mercury’s toxicity to the environment increases when converted by microorganisms under anaerobic conditions to organomercury compounds. It is known to concentrate in organisms and magnify in food chains.

Mercury previously sold in batteries is still found in municipal waste streams and has been estimated to account for 35% of the total release of mercury into the environment in Canada.

Potential Environmental Impacts

- Batteries may pose a threat to the environment during their production and disposal because of certain toxic substances. The major substance of concern has traditionally been mercury.
- Unused product disposal, if not performed properly, could lead to environmental problems. Please bring unwanted batteries to the Municipal Hazardous or Special Waste Depot at 3560 North Service Road East.

Things to Consider In Your Specifications

This is an opportunity to add clauses in battery specifications to address:

- Preference for rechargeable batteries.
- Preference for distribution and end-of use disposal by the same contractor.

Envelopes

An Overview

Over 10 billion envelopes are produced in Canada each year.

The manufacturing process for envelopes involves production of the paper used as the main raw material, the printing processes and the chemical components of inks, adhesives and other materials used in the process. The manufacturing process has an impact on the recyclability of envelopes.

Potential Environmental Impacts

- Unnecessary end of use disposal of varying grades of paper.
- Unsustainable forestry practices.

Things to Consider In Your Specifications

This is an opportunity to add clauses in envelope specifications to address:

- Preference for products that carry the ECOLOGO or FSC certifications.
- Preference for products with stipulated levels of recycled content.
- Preference for unbleached paper.

Printing and Writing Papers (and uncoated mechanical printing paper)

An Overview

Many City of Windsor facilities, including the Lou Romano Water Reclamation Plant, have chosen to purchase paper that is made from 100% recycled content.

For paper, the ECOLOGO Program has set out a guideline developed using a multi-parameter approach.

The guideline does NOT specify a minimum content of recycled material. That parameter has been incorporated into the calculation of resource consumption and waste production. (Performance in this area improves as the amount of recycled material increases.)

This method identifies the most important environmental stressors from all stages of the product life. The environmental requirements identifying pulp and paper aim to lower environmental impacts through:

- Reduction in air emissions.
- Reduction in water emissions.
- Reduction of waste.
- Efficient use of fibre and recycled fibre.
- Reduction of energy use.

Potential Environmental Impacts

- Production of all types of paper in pulp and paper mills consumes significant quantities of energy and resources.
- Waterborne and airborne emissions to the environment.
- Process generates significant waste.
- Unsustainable forestry practices.

Things to Consider In Your Specifications

This is an opportunity to add clauses in paper specifications to address:

- Preference for products that carry the ECOLOGO, Green Seal or FSC certifications.
- Preference for products with stipulated levels of recycled content.

Lighting and Lighting Systems

With the use of energy efficient lighting products, such as fluorescent lamps and energy efficient ballasts, electric lighting costs can be reduced by as much as 60%. Newer lamps and ballasts are more energy efficient, generate less heat than older models and last longer. Savings are also incurred in lower labour costs for maintenance as well as lower air conditioning costs for removal of lamp and ballast-generated heat.

Lights

An Overview

Newer developments include these and other features:

- Electronic ballasts contain no PCBs, but disposal of old PCB ballasts is a concern.
- Instant start ballasts consume less energy than rapid start ballasts. Soft start technology gives the tubes a longer lifespan.
- Electronic ballasts consume substantially less energy when operating at very high frequencies. They hum less and do not flicker.
- Used in combination with T8 lamps, electronic ballasts consume 36 per cent less energy than conventional ballasts with T12 lamps.
- T8 lamps use 20 per cent less energy to provide the same amount of light as conventional fluorescents. They also offer better colour rendering.
- Parabolic louvers control glare while maintaining a level of light efficiency that exceeds IES and ASHRAE standards.
- Light-emitting diodes (LED) have a lifespan and electrical efficiency that is several times better than incandescent lamps, and significantly better than most fluorescent lamps.

Potential Environmental Impacts

- Higher energy costs with inefficient lighting fixtures or inefficient lighting design.
- Unused product disposal, if not performed properly, could lead to environmental problems. For example, compact fluorescents should be recycled due to mercury vapours contained inside Please bring unwanted fluorescent lights to the Municipal Hazardous or Special Waste Depot at 3560 North Service Road East..

Things to Consider In Your Specifications

This is an opportunity to add clauses in lighting specifications to address desirability of:

- Use energy efficient lighting systems wherever possible, i.e. low wattage, reflective fluorescent or LED's.
- Ballasts not containing PCBs.
- Office design to optimize natural light as well as efficient placement of lighting systems.
- Task lighting to minimize need for overhead lighting. Use of T-8 lamps, compact fluorescents or LED's are preferred.
- Preference for products with Energy Star or EnerGuide certifications.

Construction, Renovation, Demolition

Construction and Demolition Waste

An Overview

Moving, renovating, and demolishing facilities can generate significant waste. Construction and demolition waste accounts for up to 25% of the waste stream. Reorganizations in offices and facilities both add to the challenge and open new opportunities to apply sound environmental practices. These practices can lead to improved energy efficiency and workplace and public facility standards.

Potential Environmental Impacts

- Poor waste management practices throughout any construction, renovation or demolition project will add to disposal volumes and their impacts on the environment.

Things to Consider In Your Specifications

Contractors should be required to submit a Waste Management Plan with their quotations. The plan should include:

- Procedures for educating workers and subcontractors in order to ensure adherence to the Waste Management Plan.
- Methods for reducing waste such as ordering material only as required, using up excess material on site where possible, or prefabricating sections off site.
- The percentage of recycled content in construction materials.
- Methods and techniques for collecting, separating, and recycling waste materials and packaging, including a list of materials to be recycled and percentage expected to be recycled or sent to landfills.
- Provisions for dealing with hazardous waste, including procedures for handling, clean-up and disposal.
- A list of carriers and disposal destinations for each material to be disposed of or recycled. The list should be provided initially or at least before the final payment is made. This will ensure that all materials are being recycled and waste is legally disposed of.
- Alternative options for recovering higher percentages of materials and related costs.
- The cost associated with the recovery of the material and the anticipated revenues from the sale of such material.

Parks, Recreation Amenities and Landscaping

Thus far in this guide we have looked at the inside of facilities in terms of building maintenance, the inside of offices in terms of hard and soft equipment, vehicles and maintenance and major site works involving renovation and demolition. There is another category of purchasing that relates primarily to open spaces; that is parks and recreation amenities and landscaping.

Pesticide, Herbicide and Fertilizer Use

An Overview

In 2009 the Province of Ontario imposed legislation on the use of commercial pesticides in an effort to decrease the amount of toxic chemicals entering our air and waterways. City of Windsor property such as sidewalks and golf courses are exempt from this legislation. However, where possible, the City uses herbicidal vinegar on these areas, as well as on our parks and sports fields.

In recent years, toxic blue-green algae blooms have occurred in Lake Erie. The blooms can cause the water to have a foul odour and pea-soup coloured foam. Phosphorus and nitrogen are the main plant nutrients that all plant types, including algae, need to grow. Phosphorus greatly influences the growth of algal blooms. For this reason the City of Windsor uses fertilizer that is either very low or does not contain Phosphorus.

Gardening with compost is a great way to add nutrients to the soil. Compost is the biological reduction of organic waste into an earth-like substance that makes great fertilizer, soil amendment, and most importantly, builds good soil structure. The Essex Windsor Solid Waste Authority produces Garden Gold Compost from the yard waste they collect. Garden Gold Compost is sold at the Public Drop Off Depot (3560 North Service Rd. E.) from April through November. Visit www.ewswa.org or call 1-800-563-3377 for more details.

Potential Environmental Impacts

- Unnecessary impact on the environment in the form of additional chemicals in the landscape and in surface runoff.
- Producing and using compost has a positive impact by turning millions of tonnes of our refuse into a food growing asset.

Things to Consider In Your Specifications

At this time it is recommended that:

- Herbicidal vinegar be used where possible in place of any pesticides or herbicides.
- Fertilizer low in Phosphorus or Phosphorus free be used on parks and sports fields.
- Sustainable lawn management techniques such as dethatching, aeration, overseeding, hand weeding or mowing high be used where possible.
- Compost, preferably purchased at the Essex Windsor Solid Waste Authority, be used in place of fertilizer.

Playground Surfacing Material

An Overview

Replacing natural park surfaces such as grass or mulch with rubber is not recommended unless it is for compliance with accessibility requirements. Rubber does not provide benefits such as water absorption or evapotranspiration and will increase the urban heat island effect in parks, especially if it is dark in colour. The City of Windsor in partnership with Health Canada have completed multiple studies on the urban heat island in Windsor, specifically in our parks. These studies can be found at www.windsorenvironmentalmasterplan.ca. As part of one study, temperature measurements obtained using an infrared camera were taken of three different rubber surfaces in City of Windsor parks. On the same sunny, summer day, the temperature of the *Pouring in Place Rubber* surface at Captain John Wilson park was 69.0°C, the *SofTile* rubber in Meadowbrook Park was 60.5°C, and the *Rainbow Turf* used in Little River Acres Park was the coolest at 51.6°C.

If rubber must be used to comply with accessibility or other requirements, it is best to use recycled rubber, and rubber that is light in colour or has been proven to remain relatively cool on hot summer days.

Potential Environmental Impacts

- Long term liability of difficult end-of–use disposal. Check with the Essex Windsor Solid Waste Authority to see if they recycle the product before you discard it.
- Increased urban heat island effect if used in place of natural material such as grass or mulch.

Things to Consider In Your Specifications

This is an opportunity to add clauses in particular application specifications to address desirability of:

- Preference for products that carry the ECOLOGO.
- Preference for products that are light in colour or proven to remain relatively cool on hot summer days.
- Preference for products with stipulated levels of recycled content.

Landscaping with Native Plants

An Overview

Native plants are species that have been growing in a region since before European settlement, have evolved with our climate and are well adapted to survive throughout the year, from intensely hot, dry summer months to cold winter months. There is a huge variety of native plant species to suit any type of conditions. They range from shade tolerant to sun-loving and from drought resistant to species that thrive in wet conditions. Once established, they require less maintenance and watering than non-native ornamental plants. They are long-lived and readily re-seed themselves, coming back year after year.

Native wildflowers provide valuable natural habitat for a variety of wildlife and are an essential part of maintaining health biodiversity. They attract a group of important wildlife recognized as pollinator species including bees, hummingbirds, butterflies, moths, beetles, birds and other insects. Canada is home to over 1,000 pollinators working constantly to move pollen from flower to flower allowing reproduction of the plant to take place and providing us with fruits and

vegetables.

When purchasing native plants, shrubs and trees for landscaping, it is important to ask if they have been treated with pesticide. Pesticide is harmful to the pollinator species that we are trying to encourage, so it is very important that these plants are not treated with pesticide. It is also important to ensure that any seeds are plants purchased are locally sourced to ensure that they are coming from the Windsor Essex region.

The City of Windsor currently grows our own native plants from seeds collected locally.

Potential Environmental Impacts

- The decline of pollinator species such as honey bees and butterflies is in part due to a decrease in their habitat. Native plants that are not treated with pesticide help provide a source of food for these important species.
- Native plants are great for using in raingardens, which are landscaped areas planted with wildflowers and other vegetation that temporarily retain stormwater runoff from our roofs, roads and lawns.

Things to Consider In Your Specifications

This is an opportunity to add clauses in particular application specifications to address desirability of:

- Preference for products that are native to the Windsor Essex region.
- Preference for native plants that have not been treated with pesticides.

Food

Our food system has become increasingly globalized over the past few decades. Whereas a century ago most food was consumed in a relatively short distance from where it was produced, our diets today consist of foods from all corners of the globe. The trend toward increasing distances between producers and consumers has prompted many to question the environmental and social sustainability of our food choices.

The Windsor Essex Economic Development Corporation has developed a “Grown Right Here” campaign to support local food in our region. Look for the label when making purchasing decisions and ask your supplier where the food you are purchasing comes from. Visit www.welookforlocal.ca for more information and for a map of local food producers and distributors in Windsor and Essex County.

Food

An Overview

Agriculture and food systems are significant energy users and contributors to greenhouse gas emissions, which in turn are driving climate change. Local food initiatives decrease “food miles”, defined as the distance that food travels from the location where it is grown to the location where it is consumed. Local food can be defined as food that comes from your own community, or that is produced regionally, provincially or nationally.

Potential Environmental Impacts

- Keeping money spent on food grown or processed in the community supports local farmers and others in the food sector by creating jobs, income and security.
- Ensures healthy foods are more available so people can meet their nutrition needs.
- When people buy local and eat foods in season, it helps to reduce greenhouse gases and improve air quality.
- Local farms help to increase biodiversity and encourage pollinators to the region.

Things to Consider In Your Specifications

This is an opportunity to add clauses in food purchasing specifications to address desirability of:

- Increased percentage of food that is grown locally.
- Increased local content in food purchases, measured in volume and categories of food.

Food Packaging

An Overview

Many companies that purchase food packaging are moving away from polystyrene (foam) containers and cups that are made of plastic and not recyclable. As a result, there are a number of paper food packaging options available which are a much better choice for the environment. Plastic clamshells and cups are not as environmentally friendly as paper, but they are recyclable so they are a better option than foam. Plastic cutlery is not recyclable in Windsor. Purchasing cutlery made from biodegradable plastic or recycled plastic are better options.

Potential Environmental Impacts

- Non recyclable polystyrene (foam) containers are a large draw on resources and will end up in landfill.
- Unsustainable forestry practices.

Things to Consider In Your Specifications

This is an opportunity to add clauses in food packaging specifications to address desirability of:

- Preference for paper products or where necessary, plastic products that are recyclable.
- Preference for products that carry the ECOLOGO or FSC certifications.
- Preference for products with stipulated levels of recycled content.
- Preference for unbleached paper.

Reference Material

I. www.buygreen.com
A site dedicated to providing information on "green" products and services, and tips on how to set up a green procurement program.

II. www.iisd.org/business/tools/bt_green_pro.asp
Hosted by the International Institute for Sustainable Development (IISD), this site encourages business people to develop a vision of a sustainable company, translate that vision into a management action plan and turn sustainability into a competitive advantage. It also provides a Green Procurement Tool Kit, developed by Manitoba Green Procurement Inc.

III. www.ewswa.org
The Essex Windsor Solid Waste Authority is your local source for recycling electronics, household chemical waste, scrap metal, tires, appliances and more. Check with them to see if the product you are disposing of is recyclable in Windsor.

IV. www.ecologo.org
The ECOLOGO certification website. This site is an excellent source for information on certified environmental products and services.

V. www.greenseal.org
This site includes Green Seal program standards and certified product database.

VI. www.ca.fsc.org/
The Forest Stewardship Council Canada certification website.

VII. http://oee.nrcan.gc.ca/energuide/15896
The website for the Canadian energy efficiency and consumption labelling program, EnerGuide. This site includes information on EnerGuide programs.

VIII. www.energystar.gov
The website for the U.S. energy efficiency and consumption labelling program, ENERGY STAR. This site provides lists of ENERGY STAR qualified products.

IX. www.ec.gc.ca
The Green Lane hosted by Environment Canada contains significant resources available on a wide range of environmental issues and topics. Visitors can use the search function to investigate green procurement resources and links.

X. www.epa.gov
The U.S. Environmental Protection Agency website. This site offers significant resources available on wide range of environmental issues and topics.

XI. www.iclei.org
An association of local governments dedicated to the prevention and solution of local, regional, and global environmental problems through local action, hosts this site. It provides resources and links addressing local environmental action.

XII. www.doingbusiness.mgs.gov.on.ca
The Government of Ontario's Green Focus on Innovation and Technology (GreenFIT) strategy from the Ministry of Government Services. This strategy will enable companies to provide innovative and sustainable technologies and solutions that government can consider as alternatives to its traditional purchasing.

XIII. http://www.sustainablefoodpolicy.org/
The Sustainable Food Purchasing Policy Project helps educational, health care and other institutional and commercial food buyers develop policies that support social and environmental responsibility in agriculture and the food industry.

XIV. http://welookforlocal.ca/
The Windsor Essex Economic Development Corporation has developed a "Grown Right Here" campaign to support local food in our region. This website has more information and a map of local food producers and distributors in Windsor and Essex County.