



# GOVERNMENT OF JAMAICA



# ENVIRONMENTAL GUIDE TO GREEN PROCUREMENT

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- ❑ Ministry of Finance and Planning
- ❑ Natural Resources Conservation Authority<sup>1</sup>
- ❑ National Environment and Planning Agency
- ❑ Office of the Prime Minister



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<sup>1</sup> The Natural Resources Conservation Authority, Town Planning Department and the Land Development and Utilisation Commission, merged on April 1st, 2001 to become the National Environment and Planning Agency (NEPA).

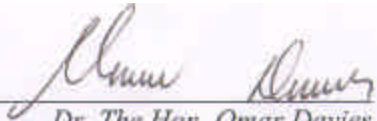
## FOREWORD - MINISTER OF FINANCE AND PLANNING

Worldwide demand for environmentally friendly goods and services continues to grow at a rapid rate, partly out of concerns with respect to:

- (1) Serious environmental problems
- (2) Preservation of life support systems
- (3) Economic viability
- (4) Quality of life considerations

Because of the volume of goods and services procured each year, the Government can effectively stimulate the supply of goods and services that are “environmentally-friendly” thereby assisting in the achievement of national sustainable development objectives. This initiative will challenge manufacturers and suppliers to implement “green” production and service delivery techniques, increasing their own competitive advantage both locally and overseas. The responsibility for promulgation of a “green” environment lies with each procuring entity. The principles of sustainable development through green procurement must become an integral part of each entity’s strategic plans and day-to-day functions.

As a result, the principles and practices presented in this Guide will facilitate a “giant leap” toward sustainable development to the benefit of the Nation as a whole.



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*Dr. The Hon. Omar Davies*  
*Minister of Finance and Planning*

## LIST OF ACRONYMS

A/C	Air Conditioning
CFC	Chlorofluorocarbon
CFL	Compact Fluorescent Lamp
CIDA	Canadian International Development Agency
CITES	Convention on International Trade in Endangered Species
CRT	Cathode Ray Tube
ENACT	Environmental Action Programme
EPP	Environmentally Preferred Product
GOJ	Government of Jamaica
HCFC	Hydro chlorofluorocarbon
JA\$	Jamaica Dollar
KWH	Kilowatt Hour
L	Litre
LCD	Liquid Crystal Display
Mg	Milligram
MSG	Monosodium Glutamate
PC	Personal Computer
PSALI	Permanent Supplementary Artificial Lighting in Interiors
RAM	Random Access Memory
UK	United Kingdom
US	United States
USA	United States of America
USEPA	United States Environmental Protection Agency
US\$	United States Dollar
VI	Six
VOC	Volatile Organic Compound
6Rs	Reduce, Reuse, Recycle, Recondition, Repair, Recover

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# INTRODUCTION

This Guide provides a systematic and gradual approach to green procurement.

## GREENING – WHAT IS IT?

*Simply put, making government operations more environmentally friendly. Government operations have a considerable impact on sustainable development. Measures, which conserve water and energy, reduce solid waste, improve vehicle management, and encourage the purchase of environmentally sensitive products and services, make good economic and environmental sense.*

## Responsible Purchasing

The Government is the largest single buyer in Jamaica. As a result, procurement accounts for a significant proportion of Government's annual expenditure, Procurement that is green can result in many economic, social and environmental benefits, including:



- ❑ increased savings resulting from reusability and/or increased durability;
- ❑ increased savings due to the employment of energy, water and fuel conserving devices;
- ❑ reduced health costs related to exposure to toxins etc.

In pursuit of procurement that is “green” or environmentally friendly, procuring entities are required to comply with environmental regulations, which relate to pollution control and prevention, waste management, recycling, and water and energy conservation. Suppliers of goods, services and construction works are also required to comply with environmental regulations and standards. This requirement should be reflected as a special condition of contract.

## Role Of Procurement Officer In Green Purchasing

The procurement function provides an important link in bringing key players together to collectively improve the way in which procuring entities purchase, use and dispose of goods and services.

Procurement officers have an important role to play in promoting sound environmental practices across ministries and agencies of Government.

They can assist suppliers of goods and services to become more environmentally aware, resulting in improved practices. They also have the responsibility to take steps to ensure that procurement practices are environmentally sound.

## Limitations in Green Purchasing

In most cases, environmentally friendly products can be initially more expensive than other market alternatives. However, when life-cycle costs or performance over time are taken into account, the procurement of environmentally friendly goods often saves money and is therefore more cost-effective.

The challenge is finding the appropriate balance or "trade off" between scarce fiscal resources in the short-term and benefits to be realized in the long-term.

### **ENVIRONMENTALLY SUPERIOR PRODUCTS MARKET**

*As the market for environmentally superior products expands, choosing environmentally superior alternatives will become more simplified. The best way to stimulate the market is to demand these products from suppliers and manufacturers.*

#### **SAMPLE PRODUCT: COMPUTERS**

*Small computers are becoming available with a high degree of energy efficiency under the influence of the Energy Star certification programme from the U.S. Regular efficiency computers consume approximately 150 watts. High performance models consume approximately 200+ watts. Under Energy Star, computers consume a maximum of 60 watts.*

*When one includes power consumption in the life cycle costing of equipment such as computers, the environmental superiority of energy efficiency can be expressed as cost savings.*

*A high-end computer with no energy consumption specifications can on average cost US\$400 in direct electrical consumption over the life of the computer. A basic computer with no energy consumption specifications can cost on average US\$325 in direct electrical consumption over the life of the computer. A computer with Energy Star certification can on average cost US\$140 in direct electrical costs over the life of the computer.*

*As a result, an Energy Star certified machine has a US\$260 price preference over a high-end machine and a corresponding US\$185 over a basic machine, ceteris paribus, performance requirements being comparable*

*Adapted from Environment Canada's Green Procurement Strategic Planning Guide - 1996*

## General Environmental Criteria For All Products

Before purchasing goods or services, the following questions should be given due consideration:

- Is there a need for the product or service?
- Is the product size/magnitude necessary?
- Have other options been considered?
- Is the product designed to be durable/long lasting?
- How durable is the product?
- Does the potential exist for recycling?
- Is the product manufactured from recycled material?
- Does the product contain any banned or restricted substances (e.g. CFC's)?
- Is the product generated from waste processing or resource recovery?

- Is the product or service energy and water efficient?
- Has the life-cycle cost (from acquisition to disposal) been considered?

# EXAMPLES OF ENVIRONMENTALLY PREFERRED PRODUCTS AND SERVICES

## ENVIRONMENTALLY FRIENDLY PRODUCTS:

*“Ones that are less harmful to the environment when compared with other competing products that serve the same purpose. These products are fit for the purpose and provide value for money; are energy and resource efficient; use a minimum of virgin materials; maximize the use of post-consumer materials; non (or reduced) polluting; durable; easily upgraded and repairable; reusable and recyclable”*

*U.K. Department of the Environment, Transport and the Regions (1998)*

## Environmentally Preferred Products and Services


These are products and services which are designed to minimize the negative effects on the environment over their full life cycle – production, use and disposal; make the most efficient use of materials, energy and water; and minimize the generation of waste and release of harmful substances into the environment.



The following table provides a list of frequently used goods and services and some of the product characteristics that procuring entities should look for when purchasing. Product categories include:

- ❑ Office Equipment and Supplies
- ❑ Energy Products
- ❑ Other Lighting Fixtures
- ❑ Alternative Sources of Electricity
- ❑ Other Office Products
- ❑ Building Materials
- ❑ Water Conserving Products
- ❑ Vehicles and Parts
- ❑ Canteen Supplies










- ❑ Meeting Facilities/Hotel Services




PRODUCT	PRODUCT CHARACTERISTICS	ADDITIONAL INFORMATION
<u>Office Equipment and Supplies</u>		In almost all cases, any initial expenditures needed to transform an office into one that is “green” are offset by the resulting long term savings
Paper Products (including envelopes, copy paper, file folders, etc.)	<ul style="list-style-type: none"> <li>❑ recycled content</li> <li>❑ un-bleached</li> <li>❑ alkaline</li> <li>❑ high percentage of post consumer content</li> <li>❑ reduced packaging – purchase in bulk</li> </ul>	<p>When purchasing recycled general purpose paper for laser printing and photocopying, it should be of a high quality with a recycled content of no less than 20%</p> <p>With respect to envelopes, copy paper and file folders, unbleached, non-deinked products should be favoured.</p>
Plastic Products	<ul style="list-style-type: none"> <li>❑ recycled content</li> </ul>	





PRODUCT	PRODUCT CHARACTERISTICS	ADDITIONAL INFORMATION
	<ul style="list-style-type: none"> <li><input type="checkbox"/> durable</li> <li><input type="checkbox"/> reduced packaging – purchase in bulk</li> </ul>	
<p>Computers</p> 	<ul style="list-style-type: none"> <li><input type="checkbox"/> energy saving (3.3volt or combination 3.3/5.0 volt) components inclusive of monitor</li> <li><input type="checkbox"/> durable</li> <li><input type="checkbox"/> able to enter and recover from low stand-by mode when not in use</li> <li><input type="checkbox"/> computer power and capabilities meet rather than exceeds needs, with ability to expand as necessary in the future – the larger the memory (RAM) the greater the energy consumption</li> <li><input type="checkbox"/> built-in fax modems</li> </ul>	<p>With respect to computers, efficiency can be gained in two ways: the equipment itself is manufactured to run using less energy or the controlling software is programmed to render the computer inactive when not in use.</p>
<p>Computer Monitors</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> can enter a low-power mode when connected to the accompanying PC (30 watts or less during periods of inactivity or pre-determined times)</li> <li><input type="checkbox"/> an LCD rather than a CRT monitor</li> <li><input type="checkbox"/> if it can suit your needs, favour a monochrome CRT over a colour CRT – the former will consume only 50-65% as much power as the latter</li> <li><input type="checkbox"/> a size monitor appropriate to your needs – larger size monitors consume more energy</li> </ul>	<p>A 14" colour display monitor will consume almost 50% more energy than a 10" colour display.</p>
<p>Toner Cartridges</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> reusable or recycled</li> <li><input type="checkbox"/> refillable where possible</li> </ul>	
<p>Photocopiers</p> 	<ul style="list-style-type: none"> <li><input type="checkbox"/> automatic double-siding capabilities</li> <li><input type="checkbox"/> energy efficient</li> <li><input type="checkbox"/> energy-saving automatic stand-by feature</li> <li><input type="checkbox"/> recycled cartridges</li> <li><input type="checkbox"/> purchase based on capacity needs of office</li> <li><input type="checkbox"/> where high quality or high volume copying is not required consider purchasing a machine that does not use heat or pressure fusing such as an ion-deposition or other non heat and pressure fusing machine</li> <li><input type="checkbox"/> where high quality and/or high volume copying is required, conventional heat and pressure machines are the viable choice</li> <li><input type="checkbox"/> do not emit ozone at a concentration in excess of 0.04 mg/m<sup>3</sup></li> <li><input type="checkbox"/> do not emit dust concentration in excess of 0.25 mg/m<sup>3</sup></li> </ul>	<p>If a heat and pressure-fusing machine is the desired choice, the most important characteristic would be to determine the correct size. The amount of energy used typically increases linearly with increased copy volume capability. Also, the price of the machines also rises with increased copy volume – therefore, choosing a machine properly sized for your needs results in substantial savings.</p> <p>Cost savings associated with the typical operation of a printer or photocopier on a per unit basis is estimated to be JA\$550 and JA\$3,340 respectively per month.<sup>2</sup></p>
<p>Printers</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> double-sided printing capabilities</li> </ul>	<p>Inkjet or dot matrix printers minimize</p>




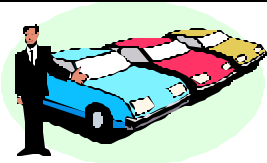
<sup>2</sup> Figure based on USEPA assumptions on typical office use. <http://epa.gov/appdstar/esoe/savcalc.html>. Energy cost assumption: 12 cents/kwh. Exchange rate assumption US\$ 1 = JA\$42


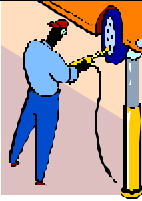


PRODUCT	PRODUCT CHARACTERISTICS	ADDITIONAL INFORMATION
	<ul style="list-style-type: none"> <li><input type="checkbox"/> energy efficient</li> <li><input type="checkbox"/> recycled cartridges</li> <li><input type="checkbox"/> fits capacity needs</li> <li><input type="checkbox"/> standby or energy saver mode (allows for a substantial reduction – at least 50% in energy use as compared to its idling rating)</li> <li><input type="checkbox"/> wattage use restrictions linked to printer speeds</li> </ul>	<p>energy consumption. They use up to 95% less and 75% less energy respectively than laser printers. Although the winner in terms of energy use, inkjet printers have a lower print quality than laser printers. Also, colour inkjet printers are more energy efficient than colour laser printers</p>
<p>Fax Machines</p> 	<ul style="list-style-type: none"> <li><input type="checkbox"/> energy efficient</li> <li><input type="checkbox"/> plain paper machines as opposed to thermal fax machines</li> </ul>	<p>Plain paper fax machines use regular, easily recyclable paper which files easily and won't fade. Plain bond paper is also cheaper than thermal, rolled fax paper, which is difficult to write on, needs photocopying, has a short life span, and can be destroyed if exposed to heat over long periods. Thermal fax paper can cost as much as 5 times more per 8.5" x 11" sheet than plain paper.</p>
<p>Permanent Markers</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> non-toxic inks (free from xylene, butyl acetate and other offensive organics)</li> </ul>	
<p>Highlighter Pens</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> non-toxic</li> </ul>	
<p>Batteries (AAA, AA, C, D, 9V)</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> approximately 99.98% mercury-free</li> </ul>	
<p><b>Energy Products</b></p> 		
<p>Street Lamps</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> high pressure sodium lamps as opposed to mercury vapour and incandescent lamps</li> </ul>	<p>High-pressure sodium lamps use less energy.</p> <p>These can also be used for floodlighting, security lighting, industrial and commercial lighting, parking lots and airport lighting</p>

PRODUCT	PRODUCT CHARACTERISTICS	ADDITIONAL INFORMATION
Lamps	<ul style="list-style-type: none"> <li>❑ energy efficient (Compact Fluorescent Lighting)</li> <li>❑ high-efficiency lighting fixtures lamps (for example T-8) and electromagnetic ballasts</li> <li>❑ a colour rendering index (CRI) of no less than 80</li> </ul> <div style="text-align: center; margin-top: 20px;">  </div>	<p>Benefits of Efficient Lighting Products:</p> <p><b>Lower Costs</b> – The newer CFLs and electronic ballasts are more energy efficient, generate less heat than older models and may last longer. Part of the cost savings will be due to reduced lower costs for maintenance and replacement as well as lower air conditioning costs for removal of lamp and ballast generated heat.</p> <p><b>Environmental Benefits</b> – New lighting fixtures do not use lead solder on the ends of the fluorescent tubes and use less environmentally harmful materials (for example, mercury).</p>
Lighting System (applicable when restructuring or designing a lighting system)	<p>Applicable when designing a system:</p> <ul style="list-style-type: none"> <li>❑ a PSALI (permanent supplementary artificial lighting in interiors) system</li> <li>❑ local task lights where applicable (e.g. desk lamps) which would allow for a reduction in overhead lighting</li> </ul> <div style="text-align: center; margin-top: 20px;">  </div>	<p>The following questions should be asked to determine the characteristics of the system implemented:</p> <p>What is the area to be illuminated to be used for?</p> <p>What is the existing lighting and what is the effectiveness of the existing lighting?</p> <p>Is the existing lighting efficient and what is the efficiency?</p> <p>What is the desired lighting impression (e.g. warm &amp; cozy or cool &amp; crisp)?</p> <p>What are the appropriate lighting system alternatives?</p> <p>What is the required illumination for the work area?</p> <p>What should be the energy savings using appropriate lighting system alternatives?</p>
<b>Other Lighting Fixtures</b>		
Ballasts	<ul style="list-style-type: none"> <li>❑ high efficiency electronic ballasts</li> <li>❑ must meet the safety requirements as evidenced by a third party certification (e.g. Underwriters' Laboratories)</li> <li>❑ contains no radioisotopes</li> </ul>	
Luminaries	<ul style="list-style-type: none"> <li>❑ high efficiency specular reflectors</li> <li>❑ high efficiency luminaries</li> </ul>	
<b>Alternative Sources of Electricity</b>		
Solar Technologies	<ul style="list-style-type: none"> <li>❑ Photovoltaic</li> <li>❑ Solar water heating</li> </ul>	
Wind Technologies	<ul style="list-style-type: none"> <li>❑ Turbines – individual or small to medium wind farms</li> </ul>	



PRODUCT	PRODUCT CHARACTERISTICS	ADDITIONAL INFORMATION
<u>Other Office Products</u>		
<p>Office Furniture</p> 	<ul style="list-style-type: none"> <li><input type="checkbox"/> Should incorporate recyclable materials where possible</li> <li><input type="checkbox"/> should accommodate effective disassembly of parts to permit reuse or recycling of materials where possible</li> <li><input type="checkbox"/> have replacement parts for parts susceptible to wear and tear</li> <li><input type="checkbox"/> be free of ozone-depleting substances</li> <li><input type="checkbox"/> use low VOC content adhesives</li> <li><input type="checkbox"/> non-organic solvent-based adhesives used in manufacturing</li> <li><input type="checkbox"/> do not contain woods listed by the Convention on International Trade in Endangered Species (CITES)</li> <li><input type="checkbox"/> durable</li> <li><input type="checkbox"/> woods used in manufacture are grown and harvested in a sustainable way, particularly mahogany, teak, rosewood, white oak etc.)</li> <li><input type="checkbox"/> finished with at least 1/28" of veneer to prevent off-gassing</li> <li><input type="checkbox"/> furniture foams do not contain CFCs or HCFCs</li> </ul>	<p>The use of office furniture has an impact on resource utilization. Toxic emission to air can also present health risks, as the product materials can off-gas toxins such as urea formaldehyde and other VOCs long after manufacture.</p> <p>VOCs are a potential health risk</p>
Pesticides & Fertilizers	<ul style="list-style-type: none"> <li><input type="checkbox"/> organic fertilizers and pesticides</li> </ul>	
Batteries	<ul style="list-style-type: none"> <li><input type="checkbox"/> zinc-air batteries which do not contain mercury exceeding 40mg/Ah</li> <li><input type="checkbox"/> 99.98% mercury free</li> </ul>	
<p>Non-Rechargeable Batteries</p> 	<ul style="list-style-type: none"> <li><input type="checkbox"/> alkaline cylindrical batteries which do not contain more than 0.02% mg of mercury by weight</li> <li><input type="checkbox"/> alkaline button or coin batteries which do not contain more than 25mg of mercury per cell</li> </ul>	
<p>Cleaning Agents</p> 	<ul style="list-style-type: none"> <li><input type="checkbox"/> products (cleaning agents, detergents and soaps) which are biodegradable and contain low or no phosphates</li> <li><input type="checkbox"/> minimize the amount of volatile organic compounds (VOCs)</li> <li><input type="checkbox"/> buy products in bulk packaging</li> <li><input type="checkbox"/> products which require only a small amount to clean well should be chosen over others which require a larger amount provided that all other performance criteria are met (e.g. concentrates)</li> <li><input type="checkbox"/> cleaning products should be purchased in containers that are reusable (refillable) returnable or</li> </ul>	<p>The examination of the cleaning operation must be considered as important as choosing the cleaning product.</p> <p>When using concentrates, proper measuring devices should be included with the product – for measuring the correct amounts and for minimizing spillages, and these devices should be made available to the persons using the product.</p>

PRODUCT	PRODUCT CHARACTERISTICS	ADDITIONAL INFORMATION
	<p>recyclable (where recycling programmes accept the containers)</p> <ul style="list-style-type: none"> <li>❑ contracts for janitorial and cleaning services should include environmental considerations</li> <li>❑ avoid aerosols – look for products in non-aerosol containers</li> </ul>	
 <p><b>Building Materials</b></p>		
<p>Water Based Paints</p> 	<ul style="list-style-type: none"> <li>❑ not formulated or manufactured with formaldehyde</li> <li>❑ not formulated or manufactured with halogenated solvents</li> <li>❑ not formulated or manufactured with mercury or mercury compounds or are tinted with pigments of lead, cadmium or chromium VI</li> <li>❑ have a flash point of 61.0 degrees centigrade or greater</li> <li>❑ not be formulated or manufactured with aromatic hydrocarbons</li> <li>❑ lead-free</li> </ul>	<p>Water based paints should be given preference over oil based paints because:</p> <p>They contain smaller amounts of the non-renewable resource - oil, and in some cases none at all</p> <p>They contain less VOC (e.g. petroleum distillates)</p> <p>They require only soap and water for clean up as opposed to solvents or turpentine.</p> <p>Paint is considered an environmental risk as it contributes to smog as well as poses a health hazard during application.</p>
<p>Solvent based paints</p> 	<ul style="list-style-type: none"> <li>❑ not formulated or manufactured with formaldehyde</li> <li>❑ not formulated or manufactured with mercury or mercury compounds or tinted with pigments of lead, cadmium, chrome VI, and their oxides</li> <li>❑ have a flash point of 37.8 degrees Celsius or higher</li> <li>❑ not contain volatile organic compounds in excess of 380g/L</li> <li>❑ not be formulated or manufactured with aromatic hydrocarbons in excess of 10% by weight</li> <li>❑ not contain any halogenated solvent</li> <li>❑ lead-free</li> </ul>	<p>Paint contains a percentage of oil-based solvents. These solvents emit levels of VOCs, which are harmful to the environment as well as to human health during application. VOCs are much lower in water based (latex) paints than in solvent based paints (alkyd) paints.</p> <p>Today, with technological advances, water based paints can now be used for applications where traditionally, only solvent based paints could have been used.</p>
<p>Carpets</p> 	<ul style="list-style-type: none"> <li>❑ favour under padding which contains recycled materials</li> <li>❑ plastic under lays</li> <li>❑ carpet fabrics should be made of natural fibres such as cotton or wool</li> </ul>	<p>Carpeting is an environmental concern as well as a human health concern. Worn carpets from large organizations are a bulky waste and can take hundreds of years to decompose at a landfill site. Adhesives used for backings, and synthetics used for surface materials can off-gas for years after installation and pose a health risk to workers.</p>

PRODUCT	PRODUCT CHARACTERISTICS	ADDITIONAL INFORMATION
Asphalt	<ul style="list-style-type: none"> <li><input type="checkbox"/> favour recycled asphalt for new roads</li> <li><input type="checkbox"/> favour asphalt with secondary materials content (e.g. glass, rubber, recycled asphalt)</li> </ul>	International standards indicate that roads that are comprised of 25% recycled and 75% virgin materials meet the specifications for good road construction
Adhesives	<ul style="list-style-type: none"> <li><input type="checkbox"/> low or no VOC content</li> </ul>	
Wood and Wood products (e.g. for office furniture)	<ul style="list-style-type: none"> <li><input type="checkbox"/> wood products that contain natural preservatives as opposed to those that are chemically treated</li> <li><input type="checkbox"/> avoid purchasing tropical hardwoods, and wood from old growth forests</li> <li><input type="checkbox"/> avoid the purchase of woods that are not harvested in a sustainable manner – that is, ensure that woods come from a managed forest.</li> </ul>	
Air Conditioning Units	<ul style="list-style-type: none"> <li><input type="checkbox"/> free of CFCs and other ozone-depleting substances</li> </ul>	
Fire Fighting Equipment	<ul style="list-style-type: none"> <li><input type="checkbox"/> without halons – halons are ozone depleting substances</li> <li><input type="checkbox"/> favour fire fighting equipment that uses carbon dioxide</li> </ul>	
<b><u>Water Conserving Products</u></b>		
Water Conserving Shower Heads	<ul style="list-style-type: none"> <li><input type="checkbox"/> maximum flow rate of 9.5 litres per minute at 5.5 kg/cm2 or 2.4 gallons per minute at 80 psi</li> <li><input type="checkbox"/> favour products accompanied by consumer education outlining usage</li> <li><input type="checkbox"/> be accompanied by a reasonable warranty</li> </ul>	
Water Conserving Toilet Devices 	<ul style="list-style-type: none"> <li><input type="checkbox"/> should not inhibit the flushing cycle and efficiency of the toilet</li> <li><input type="checkbox"/> total flush volume less than or equal to 1.6 gallons</li> <li><input type="checkbox"/> can reduce water consumption by at least 20%</li> <li><input type="checkbox"/> favour products accompanied by consumer education outlining usage</li> <li><input type="checkbox"/> be accompanied by a reasonable warranty</li> </ul>	
Trickle Valves	<ul style="list-style-type: none"> <li><input type="checkbox"/> use 6 litres or less of water per flushing cycle</li> <li><input type="checkbox"/> favour products accompanied by consumer education outlining usage</li> <li><input type="checkbox"/> be accompanied by a reasonable warranty</li> </ul>	
 <b><u>Vehicles &amp; Parts</u></b>		

PRODUCT	PRODUCT CHARACTERISTICS	ADDITIONAL INFORMATION
Cars and Trucks etc.	<ul style="list-style-type: none"> <li><input type="checkbox"/> without CFC air conditioners [Montreal Protocol<sup>3</sup>]</li> <li><input type="checkbox"/> avoid purchasing pre 1995 vehicles which carry A/C Units that contain CFCs</li> <li><input type="checkbox"/> vehicles using unleaded fuel only and when needed, fitted with a catalytic converter to accommodate unleaded fuel</li> <li><input type="checkbox"/> vehicles are appropriately sized for function</li> </ul>	
Tyres	<ul style="list-style-type: none"> <li><input type="checkbox"/> purchase optimal size for vehicle (both for fuel efficiency and safety)</li> </ul>	
<b><u>Canteen Supplies</u></b>		
Plates and Cutlery	<ul style="list-style-type: none"> <li><input type="checkbox"/> durable</li> </ul>	
Appliances	<ul style="list-style-type: none"> <li><input type="checkbox"/> energy efficient (e.g. fridges, dishwashers etc)</li> <li><input type="checkbox"/> free of CFCs and other ozone depleting substances</li> </ul>	
Condiments	<ul style="list-style-type: none"> <li><input type="checkbox"/> bulk purchasing of coffee, milk, sugar etc</li> </ul>	
Food and Beverages 	<ul style="list-style-type: none"> <li><input type="checkbox"/> free of chemical additives such as MSG and sulphates</li> <li><input type="checkbox"/> foodstuff not obtained through environmentally unsound practices (e.g. purchasing fish that are undersized or lobster and conch out of season)</li> </ul>	
Dishwashing Detergent	<ul style="list-style-type: none"> <li><input type="checkbox"/> favour detergents formulated or manufactured with a total phosphorus and nitrogen-based builders of less than 7.8 grams per dose</li> <li><input type="checkbox"/> accompanied by detailed instructions for proper use to maximize product performance and minimize waste</li> </ul>	
<b><u>Meeting Facilities/Hotel Services</u></b>		
General	<ul style="list-style-type: none"> <li><input type="checkbox"/> have an environmental policy and/or</li> </ul>	

<sup>3</sup> Montreal Protocol is an International Agreement for the phase-out of man-made substances such as Chlorofluorocarbons that deplete the stratospheric ozone layer, which protects life on earth from harmful ultraviolet radiation.

PRODUCT	PRODUCT CHARACTERISTICS	ADDITIONAL INFORMATION
	environmental action plan	
Waste	<input type="checkbox"/> a waste reduction programme is in place	
Energy	<input type="checkbox"/> have an energy management policy and programme <input type="checkbox"/> lighting levels are set to the minimum levels necessary for comfort, safety and accessibility – lights are turned off in rooms that are not in use <input type="checkbox"/> programme in place or underway to reduce lighting energy (use of CFL, electromagnetic ballasts etc.) <input type="checkbox"/> showers equipped with low flow shower heads <input type="checkbox"/> alternative energy sources used – e.g. solar water heaters	
Water	<input type="checkbox"/> water conservation policy and programme <input type="checkbox"/> signs are up to encourage staff and guests to reduce water and to report dripping taps etc <input type="checkbox"/> measures are in place to minimize water use during landscaping <input type="checkbox"/> facilities are equipped with water saving devices (e.g. low flush toilets etc.)	
Hazardous Materials	<input type="checkbox"/> minimization of use of harmful cleaning products and other products (replace with low phosphate products) <input type="checkbox"/> aerosol products are not used <input type="checkbox"/> the use of pesticides and herbicides are minimized or avoided in landscaping <input type="checkbox"/> priority given to CFC-free systems in the purchase of new refrigeration equipment	
Guest Rooms and Amenities	<input type="checkbox"/> information is provided in guest rooms to inform guests of measures to reduce water, energy etc <input type="checkbox"/> guests are given the option of no second-day towel change	
Swimming Pools	<input type="checkbox"/> ozone system or non-chlorine system used in pool <input type="checkbox"/> measures in place to reduce swimming pool energy consumption (efficient pumps etc.)	

# ENVIRONMENTAL EVALUATION OF PRODUCTS AND SERVICES

Two methods for evaluating products for environmental superiority will be elaborated on. These are:

- ❑ Endorsed Product
- ❑ Green Procurement Checklist/Environmental Checklist

## Endorsed Product

Some products on the market have already been listed as environmentally friendly by an environmental endorsement programme (for example, Energy Star). These products, for example some computers, have been through a range of tests to evaluate the degree to which the products' manufacture, use and disposal affects the environment.

## Green Procurement Checklist

Each ministry or agency of Government has unique product needs. Sometimes items may be needed that have not gone through any evaluation process. In these cases, the procuring entity should use the following checklist which is provided as a general guide.

### ENDORSEMENT PROGRAMMES

*In addition to locally endorsed equipment and supplies by the Jamaica Bureau of Standards there are other internationally recognized endorsement programmes, such as:*

- ❑ *Environmental Choice Program (EcoLogo)*
- ❑ *Green Seal (U.S.A)*
- ❑ *Energy Star Computers Program (USA)*
- ❑ *Power Smart Inc. Product Endorsement Programme (International)*

## GREEN PROCUREMENT CHECKLIST<sup>4</sup>

This checklist is provided as a tool to assist in the procurement decision-making process. The relative importance of each question will vary from one product category to another. However, preference should be given to options that satisfy the largest number of criteria.

*It is not necessary to have a “YES” response to all the questions posed.*

### Planning

In the planning phase, the principles of the 6R's should be taken into consideration.

Is this purchase inescapable?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Has ministry/agency surplus been checked to ensure that no comparable product is already in stock and available for use?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is it more cost-effective to reuse and repair existing materials?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Has the feasibility of short-term rental or product sharing among ministries/agencies been investigated as alternatives?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the quantity requested appropriate?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Will the product be used to the end of its useful life?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

### Acquisition

When purchasing, product performance on an environmental level should also be taken into consideration.

Is the product durable and does it have a warranty which effectively demonstrates the supplier's confidence in its durability?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the product have a long service life and/or is it economical to repair?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product less polluting during its use than a competing product (e.g. is it non-toxic, biodegradable)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product free from banned substances (those products specified under the Montreal protocol for example)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product designed to minimize waste?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product certified?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product reusable or does it contain reusable parts? (for example, rechargeable batteries)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the product contain post-consumer recycled materials?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can the product be recycled within established and available recycling programmes in Jamaica (e.g. through Recycle for Life or Recycle Jamaica etc.)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product energy efficient and does it make efficient use of other resources?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

<sup>4</sup> Adapted from Environment Canada's Green Procurement Strategic Planning Guide - 1996

## Packaging

Has the supplier or manufacturer made efforts to reduce the amount of packaging necessary to properly ship, store and use the product?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the product arrive from the supplier packaged in material(s) that are reused? (Example reusable skids)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the product arrive from the supplier packaged in material(s) that can be recycled within an established and available collection and recycling programme?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Will the supplier take back the packaging for reuse or recycling?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do the packaging material(s) have post-consumer recycled content?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

## Operation, Utilization and Maintenance

When we ensure that products are properly maintained and used, we extend the service life of the product. When possible, material should be repaired, refinished and reused.

Is the product accompanied by clear and comprehensive operating instructions? (This will help ensure that it is used efficiently)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product easy to maintain in good operating condition?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product economical to repair?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Allowing for possible future needs and technology advancement, can the product be easily enhanced or upgraded?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

## Disposal

In considering the disposal of materials and products, alternatives such as reusing, recycling and recovering should be contemplated first. The objective however, should be to minimize waste generation as much as possible.

Can the product or its parts be reused or reallocated?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can the product or its parts be resold?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can the product or its parts be returned to the supplier for reuse, recycling or recovery?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can the product or its parts be contributed to a waste exchange programme?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the waste management company we utilize disposing waste in an appropriate manner?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

## Electrical Products

Does the product have a standby or power save feature that reduces the equipment's power usage during inactive periods?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the product allow for more environmentally responsible options (e.g. double sided copying/printing)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If applicable, does the product's warranty allow for the use of products with recycled content?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If the product requires dry cell batteries, can rechargeable batteries be used?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does an environmental endorsement programme certify the product?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

## Janitorial Products

Where the product is to be used, or disposed of, in a sewerage system (including a septic system), is the product biodegradable?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product low phosphate or phosphate free?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product available in concentrate form?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, is the concentrate free from the need for special handling or dispensing equipment?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the product non-flammable?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

## Paper Products

Will the paper be recyclable at the point at which it will become waste, e.g. in the office?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Has the paper supplier investigated the product's compatibility with printing, photocopying and fax machines and certified this compatibility?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Have you asked the supplier/servicer of your printing, photocopying and fax equipment about warranty coverage when recycled content papers are used?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

# GLOSSARY OF TERMS

Aerosols	Cans that store contents under pressure and sprays a light mist. A propellant is used to create the pressure and occupies one half to two-thirds of the space in the can. In the past, most aerosols used CFCs as propellants; Today, very few aerosols contain CFCs, except for specialized applications such as medical usage.
Alkaline paper	Paper produced without the use of acids for bleaching. Alkaline paper has a longer life span than acidic paper. Acidic paper tends to become yellow and brittle over time. Alkaline paper is therefore the preferred choice for documents that must be archived.
Biodegradable	Matter that has the capability of being broken down by bacteria into basic elements and compounds – for example, water and organic matter.
CFCs (chlorofluorocarbons)	Chlorine-based compounds used as aerosol propellants, coolants in refrigerators and air conditioning, solvents in fire extinguishers. It is also used in the production of insulating-foam packaging. CFCs contribute to ozone depletion and climate change.
Durable	A product is considered durable if it lasts a long time and provides the same consistent quality of service over time.
Endorsed products	Products that are already endorsed by recognized authorities (Jamaica Bureau of Standards) or are compliant with established environmental standards such as Energy Star.
Environmental (green) procurement	The purchasing of environmentally preferred products and services.
Environmentally preferred products and services	Products and services that are least damaging to the environment. Such products and services use materials, energy and water efficiently and minimize waste and pollution. Environmentally preferred products are sometimes also referred to as "environmentally appropriate", "environmentally sensitive", "environmentally sound", "environmentally superior" and "environmentally friendly".
Green Procurement Checklist	Consists of a fairly comprehensive list of environmental considerations for procurement.

Hazardous products	Present a threat to human health and the environment if not handled properly. Examples are products classified as flammable, compressed gas, corrosive, poisonous and infectious.
Halons	Halons are fully halogenated chemicals with relatively long lifetimes in the stratosphere. They consist of various gaseous compounds of carbon, bromine and other halogens and are used to extinguish fires. They have very high ozone depleting potential.
Ozone-friendly products	The term used for products that do not contain ozone-destroying CFCs or halons.
Pollution	Undesirable changes in the physical, chemical or biological characteristics of air, water or land that can negatively affect living organisms.
Procurement officers	Persons who administer transactions between requisitioners and suppliers on behalf of the Government.
Recycling	The process of collecting waste materials and manufacturing them into new products.
Recycled content	The percentage of materials used in the manufacture of a product that was obtained from waste materials
Recycled paper	Paper containing recycled fibers.
Reuse	Repeated use of products and waste materials in their original form.
Solid waste	Discarded non-hazardous solid materials, including industrial, commercial and residential wastes.
Solid waste management	The management and regulation of the entire process of generating, storing, collecting, transporting, processing, recovering and disposing of solid waste.
Sustainable development	Is an on-going decision-making process and action, which integrates the need for environmental protection, social development and economic opportunity, to meet the needs of present and future generations

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