

SUSTAINABLE PROCUREMENT GUIDE CENTRAL OKANAGAN

Regional Air Quality Program
2022



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Introduction

Every day, someone is considering or carrying out a buying decision. Sustainable procurement ponders the environmental and social impacts from products and services and allows local governments and businesses to spend money efficiently, effectively, economically and ethically (Australia Government, 2013).

In 2015, the Regional District of Central Okanagan updated its Clean Air Strategy. As part of the outlined actions, a model guideline that eliminates the purchase of substances that contain VOCs and other indoor pollutants should be developed and shared. The vision and goals of the Clean Air strategy can be accomplished by citizens, businesses and governments making every day choices that minimize pollution.

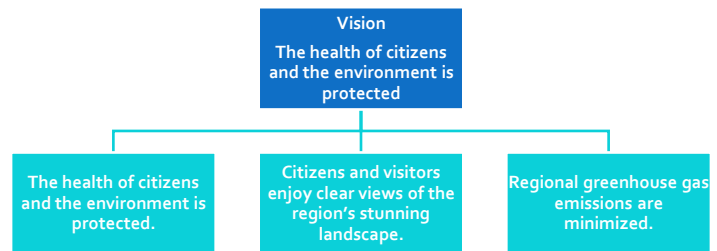


Figure 1. Vision and Goals- Clean Air Strategy of the Central Okanagan

Governments and corporations buy a variety of products and services, and commission a range of constructions, all of which can be done based on environmental and social considerations. Some areas of frequent spending are detailed in Figure 2. (Perera, 2010)

Products	Services	Works
Office and server ICT equipment	Software	New building construction
Vehicles	Information technology servers	Renovation of existing buildings
Indoor lighting	Electricity	Landscaping
Outdoor lighting	Vehicle fleet/transport	Railways
Paper	Couriers and postal	Roads
Office suppliers	Waste handling	
Fuel	Catering: food	
Furniture	Catering: beverages	
Apparel	Professional Services	
	Meetings, events ¹	

Figure 2. Areas of frequent spending

Central Okanagan governments have purchasing bylaws or policies and directions from their Community Plans to reduce greenhouse gases and take actions to achieve more sustainable communities. For example, Kelowna's 2040 Official Community Plan objective 12.2, policy 12.2.4 states GHG Emissions Reduction Criteria. Incorporate greenhouse gas reduction criteria in infrastructure projects for evaluation/ modeling and procurement. (City of Kelowna, 2022). The Purchasing Policy of City of West Kelowna section 2.11 states that shall consider goods and services which are environmentally friendly and cause less harm to the environment.² Lake Country's official community plan states in policy 3.1.10 to adopt a municipal sustainable purchasing policy (District of Lake Country, 2018). The regional District of Central Okanagan in its Regional Growth strategy set provisions to support the Regional Air Quality Management Plan, (Regional District of Central Okanagan, 2014) as well as the District of Peachland, (District of Peachland, 2018). Westbank First Nation states in the Good, Services and Asset Procurement policy, 'Departments are required to promote environmentally sustainable purchasing by reviewing and modifying existing specifications, or writing new specifications, to include environmentally sustainable choices subject to both suitability and cost³. Purchasing managers from all local governments acknowledge that implementing a sustainable procurement policy is valuable and an aspiration for all and they will continue working towards sustainable procurement as directed by their local Councils.

¹ Green Meetings Guide (Environment Canada, 2007)

² Purchasing Policy_(City of West Kelowna, 2019)

³ [Goods, Services, and Asset Procurement](#)

What is Sustainable Procurement?

Sustainable Procurement is a method of purchasing where environmental and social considerations are taken with substantive weighting along with price, availability and performance. Sustainable procurement is not just about buying the greenest product on the market, it’s about a more holistic approach of buying greener and finding solutions that suit organisational needs. With every purchase decision there is an opportunity to minimize pollution and advance towards more sustainable homes, corporations and entire communities.

The first step is to implement a sustainable procurement policy that encourages and guides citizens, government and businesses to select the best quality products, services and construction at competitive prices while considering key environmental and social benefits over the entire life-cycle of the product or service, including the ones listed in Figure 3 ⁴:



Figure 3. Key environmental and social considerations over the entire life-cycle of products or services

The Sustainable Procurement policy provides a comprehensive decision-making framework to choose the best product or alternatives. No financial impact is expected while implementing a sustainable policy and could bring numerous benefits:

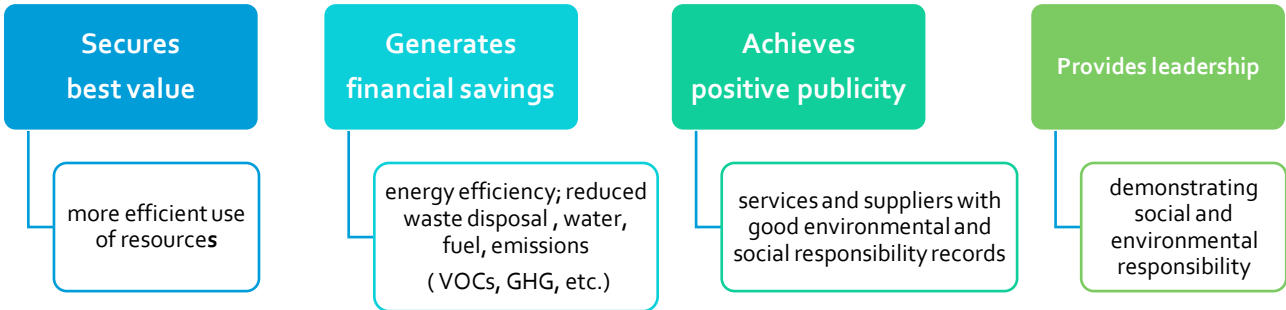


Figure 4. Benefits of Sustainable Procurement

Sustainable procurement also helps to make measurable progress towards sustainability goals; greenhouse gas emissions, zero waste goals, social, diversity, economic and local responsibility, among others.

This Sustainable Procurement Guide is intended to assist any person, local governments or Corporations which would like to commence or increase its environmental leadership and social responsibility. The model policy, checklist and guidelines are a compilation of several policies and best practices from various companies and local governments in Canada and other countries (Green Purchasing Network Malaysia, 2017). The following model policy, or an amended version, could serve as a starting point for corporations or local governments to create or update their own policy based on their specific circumstances, requirements, and timeframes.

Sustainable Procurement Model Policy

Policy Statement

The District of/Corporation will procure environmentally and socially preferable goods, services and works whenever they perform satisfactorily and are available at a competitive price. The **Sustainable Procurement** Policy is a framework for purchasing decision-making that will contribute to the District of/Corporation's strategic goals of protecting the health of citizens and the environment⁵.

Purpose

The purpose of this policy is to provide a procurement framework that will advance the sustainable use of resources, reduce impacts on the environment and improve social outcomes and to align the District of/Corporation's purchasing practices with its goals of environmental, social, and economic sustainability. Through this policy the District of/Corporation demonstrates to employees, the community and other stakeholders that our procurements decisions can:

- Advance a corporate culture at the District of/Corporation that recognizes and places a priority on becoming a more **Environmentally Sustainable Community**.
- Improve environmental and social outcomes by rewarding leadership and innovation among **suppliers** who contribute to healthy, fair and safe workplaces and practice environmental stewardship.
- Encourage the development and training of the local community.
- Enhance, and at least not compromise or detract, from human health
- Contribute to progressing the organisation's broader sustainability agenda and objectives
- Identify and set specifications for goods and services that achieve environmental benefits such as increased energy efficiency, reduced toxicity and pollution, carbon neutrality, zero waste and other environmental attributes, wherever possible.

Scope

- This policy addresses the procurement of **goods, services, and construction** by the District of/Corporation or by third parties, such as contractors, our supply chain, product manufactures and product distributors on behalf of the District of/Corporation
- This policy must be used in conjunction with the District of/Corporation's Purchasing policy.
- 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.

Value for money

Procurement decisions will be made on the basis of value for money, considering both Total Cost of Ownership (TCO) and contribution of the procurement in meeting the District of/Corporation's environmental and social objectives. In addition to the up-front purchase price, TCO includes but is not limited to operation costs, maintenance costs and disposal of goods at the end-of-life.

Responsibility

- This policy will be used by all District of/Corporation with purchasing decision-making responsibilities or individuals with authority to approve procurement **contracts**.

⁵ Sustainable Purchasing Policy-(City of Edmonton, 2010)

- District of/Corporation employees will apply the principles outlined in the Sustainable Procurement Policy and Guideline to Sustainable Procurement.
- District of/Corporation employees will identify and pursue opportunities to reduce consumption, increase efficiency and reuse of products in the District of/Corporation's operations.
- Purchasing Department of District of/Corporation will:
 - a) Act as a resource and provide support to the District of/Corporation departments in the implementation of the Sustainable Purchasing Policy tasks listed above.
 - b) Develop and maintain resources including standard tender clauses and evaluation matrices.

Target

The District of/Corporation is committed to the following targets:

- X Percentage of suppliers that have sustainability Key Performance Indicators
- X Percentage of suppliers that have signed up to District of/Corporation Code of Conduct^{6, 7}
- X Percentage reduction in supply chain carbon footprint
- X Percentage of contracts with sustainability criteria

Objectives

District of/Corporation strives to:

- Consider basic **Payback Period** cycle thinking when assessing/selecting goods and services in order to minimize the adverse effects on the environment and society resulting directly or indirectly from those goods and services.
- Ensure all relevant contracts and tenders contain sustainability specifications appropriate to the good, service, or construction being procured.
- Consider the environmental and social performance of all suppliers and contractors, and encourage them to improve their performance where applicable.
- Train all staff on sustainability considerations within the procurement process based on the Sustainable Procurement Guide.
- Encourage suppliers to adopt similar sustainable procurement commitments.

Principles

- Using the Sustainable Procurement Guide as a resource and the Sustainable Procurement Checklist included in Appendix A of this policy, or an amended version, employees will apply specifications to increase the sustainability attributes of goods, services and construction purchased by the District of/Corporation.
- As appropriate, to achieve the objectives of this policy, employees will use the following principles⁸ while purchasing goods, services and construction:
 - a) *Minimize unnecessary purchasing*
 - Assessing whether or not the goods, service or construction is necessary, prior to initiating the procurement process by applying demand management principles.
 - Assessing the **Life Cycle Cost** over the **Payback Period** of the product or service, wherever practical.

⁶ Supplier Code of Conduct for Responsible Procurement-Metro

⁷ Supplier Code of Conduct-City of Edmonton

⁸ Guidelines for Green Purchasing- Australia (CERES, 2013)

b) Minimize waste

- Purchasing decisions must be made in the context of the waste hierarchy⁹ to avoid, rethink, reuse, recycle, treatment, containment and dispose of waste thoughtfully.
- Resource use by choosing higher **recycled content** and minimizing or avoiding non-renewable virgin materials.
- The **District of/Corporation** should purchase remanufactured products such as laser toner cartridges, furniture, and equipment whenever practicable, but without reducing safety, quality or effectiveness.

c) Minimize toxicity

- To the extent practicable, no purchasing goods should contain ingredients that are carcinogens, mutagens, or teratogens that can affect human health and pollute water, land or air based on Toxic substances list.
- When maintaining buildings, the **District of/Corporation** should purchase materials such as paint, sealants, carpeting, adhesives, furniture and casework with the highest recycled content, low or no formaldehyde and low or no VOCs (volatile organic compounds).
- Choosing biodegradable products where possible.
- Eliminating the purchase of products that use polyvinyl chloride (PVC) such as, but not limited to, office binders, furniture and flooring, whenever practicable.

d) Minimize Habitat Destruction

- Paper and wood products should be obtained from recycled, plantation, salvaged or sustainably managed such as the Forest Stewardship Council (FSC) certified sources.
- Paint and other liquid wastes must be disposed of properly and must not result in discharges of toxic chemicals to waterways.

e) Minimize Greenhouse gas emissions¹⁰

- Considering the energy efficiency of goods and their embedded energy, including the energy required for manufacture and transport.
- Using Green Power and reduce reliance on fossil fuels.
- Considering transition to more environmentally friendly vehicles¹¹ following the **District of/Corporation Green Fleet Policy** that includes; downsize the fleet, increasing the average fuel economy of the fleet, increasing the number of hybrid, alternative fuels, and fuel-efficient vehicles in the fleet, minimizing the total vehicle miles traveled (VMTs) by employees using fleet vehicles, implementing procedures guidelines for replacement vehicles with improved environmental performance, increase utilization of anti-idling technologies and telematics.
- Unless a running engine is required to operate on-board equipment, all vehicles transporting and/or delivering goods, services or construction on behalf of the **District of/Corporation** should not idle the engine if the vehicle is stopped for more than one minute.
- Transportation and/or delivery of services on behalf of **District of/Corporation** and for the purposes of completing the work should be undertaken in the most environmentally preferable way possible.
- Where applicable, use telecom equipment and online software for meetings instead of driving.

f) Maximize Energy Efficiency

- Where applicable, energy-efficient equipment should be purchased with the most up-to-date energy efficiency functions¹². This includes, but is not limited to, high efficiency space heating systems and high efficiency space cooling equipment¹³ - preferably EPEAT rated or Energy Star certified.

⁹ Waste Hierarchy- (EPA, 2017)

¹⁰ Greenhouse Gas Emissions- (Environment Canada, 2018)

¹¹ Fuel Economy-Find a car- (EPA, n.d.)

¹² Energy- and Cost-Savings Calculators for Energy-Efficient Products (U.S Department of Energy, n.d.)

¹³ Purchase of Environmentally Preferred products- (County of Los Angeles, U.S , n.d.)

- For energy consuming products where there is no Energy Star label, departments must consider the purchase of products that conserve electrical power and/or natural gas to the highest degree, based on minimum life-cycle costs.

g) Minimized Soil degradation

- Goods, services and construction should not degrade or pollute the soil, or result in erosion through their use.
- Goods that are certified sustainably harvested, such as organically grown or certified timber should be sourced
- Workers and contractors providing landscaping services for the District of/Corporation should be encouraged to employ sustainable landscape management practices, including, but not limited to, integrated pest management, grass-cycling, drip irrigation, the procurement and use of mulch or compost produced from plant debris and/or food waste programs.
- Plants should be selected to minimize waste by choosing species that are appropriate to the micro-climate, species that can grow to their natural size in the space allotted them and perennials rather than annuals for color. Fire-resistant plants¹⁴, native and drought-tolerant plants that require no or minimal watering once established are preferred.
- Hardscape and landscape structures constructed of recycled content materials are encouraged.

h) Maximize water efficiency

- Purchasing goods or services that conserve water.

i) Maximize Fair Trade opportunities

- Set selection criteria to identify and to benefit ethically sourced and produced goods and services such as Fairtrade or equivalent. The purchase of Fair-Trade products ensures disadvantaged farmers and workers in developing countries receive better prices for their product, decent working conditions, local sustainability and fair terms of trade.

j) Maximize Social Impact Purchasing

- Wherever practical, purchasing goods or services from a social enterprise or socially conscious business¹⁵

k) Maximize the Purchase of Eco- Labelled/ Environmentally Preferred Products/ Services

- As appropriate, employees will specify goods, services and construction that are **environmentally preferred**.
- Products and services should be certified by a **Third-Party Certification**. When third-party environmental standards and certifications are not available, supplier declarations of environmental attributes like policy, plans, or environmental practises will be considered.
- Potential suppliers meeting the Sustainable Purchasing Policy requirements contained in the tender documents are preferred over those that do not.
- Work with local suppliers to develop capacity and encourage their participation in the tender process.
- Engage and work with social enterprises who provide a social benefit to the community.
- Provide equal opportunity to minority and historically under-utilised businesses by considering supplier diversity and facilitating their participation.

l) Maximize Value for Money

- Purchasing decisions by the District of/Corporation and all employees must be made on the basis of value for money rather than just the cheapest up-front purchase price.
- Wherever practical, a cost benefit analysis (using the benefit: cost ratio of benefits/ (investment + operating costs)) may need to be undertaken on larger purchases to ascertain whether larger upfront purchase costs of materials or equipment is then offset by lower running and maintenance costs. The calculated benefit: cost ratio should be over 1; an example is included in Appendix B.

¹⁴ [FireSmart- Homeowner's Manual](#)-(Ministry of Forests, Land and Natural Resource Operations)

¹⁵ [Social Impact Purchasing Guidelines](#)-(Ministry of Social Development and Social Innovation, 2014)

- The District of/Corporation recognises that in some cases environmentally preferred products, materials or services may be more expensive than traditional sources and accordingly a price preference of 5% will be implemented under this policy to encourage purchasing of environmentally preferred products.
- When appropriate, incorporate sustainability standards into standard tender clauses and evaluation matrices to be utilized across Departments.

m) Maximize Safety

- Proper MSDS (Material Safety Data Sheets) where applicable are sourced and kept on record for high risk products.
- Avoid products containing hazardous materials like Lead (Pb) or Mercury (Hg) wherever possible. Where hazardous materials must be purchased (e.g. fluorescent tubes containing Mercury), products should be used and disposed of in the safest and environmentally friendly manner.
- Personal Protective equipment, clothing and accessories must meet the CSA requirements or any other appropriate standard.

Risk assessment

An environmental and social risk and opportunity assessment should be undertaken at the start of all procurement projects to identify impacts and minimization strategies. Sustainability considerations should be embedded in the procurement specification and evaluation criteria.

Weighting of sustainability

Sustainability criteria must be given a minimum of 15% weighting in all procurements. For procurements with particular environmental or social risks or opportunities, this weighting should be increased to reflect their priority.

Review timeline

- Review purchasing specifications, tender documentation and contracts for compliance with this policy within X months from the date of this policy.
- This policy is to be reviewed annually or when needed.

Related policies

- | | |
|--|--|
| <ul style="list-style-type: none"> • District of/Corporation Procurement/Purchasing Policy • Procurement Manual / Guidelines • District of/Corporation Climate Change Action Plan | <ul style="list-style-type: none"> • District of/Corporation Green Fleet Policy • District of/Corporation Supplier Code of Conduct |
|--|--|

Related tools such:

- | | |
|---|---|
| <ul style="list-style-type: none"> • <u>Environmental Management System (EMS)</u> • <u>Life Cycle Costing Tool</u> • <u>Waste Reduction Model</u> • <u>Supplier Self-Assessment Questionnaire</u> | <ul style="list-style-type: none"> • <u>Clean Energy Program</u> • <u>Energy and cost-savings Calculators for energy-efficient products</u> • <u>Green Meeting Guide</u> |
|---|---|

Definitions

Construction – Construction, reconstruction, demolition, repair or renovation of a building, structure or other civil engineering or architectural work which 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 which provides evidence of a voluntary, deliberate and legally binding agreement between one or more competent parties 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.¹⁶

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|| should have a corresponding meaning.

Services –Intangible products not having a physical presence, like the procurement of professional skills and expertise including design consultancy, site security, waste and information technology among others.

Social impact purchasing (SIP) is a process through which organizations consider not only value for money, but also social and environmental impacts when purchasing goods and services.

Social enterprises are businesses (not-for-profit and for-profit) driven by a social or environmental purpose. As with any business, a social enterprise delivers goods and/or services to customers in the marketplace. However, social enterprises differ from most traditional businesses in that their profits are not just used to ensure their financial viability, but are re-invested in the business and/or the community to achieve, sustain and further the organization's social or environmental purpose.

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

Sustainable Purchasing – The process by which organizations buying goods, services and construction consider 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.

¹⁶ [Sustainable Purchasing Policy](#)-(The City of Windsor, 2016)

Appendix A- Sustainable Procurement Checklist

This sustainable procurement checklist can be used to compare products, equipment¹⁷ and suppliers. Use this checklist (or an amended version) in tender documents for contract tenderers or Request for Proposals (RFP). An excel version can be found at the RDCO website.

- ☐ Think before you buy
- ☐ Compare products, equipment and suppliers
 - Choose the criteria relevant to the item. Some criteria may not be relevant or impossible to compare so ignore these criteria.
 - Amend the desirable attributes for consumables/equipment in purchasing specifications based on the *Guidelines for Purchasing specific products*.
 - Ensure that environmental, social and financial attributes are weighted equally when making your purchasing decision. For example, for suppliers, the score or total marks available for the assessment are irrelevant, as a mathematically normalized (factored) score should be calculated.¹⁸

Supplier C	Highest Score (27)	=	100	points
Supplier A	(22 x 100)/27	=	81	points
Supplier B	(18 x 100)/27	=	66	points

- ☐ Estimate the *3-Estimate Total Cost of Ownership* using Life-Cycle Costing approach.
 - Track the attributes to demonstrate environmental impact reductions and cost savings¹⁹; e.g. number or percentage of products Energy Star or certified by a third party, electricity saved (KWh), GHG emissions saved, water saved, number or percentage of equipment sent to recycling, cost savings, etc.

1-Think before you buy

Think before you buy	Product A	Product B	Product C
Criteria	Yes/No/NA	Yes/No/NA	Yes/No/NA
Make an Inventory-Is the product really needed?			
Can the product be rented, borrowed from another department or supporter?			
Is there a stockpile of the product?			
Are all the features/elements necessary?			
Will the product be used to the end of its useful life?			
Can it be easily reallocated or donated?			
Total			

¹⁷ [Guidelines for Green Purchasing-Victoria Australia](#)-(CERES, 2013)

¹⁸ [Guide 3 to Sustainable Procurement-Evaluate and Select Suppliers](#)- (New Zealand Government, 2010)

¹⁹ [Sustainable Purchasing Toolkit-DC](#)-(Greenspace, NCT and Eco-Coach, 2016)

2-Compare products, equipment and suppliers

Desirable attributes- Consumables

Supplies should be designed and used with environmental stewardship in mind, including, where applicable in material or substance type.

Criteria	Product A		Product B		Product C		Upon request
Yes/ score	Yes/No/NA	Specifics/year (energy, water, fuel, Kg CO2 eq, %, etc.)	Yes/No/NA	Specifics/year (energy, water, fuel, Kg CO2 eq, %, etc.)	Yes/No/NA	Specifics/year (energy, water, fuel, Kg CO2 eq, %, etc.)	
Financial							
Suitable cost (within 5% of standard product)							
Cost Benefit Analysis ratio greater than 1- conduct CBA when price > 5% of standard							<input type="checkbox"/> Copy of CBA
Environmental							
a) Water/Energy/Greenhouse reduction							
Energy efficient- high energy/ gas: <u>Energy Star</u> or <u>EPEAT</u> rated; Watts used in standby mode ____							
Watts used in operation mode ____ Total kilowatts of energy used/year ____							
Measured the total amount of GHGs emitted through the lifecycle of the product/service.							
Water consumption. Total litres of water consumed/year ____							
b) Waste/Packing reduction							
Bulk ordering to reduce packaging- avoid stockpiling unless products are high use/ high turnover							
<input type="checkbox"/> Reusable product or <input type="checkbox"/> have reusable parts <input type="checkbox"/> repairable <input type="checkbox"/> Biodegradable product <input type="checkbox"/> Refurbished product							
Longevity (e.g. manufacturer's expected lifespan, length of warranty); Life expectancy ____ Length of warranty ____							
Remanufactured/ refilled product							
Made from high percentage (>80%?) recycled content. Recycled content ____ Post consumer waste recycled content ____							
Recycling method is known/ planned							
<input type="checkbox"/> Packaging is recyclable <input type="checkbox"/> It can be recycled in the City's recycling system							
Packaged with the intent to minimize waste (bulk packaging)?							
<input type="checkbox"/> Take back/ return of product packaging available by manufacturer. <input type="checkbox"/> Extended Producer Responsibility available - removal of product (at end of life) and/ or product packaging							
c) Toxin reductions							
Product contains minimal/ no toxic chemicals: Check <u>guide</u> for toxicity: Free of formaldehyde, Chlorofluorocarbon (CFC), Lead (Pb) or Mercury (Hg etc.).							
Product is <input type="checkbox"/> low VOC or <input type="checkbox"/> zero VOC.							
Social							
Material Safety Data Sheets (MSDS) available for high risk products e.g. cleaning products, chemicals							<input type="checkbox"/> Copy of MSDS
<input type="checkbox"/> Fair Trade product (tea, coffee, chocolate, balls, clothing, etc.) <input type="checkbox"/> Organic product							
Ecolabel certification <input type="checkbox"/> ECOLOGO <input type="checkbox"/> Green Seal							
Suitable quality- durable, long lasting							
Total positive attributes (Financial+Environmental+Social)							
	Total, A		Total, B		Total, C		
Total Cost of Ownership (check 3-Estimate Total Cost of Ownership and describe any additional information we should know about known tangible and intangible costs.)							
First Cost (cost of consumable/equipment)	\$		\$		\$		
Installation cost	\$		\$		\$		
Operational Cost (watts used in standby, watts in normal mode, average yearly service call fee, fuel used, etc.)	\$		\$		\$		
Warehouse/Inventory costs	\$		\$		\$		
Disposal Costs (expected shipping or disposal cost at end of life)	\$		\$		\$		
Risks	\$		\$		\$		
Social and Environmental Benefits	\$		\$		\$		
Total Cost of Ownership	\$		\$		\$		

Desirable attributes- Capital and Equipment Purchases

Equipment should be energy efficient (preferably EPEAT rated or Energy Star certified when applicable), and should be used in an energy efficient manner.

Criteria	Product A		Product B		Product C		Upon request
Yes/ score	Yes/No/ NA	Specifics/year (energy, water, fuel, Kg CO2 eq, %, etc.)	Yes/No/NA	Specifics/year (energy, water, fuel, Kg CO2 eq, %, etc.)	Yes/No/ NA	Specifics/year (energy, water, fuel, Kg CO2 eq, %, etc.)	
Financial							
Suitable cost (within 5% of standard product)							
Cost Benefit Analysis ratio greater than 1- conduct CBA when price > 5% of standard.							<input type="checkbox"/> Copy of CBA
Environmental							
Water/Energy/Greenhouse reduction							
Water efficient- Water consumption. Total litres of water consumed/year _____							
Fuel efficient- check vehicle Fuel Consumption Label. Fuel consumption_____							
Vehicle purchasing follows the <u>District of/Corporation's Green Fleet Policy</u>							
Environmentally Sustainable Design principles used							
Energy efficient- high energy/ gas: <u>Energy Star</u> or <u>EPEAT</u> rated; Watts used in standby mode _____							
Watts used in operation mode _____ Total kilowatts of energy used/year _____							
Measured the total amount of GHGs emitted through the lifecycle of the product/service.							
Waste/Packing reduction							
Bulk ordering to reduce packaging- avoid stockpiling unless products are high use/ high turnover							
<input type="checkbox"/> Reusable product or <input type="checkbox"/> have reusable parts <input type="checkbox"/> repairable <input type="checkbox"/> Biodegradable product <input type="checkbox"/> Refurbished product							
Longevity (e.g. manufacturer's expected lifespan, length of warranty); Life expectancy ____ Length of warranty ____							
Remanufactured/ refilled product							
Made from high percentage (>80%?) recycled content. Recycled content____ pot waste recycled content_____							
<input type="checkbox"/> Recycling method is known/ planned <input type="checkbox"/> Packaging is recyclable <input type="checkbox"/> It can be recycled in the City's recycling system							
Product compatible with use of recycled and remanufactured products e.g. toner, paper							
<input type="checkbox"/> Easily maintained product <input type="checkbox"/> Upgradeable product							
<input type="checkbox"/> Take back/ return of product packaging available by manufacturer. <input type="checkbox"/> Extended Producer Responsibility available							
Toxin reductions							
Product contains minimal/ no toxic chemicals: Check <u>guide</u> for toxicity: Free of formaldehyde, Chlorofluorocarbon (CFC), Lead (Pb) or Mercury (Hg etc.). Product is <input type="checkbox"/> low VOC or <input type="checkbox"/> zero VOC.							
Social							
Material Safety Data Sheets (MSDS) available for high risk products e.g. cleaning products, chemicals							<input type="checkbox"/> Copy of MSDS
<input type="checkbox"/> Fair Trade product (tea, coffee, chocolate, balls, clothing, etc.) <input type="checkbox"/> Organic product							
Ecolabel certification <input type="checkbox"/> ECOLOGO <input type="checkbox"/> Green Seal <input type="checkbox"/> Suitable quality- durable, long lasting							
Total, positive attributes (Financial+Environmental+Social)							
	Total, A		Total, B		Total, C		
Total Cost of Ownership (check 3-Estimate Total Cost of Ownership and describe any additional information we should know about known tangible and intangible costs.)							
First Cost (cost of consumable/equipment)	\$		\$		\$		
Installation cost	\$		\$		\$		
Operational Cost (watts used in standby, watts in normal mode, average yearly service call fee, fuel used, etc.)	\$		\$		\$		
Warehouse/Inventory costs	\$		\$		\$		
Disposal Costs (expected shipping or disposal cost at end of life)	\$		\$		\$		
Risks	\$		\$		\$		
Social and Environmental Benefits	\$		\$		\$		
Total Cost of Ownership	\$		\$		\$		

Desirable attributes- Supplier^{20,21,22}

Criteria	Supplier A		Supplier B		Supplier B		Documentation (upon request)
Yes/ score	Yes/N o/NA	Specifics/year (energy, water, fuel, Kg CO2 eq, %, etc.)	Yes/N o/NA	Specifics/year (energy, water, fuel, Kg CO2 eq, %, etc.)	Yes/N o/NA	Specifics/year (energy, water, fuel, Kg CO2 eq, %, etc.)	
Environmental							
<i>Greenhouse Gas Reduction</i>							
Product or service equipment holds is certified by a third party as being energy efficient /gas; e.g., meets <u>Energy Star</u> , <u>EnerGuide</u> or <u>EPEAT</u> rated							
Delivery of the product or service delivery with low emission vehicles							
The supplier vehicles meet E3 Fleet standards and Fleet Smart standards or similar (e.g. Smart Way / Drive Smart programs)							
The supplier uses alternative energy (e.g. solar) or fuels (e.g. bio-fuels)							
Does the facility monitor and track energy consumption and conduct on-site energy audits and set reduction targets?							
Total annual GHG emissions in recent year measured (<i>tons CO2e</i>) ____ <input type="checkbox"/> Reduction targets ____							
The supplier has measured the total amount of GHGs emitted through the lifecycle of the product/service.							
The product/service is verified as carbon neutral by an independent third-party (e.g. Carbon Neutral®)							
Supplier has any policies or practices related to reducing: <input type="checkbox"/> GHG emissions <input type="checkbox"/> Other air pollutants ____							
<input type="checkbox"/> Management plan to prevent and control fugitive dust <input type="checkbox"/> Anti- Idling policy <input type="checkbox"/> Green fleet policy							
<i>Waste/Packing reduction</i>							
The majority of the supplier's packaging is recyclable and can be recycled in the City's recycling system							
Product packaging is made of high-content post-consumer recycled materials (75% or more) and is fully recyclable; Ecologo Standard. Recycled content ____							
Has any specific policies or best practices related to reducing waste and / or diverting waste from landfills through recycling and composting. Notify of any available Take Back service to reuse, refurbishment and/or recycling for purchased product. <input type="checkbox"/> Reduction targets ____							<input type="checkbox"/> A copy of policy
The product packaging can be reused							
Biodegradability and compostable (e.g. Green Seal standard for food service packaging)							
Does the facility have a program and/or procedures to reduce or eliminate pollution and waste in its operations?							
Does the facility have a program and/or procedures to manage and dispose of hazardous waste (if applicable), wastewater, solid waste, and airborne emissions?							
<i>Toxin reductions</i>							
Supplier self-declares no toxic ingredients are included in the product, when labelling is not available							
Supplier has complete labelling and documentation on product ingredients / impacts							
Supplier meets independent third-party environmental standards related to toxins levels associated with the product/service (e.g. Certified Organic) Design for the environment, or bluesign® standard)							
Supplier has a toxin reduction program in place to address: The toxins associated with the production, use and disposal of the product/service. A minimization strategy to reduce toxin levels over the entire lifecycle of the product/service or A written strategy that includes performance metrics and a reporting system							
<i>Energy /Water reductions</i>							
Supplier has an internationally certified Environmental Management System (e.g. ISO 14000) OR supplier demonstrates commitment to environmental sustainability – environmental policy, programs, etc.							<input type="checkbox"/> A copy of policy or Manual

²⁰ City of Edmonton Sustainability Leadership Questionnaire- (City of Edmonton) [Canadian Collaboration for Sustainable Procurement website](#)

²¹ Sustainable Purchasing Toolkit - Ottawa-[Municipal Collaboration for Sustainable Procurement website](#)

²² Supplier Self-Assessment Questionnaire-(CERES)

Supplier works to reduce its water consumption in its daily operations. Total gallons or litres of water consumed/year _____							<input type="checkbox"/> A copy of policy <input type="checkbox"/> Reduction targets
Has any policies or practices related to reducing energy use. Total kilowatts of energy used/year _____ <input type="checkbox"/> Reduction targets _____							<input type="checkbox"/> A copy of policy
Other Sustainability Leadership Practices; operate in LEED Platinum buildings, and water neutral _____							
Corporate Environmental Operations							
The supplier's facility holds the necessary license(s) or permit(s) for <input type="checkbox"/> Air emissions <input type="checkbox"/> Storage of hazardous materials <input type="checkbox"/> Wastewater management <input type="checkbox"/> Waste issues							<input type="checkbox"/> A copy of policy or Manual
Are employees trained on relevant environmental matters, including: <input type="checkbox"/> Air emissions <input type="checkbox"/> Management of hazardous materials <input type="checkbox"/> Preventing oils and groundwater contamination <input type="checkbox"/> Wastewater management <input type="checkbox"/> Waste management including hazardous waste <input type="checkbox"/> Water use							
Supplier: <input type="checkbox"/> promotes workplace health and safety <input type="checkbox"/> documented Health & Safety Policy and Program or plan <input type="checkbox"/> provides Material Safety Data Sheets (MSDS) for high risk products							<input type="checkbox"/> A copy of policy or Manual
Supplier adheres to one or more of the ILO health and safety resolutions							
It is registered with one or more of these Safety Management System/Program. <input type="checkbox"/> OHSAS 18001, <input type="checkbox"/> CAN/CSA Z1000, <input type="checkbox"/> ANSI Z10.							<input type="checkbox"/> A copy of registration
Supplier has one or more of the policies and measurement attributes in place; <input type="checkbox"/> EMAS <input type="checkbox"/> Documented Environmental or Sustainability Policy <input type="checkbox"/> Environmental Management system ISO 14001 <input type="checkbox"/> Nonregister system, but the total GHG emissions, amount of waste, and/or toxic substances are baselined measured							<input type="checkbox"/> A copy of policy
The organization promote wellness, active living, or work-life balance programs to all employees							
Social							
Supplier supports Fair Trade							
Supplier is a Social enterprise- hubcap , Social Impact Purchasing guidelines (page 22).							<input type="checkbox"/> Proof of financial support <input type="checkbox"/> in-kind
Supplier partners with a social enterprise on contract delivery							
Has adopted any documented policies, practices, or programs to promote equity, diversity, and inclusion for minorities or underserved groups (e.g. work and labor rights, gender issues, human rights, etc.)							<input type="checkbox"/> A copy of policy
Does the facility have policies that prohibit forced labor and child labor							
Supply Chain							
Supplier has a documented <input type="checkbox"/> Supplier Code of Conduct or <input type="checkbox"/> Purchasing Policy that accounts for internationally recognized minimum labour standards							<input type="checkbox"/> Copy of Policy or code
Supplier conducts and documents internal audits of supply chain (processing, producing or trading) and works with supply base to resolve sustainability issues and develop reduction targets							
Is member of any organization that works to promote fair and reasonable employment conditions for workers within your facilities or factories or policy that promotes a respectful working environment.							<input type="checkbox"/> Membership <input type="checkbox"/> Copy of Policy
Supplier has an Extended Producer Responsibility scheme available-removal of goods (at end of life) and/ or product packaging to ensure products are dealt with in an environmentally responsible manner e.g. computers, office equipment, toner cartridges.							
Has adopted any documented policies, practices, or programs to drive improvements in ethical performance of supply chains (anti-bribery, anti-corruption, political contributions, etc.)							<input type="checkbox"/> A copy of policy
Culture and Identity							
Supplier funds external arts, heritage and/or cultural programs through the donation of time or money							
Supplier partners with external arts, heritage and/or cultural organization (e.g. supplier partners with an indigenous and aboriginal group to collaborate on community events)							
Suppliers have an internal program or foundation to raise awareness around arts, heritage and/or culture							
Supplier is an arts, heritage and/or cultural organization							
Total, positive attributes							
	Total, A		Total, B		Total, C		

3-Estimate Total Cost of Ownership

The total cost of ownership considers all costs associated with procurement, operations, disposal, decommissioning, and remediation; and cost avoidance savings from social and environmental benefits available from a sustainable procurement option. ²⁵ (City of Edmonton)

TCO study for:		Date _____
Prepared by:		
Cost Driver	Cost \$ CAN	If applicable, consider:
Acquisition cost		
Contract price (rent/lease/services)		Applicable standards, 3rd party certifications, specifications, fair trade, LEED, capital, NPV
Customs clearance		Name of agency
Insurance		In transit, liability, political risk, export credit
Currency rates		Hedge fees, inflation risks, futures contracts
Air freight/ocean/rail		Lead times
Courier/trucking		Intermodal, load limits
Start up costs		One-time charges, testing, acceptance
Packaging/shoring		removal
Fuel storage and delivery		Cost to install and handling equip
Amortization rate		# of years
Rental purchase option		Buy-out, first right of refusal options
Testing, inspection		3rd party, in-house
Vendor experience		Probability of success; expected monetary value
Intellectual property rights		Legal fees; registration; escrow
Training		Include for probable upgrades x the # of affected staff; operational and maintenance
Opportunity costs		NPV; ROI; payback hurdle; IRR
Restrictive covenants		Non-compete period of key personnel, relocation
Cost to change supplier		One-time, standardization, training, support
INCO terms		Country of origin; certificate of origin; FOB;
Installation		
Labor		In-house cost with benefits, contractor, standards, permits, inspection
Materials		Direct and indirect
Equipment rental		Daily, weekly, monthly
Transportation		Permits, inspection, demurrage
Renovations maintenance		Permits, inspections, licensing, certification
Hours of access		Local by-laws
Pilot vehicles		Minimum # of hours
Time frame		Late penalties; early incentives
Temporary loss of production		Rate per hour, per shift, affect on ROI
Operating costs		
Energy rate of consumption by source		Gas, diesel, propane, natural gas, geothermal, solar, biomass
Emissions per tonne by source		Current and projected
Consumable materials		Renewable, recyclable
Maintenance – labour, parts, materials		SLA, in-house, training, OEM, after market, tooling
Water consumption rate		Incremental change
IT support		Software maintenance, labour, in-house, contract, license costs per # of licenses
IT energy		Incremental change
Warranties		Period of coverage; rates for exceeding; covenants
Warehouse/Inventory costs		
Security		Physical, electronic
Financial carrying costs		Weighted average cost of capital
Labour		Union, non-union
Materials		packaging
Equipment		mobile, compactors, scanners
Space at current market rate per ² ft		Fixed term
Property tax		Current and projected
Insurance		Liability, fire, theft, earthquake, and restrictive covenants

Cost Driver	Cost \$ CAN	If applicable, consider:
End of life		
Disposal of parts/inventory (trade-in value)		Write down costs based on book value
Removal - labour		Residual value
Removal - materials		In situ
Contract termination – lease/rental		In situ
Recyclable content		Balance owing or buy out costs
Packaging		Segregation, sorting
Landfill fees		Collection, compacting
Soil remediation		Municipal, regional
Decommissioning		Cost per tonne, trucking, equipment
Waste		Title transfer, liability insurance, waivers
		By products for sale, salvage, asset recovery, waste audit
Risks		
Country of origin		Transparency International Index, political stability
Prototype		Certificate of destruction, learning curve
Network capability		Integrity of security
Emergency		Spare parts, service, availability, technical changes, contingency plans
Image, brand		Customer perception of value
Cost of non-performance/compliance		Correct defects, loss of market, customer defection
Technology		Competition; disruptive technology;
Contingency costs		Risk management assessment and mitigation plan
Legal counsel		Internal, 3rd
Social economic <i>benefits</i>		
Employment		Local employment, social entities, diversity of work force, # of FTE positions, temporary foreign labour
Training		Skills upgrading, qualifications, certification, train-the-trainer programs, course materials
Use of indigenous materials		Replacement of imports, use of local foods
Telecommuting		% of time, technical requirements, security
Staff retention		Incremental change
Teleconferencing		% of time, travel cost reduction, equipment, 3rd party service provider
Living wage		Incremental costs
Change management		Time frame, training
Health and safety		Base line measurement
Philanthropical issues		Sponsorships, grants, donations, gifts-in-kind, executive coaching, mentoring
Environmental <i>benefits</i>		
Energy savings		Compared to baseline or current sources
Emission reductions		Compared to baseline or current sources
Emission offsets		Carbon tax, bona fide certification
Reduction in toxic materials		Tonnes, types, material substitution
Reduction in packaging		Tonnes, types
Reduction in waste generated		Tonnes, waste disposal bins
Reduction in travel costs		# of miles
Reduction in consumables		Incremental volume or costs
Renewable sourcing		Type of materials, content
Organic content		Certification
Cost to audit or monitor		Contracted service fees
Cost of reporting		Departmental, annual reports, personnel
Applicable taxes		Current and projected, grants
Inflation rate		Projected, hedge strategy
Total Cost of Ownership (TOC) or operating		# of years, cost per year, cost of goods sold, cost per unit of production, cost per operational hours of service

Appendix B- Example of Cost Benefit Analysis

A **cost benefit analysis**²³ (using the benefit: cost ratio of benefits/ (investment + operating costs)) may need to be undertaken on larger purchases to ascertain whether larger upfront purchase costs of materials or equipment is then offset by lower running and maintenance costs. The calculated benefit: **cost ratio should be over 1.**

Compact Fluorescent Lamps (CFL) vs Incandescent Globes

Based on approximately 5.5hrs home use/ day for 4 years= ~8000 hrs have a benefit: cost ratio of 3.46.

	Incandescent Globe	Compact Fluorescent Lamp
Power (1 kWh= 1000W)	75W (= 0.075 kWh (75/1000))	15W (= 0.015 kWh (15/1000))
Expected Lifetime	1,000 hours	8,000 hours
Cost per kWh	\$0.18	\$0.18
Operating Cost for 8,000 hrs usage (i) (cost per kWh x power (kWh) x hrs	0.18 x 0.075 x 8,000 = \$108	0.18 x 0.015 x 8,000 = \$22
Lamp Cost	\$1	\$4
Lamp/ Globe Cost for 8,000 hrs (ii)	\$8 (\$1 x 8)	\$4
Total Cost over 4 years/ 8,000 hrs (i+ii)	\$116 (A)	\$26 (B)
Benefit (savings over 8,000 hrs)	NA	A- B= 90

B/C = Benefits/Cost ratio

Where: B = benefits, I = investment, O = operating costs

$$\text{B/C ratio} = \frac{\text{B}}{\text{I} + \text{O}} = \frac{\$90}{\$4 + \$22} = \frac{\$90}{\$26} = 3.46 \text{ B/C ratio}$$

Payback period (days) can be calculated by dividing 365 by the ratio. Usually the pay back period of a product should be during its lifetime; however, a product doesn't necessarily have to have a payback period within its life if it has a very important benefit e.g. addressing OH&S issues, climate change etc. e.g. CFL payback period based on above data:

$$\text{Payback Period} = \frac{365 \text{ days}}{\text{B/C Ratio}} = \frac{365}{3.46} = 105 \text{ days}$$

²³ Guidelines for Green Purchasing-Victoria Australia_(CERES, 2013)

Guidelines for Sustainable Procurement

Life Cycle Assessment

Life cycle assessment (LCA) addresses the environmental aspects and potential environmental impacts (e.g. use of resources and the environmental consequences of releases) throughout a product's life cycle from raw material acquisition through production, use, end-of-life treatment, recycling and final disposal (i.e. cradle-to-grave).²⁴

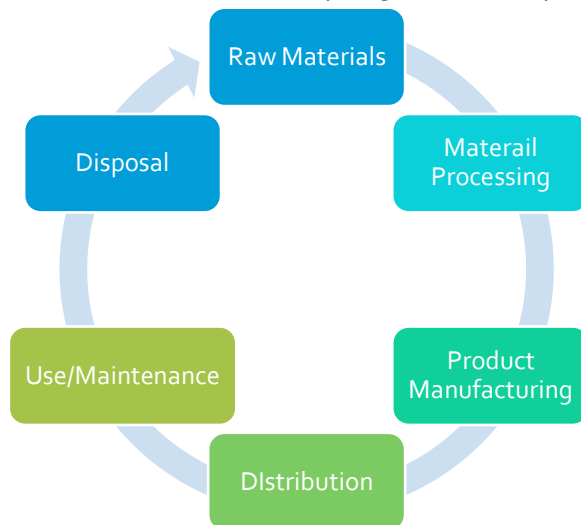


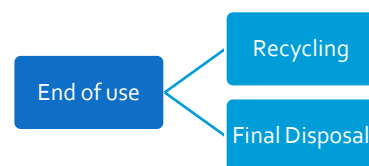
Figure 5. Lifecycle stages

Many environmental impacts occur before a good or service is procured, for example, resource extraction, design development, manufacturing, transportation and storage, etc. The greatest opportunity to influence environmental outcomes is by selecting products and services with the least ongoing environmental impacts, such as use of water, electricity and fuel, waste/disposal management, and impact on human health over the life of the product or service.²⁵

Third Party Certification programs such as UL's ECOLOGO Program perform life cycle assessments to evaluate existing products. When possible, local governments or corporation's employees should consider the independent recommendations of agencies that undertake such analysis.

End of Use

Local governments or corporations should consider the end of use disposal of the products they are purchasing. The [Regional Waste Reduction Website](#) provides information on recycling, garbage collection, yard waste and disposal. All inquiries about whether the product can be recycled in the region can be directed to recycle@cord.bc.ca or calling [250-469-6250](tel:250-469-6250).











²⁴ [Life cycle assessment — Principles and framework](#)

²⁵ Guide to environmental impact in procurement - (Victoria State Government, AU)

Third Party Certification-Environmental logos

Third Party Certification means that an independent organization has reviewed the manufacturing process of a product and has independently determined that the final product complies with specific standards for safety, quality or performance. Below, some international and well recognized Third Party certification logos:

Multi-attribute Certification or recognition

EcoLogo	Cradle to Cradle (C2C)	Environmental Protection Agency's Design for the Environment (DfE)	Rainforest Alliance
<p>The Canadian EcoLogo (also known as Environmental Choice) helps you identify products and services that have been independently <u>certified</u> to meet strict environmental standards that reflect their entire life cycle — from manufacturing to disposal. EcoLogo standards are designed so that only the top 20% of products available on the market can achieve certification. More than 7,000 products — from paint to paper — carry this logo</p> 	<p>The <u>Cradle to Cradle (C2C)</u> Innovation Institute evaluates and labels products that meet multiple environmental, health and social criteria. Office supplies that carry the C2C ecolabel include, but are not limited to dry-erase whiteboards, cork tack boards, filing cabinets, bookcases, monitor stands, and keyboard trays. A registry of C2C-certified products can be found at their <u>website</u>.</p> 	<p>EPA's <u>DfE Program</u> includes emissions, toxicity, and performance criteria. Uses California Air Resources Board (CARB) VOC limits. This standard can apply to any product, but the paints and coatings “recognized” by DfE as of October 2012 include athletic field paints, floor finishes, paint strippers, and graffiti removers.</p> 	<p>This <u>certification</u> promotes and guarantees improvements in agriculture and forestry. This seal of approval ensures that goods were produced in compliance with strict guidelines protecting the environment, wildlife, workers and local communities.</p> 
Green Seal (multi-attribute certification)	Fair trade	Master Painters Institute	Bird Friendly
<p>Environmental Protection Agency's Design for the Environment (DfE) Program (multi-attribute recognition) Green Seal includes emissions, toxicity and performance criteria.</p> <ul style="list-style-type: none"> • <u>GS-11 for Paints and Coatings</u> (virgin coatings: wall, anti-corrosive, reflective, floor paints, primers, undercoats) • <u>GS-43 for Recycled Content Latex Paint</u> (recycled coatings: interior and exterior paints and primers) • <u>GS-47 for Stains and Finishes</u> (finishes, stains, sealers, low solids coatings) 	<p><u>Fairtrade</u> is a movement for change that works directly with businesses, consumers and campaigners to make trade fair for farmers and workers. The international Fairtrade system represents the world's largest and most recognized fair-trade system. This global organization is working to secure a better deal for farmers and workers.</p> 	<p><u>MPI Extreme-Green (X-Green)</u> or GPS-2. GPS-2 includes maximum VOC content of 50 g/l, toxicity (restricted chemicals) and performance criteria. X- Green products must meet GPS-2 requirements plus pass the emissions testing required for CHPS (California High Performance Schools). Products covered: Virgin interior and exterior, architectural and high-performance and industrial paints and primers, block fillers, and epoxy-modified latex coatings. MPI X-Green and GPS-2 do not cover recycled paints or primers.</p> 	<p>A <u>certification</u> created by the Smithsonian Migratory Bird Center (SMBC), based in Washington, D.C. This certification requires coffee to be organic and grown with a minimum of 40% shade coverage and also makes recommendations for the diversity and size of trees that make up the forest canopy.</p> 

Single-Attribute Certification or Recognition

Energy Star	ACMI Approved	SCS Indoor Air Quality Certification	BPI-Certified Compostable products
<p>ENERGY STAR is the mark of high-efficiency products in Canada. The ENERGY STAR symbol indicates that certified products meet strict technical specifications for energy performance—tested and certified.</p> 	<p><u>The Art & Creative Materials Institute</u> (ACMI) certifies and maintains a list of “Approved Products” (AP) that have been evaluated by a toxicologist and verified to meet standards for acute and chronic toxicity as well as performance. A list of ACMI AP-Certified Products, which includes, but is not limited to, adhesives, paints, pens, markers, and whiteboard cleaners, can be accessed at</p> 	<p><u>SCS Indoor Advantage</u> is a certification program run by the non-profit Scientific Certification Systems (SCS). It addresses the chemical emissions of products that affect indoor air quality (IAQ). A list of SCS Indoor Advantage-certified products can be found at http://www.scsglobalservices.com/certified-green-products-guide</p> 	<p>It is a multi-stakeholder association of key individuals and groups from government, industry and academia, which promotes the use, and recovery of biodegradable polymeric materials</p> 
Forest Stewardship Council	GREENGUARD Certification	U.S. Department of Agriculture	Carbon Neutral
<p>The <u>FSC</u> ‘check-mark and tree’ logo is instantly recognizable, reassuring customers that your products are made using responsibly managed wood.</p> 	<p><u>GREENGUARD Certification</u> standards have established performance-based standards to define products and processes with low chemical and particle emissions for use indoors. The standards are primarily for building materials, finishes, interior furnishings, furniture, cleaning products and electronic equipment</p> 	<p>The US Department of Agriculture (<u>USDA</u>) certifies and allows the labeling of “organic” food or other agricultural products that have been produced through approved methods that integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used.</p> 	<p>The Protocol includes requirements for GHG assessments, emission reduction planning, eligibility of carbon credits and other environmental instruments including renewable energy certificates, management of other environmental instruments through registration and retirement, and communication of <u>CarbonNeutral®</u> programs.</p> 

Guidelines for Purchasing specific products

Requirements in purchasing specifications for different products and equipment regularly used and purchased by corporations/governments is shown in the following sections²⁶. For more Purchasing guides visit Responsible Purchasing Network²⁷ and other resources^{28,29,30,31}

Paint and Coatings³²

Recycled Latex Paints: GS-43 or EcoLogo CCD-048. Remanufactured: GS-43 or CCD-048, ≤150 g/l VOCs.

Virgin Paints, Primers, Floor Coatings, Rust-Inhibitive Coatings, Caulks, Wood Finishes, and Stains: Green Seal, EcoLogo, MPI X-Green, or EPA DfE, plus no nanotechnology.

Specialty Paints, Primers, and Other Coatings (anti-graffiti, dry-fog, faux finish, fireproof, graphic art, industrial maintenance, metallic, multi-color, roofing primers, shellac, and wood preservative coatings): MPI-approved for performance, no toxic substances, no nanotechnology.

Field Marking Paint, Spray Paint, Tree Marking Paint: Water-based, MPI-approved for performance, no nanotechnology.

Paint Strippers, Thinners and Removers, Wallpaper and Graffiti Removers: Water-based or USDA Biobased Certified, disclose maximum VOC content, no toxic substances, no nanotechnology.

Reflective Roof Coatings: ENERGY STAR-certified.

Paint Rollers, Trays, and Other Equipment (drop cloths, sanding blocks, mixing cans, etc.): Minimum 10% post-consumer or 30% total recycled content, disclose amount of post-consumer and total recycled content

When no environmental certifications or standards (e.g., VOC limits) have been established for a paint or coating category, water-based formulations may be available for some products

²⁶ Sustainable Purchasing Policy-Windsor_(The City of Windsor, 2016)

²⁷ Responsible Purchasing Network_(Responsible Purchasing Network (RPN), n.d.)

²⁸ District of Columbia Sustainable Specifications_(DC Government, U.S, n.d.)

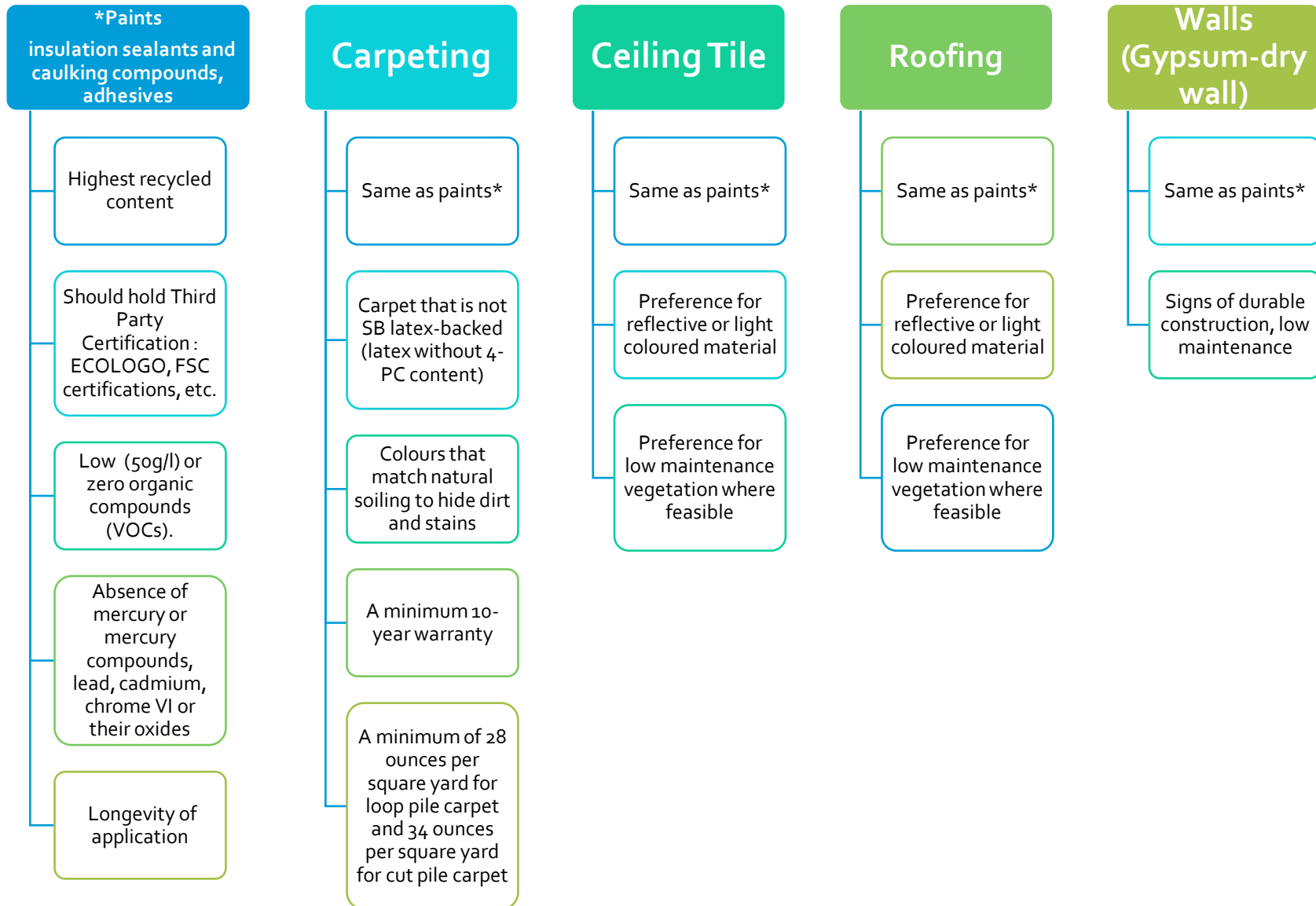
²⁹ SF Approved-San Francisco, USA_(SF Environment-Department of the City of San Francisco, U.S , n.d.)

³⁰ Comprehensive Procurement Guideline (CPG) Program-EPA_(EPA, n.d.)

³¹ Green Procurement Compilation_(General Services Administration, U.S, n.d.)

³² Green Purchasing Opportunities. Paints and Coatings- (Responsible Purchasing Network, 2013) Model Bid Sheet for paints available (page (16-17)

Maintenance



Janitorial Products

high-efficiency hand dryers can substantially reduce paper towel consumption and disposal impacts

Preference for natural products or materials like reusable towelling

Scent free products, or products scented with essential oils only

Should hold at least one Third Party Certification : ECOLOGO, Green Seal, EPA Safer Choice, etc.

Preference for products that are biodegradable, not toxic or chlorinated

Low or Zero volatile organic compound (VOC) emissions.

Preference for products with minimal packaging in refillable or recyclable containers.

Vacuum cleaners shall have high-efficiency particulate air (HEPA) filters.

Protective gloves shall not contain PVC or vinyl

Trash bin and recycling bin liners shall contain at least 10% PCRC or have a thickness of less than 0.7 ml.

Disposable Papers and Tissues

Paper towels shall contain at least 50% postconsumer recycled content (PCRC).

Bleach free products, for example brown paper towels instead of white

Environmentally friendly packaging

Should hold Third Party Certification : ECOLOGO, Green Seal, FSC certifications, etc.

Toilet paper shall contain at least 20% PCRC.

Microfiber mops, cloths, and sponges shall be purchased instead of cotton.

Industrial and Commercial cleaners

Scent free products, or products scented with essential oils only

Preference for products which are non-hazardous and low in phosphate, free of carcinogens, endocrine disruptors

Preference for water based cleaners over those of organic solvents with VOCs. Prioritize Low (less than 0.1% by weight) or zero VOC's.

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 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 (e.g. concentrates)
General purpose cleaners-pH between 3 and 11)

Cleaning products should be purchased in containers which are reusable (refillable), returnable or recyclable (where recycling programs accept the containers)

Contracts for cleaning services should specify the use of ECOLOGO, GreenSeal or GREENGUARD approved products where applicable

Prioritize the purchase of disinfectants and non-food contact sanitizers that only contain the following active ingredients: a. Hydrogen peroxide or accelerated hydrogen peroxide; b. Citric acid; c. Lactic acid; d. Caprylic acid; e. Silver

Vehicle Maintenance

Oils

- Purchasing Preferences for Environmentally Friendly Vehicle Maintenance Products (e.g., re-refined oils, recycled coolants, retread tires, and equipment that eliminates lead, mercury and other persistent bio-accumulative toxic chemicals)
- Preference for products bearing the ECOLOGO.
- Assurance of product meeting Society of Automotive Engineers (SAE) , American Petroleum Industry (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

- Preference for fuels that carry the ECOLOGO.
- Preference for blended fuels such as ethanol blended gasoline.
- Preference for ethanol derived from biomass (material of plant origin, including agricultural waste wood and animal manure).

Tires²⁹

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

Office Furniture and Workstation Panel Systems

- Re-use of existing furniture where possible and refurbishment if desire.
- Choose a company that demonstrates environmental responsibility in its manufacturing processes
- Request for re-usable or returnable packaging and shipping materials
- Avoid volatile organic compounds and PVC materials when possible
- 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

- 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

Electronics

- Incorporate Lifecycle cost into electronic purchasing decisions
- Require or give preference to models that are not packaged in polystyrene or other difficult-to-recycle packaging
- Require or give preference to vendors that offer electronic equipment takeback services
- Require products to be shipped with energy management systems (sleep/standby) modes enabled;
- Require asset tracking and reporting by all asset disposition and recycling service vendors to ensure management through certified recyclers and confirmation of appropriate final disposition of all discarded electronics.
- Energy star, EPEAT

Photocopiers and Fax Machines

- Identify opportunities to consolidate printers into a networked solution
- Choose imaging equipment (particularly MFDs) that can easily scan documents to email or document storage.
- Preference for units that carry the ECOLOGO, Energy Star, EnerGuide or GREENGUARD certifications, EPEAT
- Automatic-off feature included:
- If 50-100 copies/min then:
 - ≤ 180 watts in sleep mode; ≤ 90 minutes default sleep; ≤ 52 decibels in standby; ≤ 72 decibels in operation
- If more than 100 copies /min then:
 - ≤ 200 watts in sleep mode; ≤ 120 minutes default sleep ≤ 52 decibels in standby; ≤ 72 decibels in operation
- Preference for machines that use standard paper
- Preference for photocopiers that make two sided copies
- Preference for multifunction units that reduce the need for additional machines to perform office tasks
- Minimum 50+ pages per minute capacity
- Minimum of 2 paper trays plus sheet fed bypass tray
- Easy front and top access for clearing paper jams
- Scan both photos and text (i.e. uses OCR software)
- Machine is compatible with recycled paper containing up to 100% recycled and 30% post-consumer content

Printing Cartridges

- Preference for units that carry the ECOLOGO.
- Preference for remanufactured print cartridges
- Preference for high-yield toner and ink cartridges.
- Look for ink and toner cartridges with high levels of recycled content (at least 50% total recycled content or 30% post-consumer recycled content) in order to "close the loop."

Printing Inks

- Preference for units that carry the ECOLOGO.
- Preference for inks with lower levels of heavy metals and petroleum distillates
- Toner does not contain carcinogens, mutagens or teratogens.
- Does not contain polybrominated biphenyls (PBBs) or polybrominated diphenyl ethers (PBDEs)
- Does not emit total volatile organic compounds (VOCs) at a concentration in excess of 170 mg/m³ (25 ppm)
- Manufactured without using CFCs or HCFC's in any phase of the manufacturing process

Office Supplies

Batteries	<ul style="list-style-type: none"> •Preference for rechargeable batteries. •Preference for distribution and end-of use disposal by the same contractor
Envelopes	<ul style="list-style-type: none"> •Should hold Third Party Certification : ECOLOGO, Green Seal, FSC certifications, etc.FSC certifications. •Preference for products with stipulated levels of recycled content (at least 50%) •Preference for unbleached paper.
Printing and Writing	<ul style="list-style-type: none"> •PapersPreference for products that carry the ECOLOGO, Green Seal or FSC certifications. •Preference for products with stipulated levels of recycled content (at least 50%)
Binders	<ul style="list-style-type: none"> •3-ring, chipboard or card-board; 75% PCRC; no antimicrobial coatings •Binders: 3-ring, pressboard; 30% PCRC; no antimicrobial coatings •3-ring, plastic with chip-board or cardboard interior; 30% PCRC; no PVC; no antimicrobial coatings •3-ring, solid plastic; No PVC; no antimicrobial coatings
Clip portfolios/Clipboards/ Calendars	<ul style="list-style-type: none"> •Clip portfolios: plastic, 90% PCRC; no antimicrobial coatings •Clipboards: hardboard; 100% Recycled Content (RC); no antimicrobial coatings •Clipboards: metal; 30% PCRC; no antimicrobial coatings •Clipboards: plastic; 30% PCRC; no antimicrobial coatings •Calendars: coated paper, desk and hanging; 10% PCRC •Calendars: non-coated paper, desk and hanging; 30% PCRC

³³ City of Seattle Vendor Questionnaire: Basic and Environmental Attributes-[Municipal Collaboration for Sustainable Procurement website](#)

³⁴ Simplified Calculator Tool to Incorporate Lifecycle Cost into Electronics Acquisition Decisions http://www2.epa.gov/sites/production/files/fec/resources/tco_tool.xlsx

³⁵ ENERGY STAR Product Finder allows users to search for certified products and compare their features (Energy Star):

³⁶ [Responsible Purchasing Network-Calculators](#)

³⁷ Electronic Product Environmental Assessment Tool (EPEAT),(Green Electronic Council)

Office Supplies (Continue)³⁸

Standard copy paper	•One or more third party ecolabel. 50% recycled content, preferably sourced from post consumer waste. Target purchasing paper with 80-100% post consumer waste content. Paper shall be made from sustainable harvested wood or alternative fibres such as hemp. Chlorine free. Lowest basis weight-standard basis weight is 20 lbs for 500 sheets. If virgin fibre product, ensure FSC certified.
Correction tape	•No antimicrobial coatings
Corrugated containers	•25% PCRC
Crayons	•AP nontoxic (ASTM D 4236)
Desk trays	•25% PCRC; no antimicrobial coatings
Easel pads	•30% PCRC
Envelopes: wove	•30% PCRC
Envelopes (catalog): kraft, white, and colored (including manila); paper	•20% PCRC
Envelopes: kraft, unbleached paper	•10% PCRC
Facial tissue	•10% PCRC; 100% RC
File folders and pocket folders: paper	•10% PCRC
Markers and highlighters (permanent markers, dry erase markers)	•AP nontoxic (ASTM D 4236); no antimicrobial coatings
Napkins	•30% PCRC; 100% RC
Notebooks and notepads	•30% PCRC
Padded mailers: paper	•5% PCRC
Paper clips	•50% PCRC; no PVC or plastic coatings; no antimicrobial coatings
Pens and mechanical pencils	•Refillable; no antimicrobial coatings
Post-it notes	•30% PCRC
Report covers (pressboard)	•20% PCRC
Waste baskets	•20% PCRC; no antimicrobial coatings
Wood pencils	•Forest Stewardship Council (FSC) certified wood; no antimicrobial coatings
Plates & Cups	•No expanded polystyrene (e.g. Styrofoam). Preference to compostables, third certification.

³⁸ Environmental Paper Network Paper Calculator allows users to compare different types of paper for environmental benefits and paper savings: <http://c.environmentalpaper.org/home>

Lighting and Lighting Systems

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.

Exit signs-LEDs, consume less than 5 watts, meet OSHA standards²⁹

Construction, Renovation, Demolition

Procedures for educating workers and subcontractors in order to ensure adherence to the Regional 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.

Consider 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.

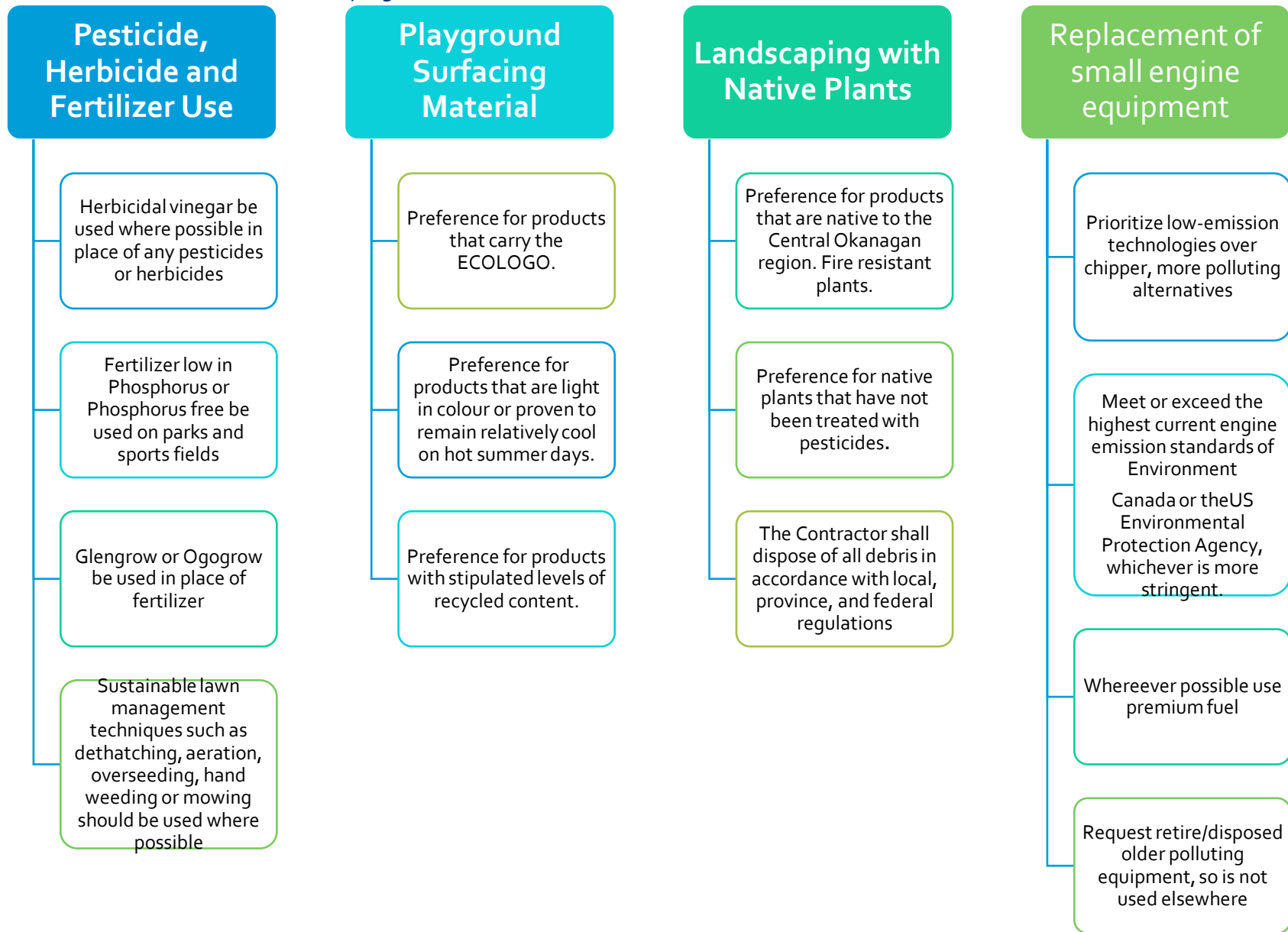
Provisions for dealing with hazardous waste, including procedures for handling, clean-up and disposal.

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.

Management plan or procedures to prevent fugitive dust and other emissions like GHG (one-minute idling policy, etc.)



³⁹ FireSmart-Homeowner's Manual BC (Ministry of Forests, Land and Natural Resource Operations)

⁴⁰ Small Engine Equipment (two-stroke Engines) [Greening Strategy](#) for City Operations and the Broader Public-Toronto



⁴¹Sustainability Certifications and Label Claims

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