“GREEN” PROCUREMENT IN SELECTED ENVIRONMENTAL POLICY FRAMEWORKS

July 2012

Prepared by:
Julie G. Terrell, Consultant
Background

This background paper encompasses a desk review of a selected sample of countries to examine the lay-of-the-land of how “green” procurement is addressed in a variety of developing and developed countries. The review provides initial information on what these countries have tried. It does not recommend any specific policy prescription.

"Green” procurement refers to the purchasing of products that provide environmental and related socioeconomic benefits. The initial lessons that can be drawn from this preliminary document seems to be that countries that have advanced on adopting green procurement policies and practices have done so in the context of a solid legal basis requiring such procurements by public organizations and a strong scientific-institutional capacity in order to determine what is considered "green". In addition, public organizations have used the concept of whole life as a way of capturing the costs and benefits of green procurement. None, however, seems to be rigorous in tracking the overall fiscal costs and benefits of adopting green procurement. Nor is there any accompanying analysis of the impacts on the competitiveness of industry/suppliers.

This work done so far on "green" procurement only scratches the surface as the area of sustainable procurement: indeed, the notion of sustainable public procurement is rapidly evolving with more and more interest on the part of governments around the world and more concrete experiences emerging. Thus, while we have made a start, work on this topic will have to continue as the Bank’s review proceeds. Part of this entails incorporating new experiences as they become available, reflecting the Bank's involvement with borrower countries based on an ongoing staff survey and internal dialogue, and working with partners, such as the OECD and others, on additional data collection and assessments. As a result, this background paper will be updated as new information is available.

Organization

This report provides a “lay of the land” of environmental policies and policy frameworks for the following countries: United States, Canada, the European Union (with a focus on green procurement practices in Finland, Norway, and Sweden), Australia, Chile, Brazil, and Mexico. The objective of the report is to provide for each country the overall environmental policy and related institutional framework, including general principles, practices, and standards applied.

The report is organized into the following sections for each country:
1. Policy Framework
This section discusses the environmental policies and structures at various levels of government, focusing on the agencies and institutions that develop, implement, and monitor or enforce environmental, or “green” procurement.

2. Programs, Sectors, and Products
This section provides key programs designed to meet the requirements of environment protection agencies. Sectors and products are also depicted as defined by the government agency.

Governments base their policies on a series of principles, generate standards, and propose certain practices when procuring green. This section covers their key aspects.

4. Metrics, Indicators, and Other Data
This section captures statistical information to inform the reader about some of the metrics, indicators, and other data related to environmental practices, including energy efficiency, water and waste management, and climate change.

5. Best Practices/Lessons Learned
Where applicable, best practices or lessons learned are included to illustrate results of a practice at specific levels of government when procuring green solutions.

Annexes:

Annexes 1 and 2 provide specific information referred to in the main paper. Annex 3 is a stand-alone annex that summarizes the findings of an OECD study on integration of environmental factors in public procurement.

Annex 1 - ISO 4001 Integration into Environment Management Systems
Annex 2 – United States Case Study
Annex 3 – Main Findings from the OECD Journal on Budgeting on a Study on International Procurement Regimes and the Scope for the Inclusion of Environmental Factors in Public Procurement
GREEN PROCUREMENT IN SELECTED ENVIRONMENTAL POLICY FRAMEWORKS

UNITED STATES

1.1 Policy Framework

Definition. In the United States, “green” procurement is defined as the purchase of environmentally preferable products and services in accordance with one or more of the established Federal “green” procurement preference programs. To prevent waste and pollution, these programs require executive agencies to consider environmental impacts, along with price, performance, and other traditional factors, when making purchasing decisions. Environmentally preferable products and services are defined as those that "have a lesser or reduced effect on human health and the environment when compared to other products and services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance or disposal of the product or service.” Environmentally preferable products may include less or non-toxic products, products manufactured with recycled content, bio-based products, products and services that reduce waste, energy efficient products and products that reduce water consumption.

Framework. Established in 1970, the Environmental Protection Agency (EPA) is the federal agency that develops and enforces environmental regulations in the United States. A centralized agency headquartered in Washington, DC with 10 regional offices, the EPA stimulates market demand for green products and services by buying green through the Environmentally Preferable Purchasing (EPP) program.

All federal procurement officials are required by the Federal Acquisitions Regulation (FAR) (which codifies uniform policies for acquisition of supplies and services by executive agencies) to assess and give preference to those products and services that are environmentally preferable. FAR details the affirmative procurement program requirements and addresses the required affirmative procurement contract clauses.

The Office of Acquisition Management (OAM) is responsible for all contracting and related activities to fulfill the EPA’s mission to protect and safeguard the environment through its business relationships. As the business organization of the Agency, OAM manages and supports the Procurement and Contracts Management Program's Policies, Procedures, Operations, Contract Planning, Awards, Administration, and Closeouts.

Executive Order (EO) 13514 and 13423 require federal agencies to purchase environmentally preferable products and services:

- EO 13514: Federal Leadership in Environmental, Energy, and Economic Performance: sets sustainability goals for Federal agencies and focuses on making improvements in
their environmental, energy and economic performance. Requires Federal agencies to set a 2020 greenhouse gas emissions reduction target; increase energy efficiency; reduce fleet petroleum consumption; conserve water; reduce waste; support sustainable communities; and leverage Federal purchasing power to promote environmentally-responsible products and technologies;

- EO 13423: Strengthening Federal Environmental, Energy, and Transportation Management: sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, renewable energy, sustainable buildings, electronics stewardship, fleets, and water conservation. The order also requires more widespread use of Environmental Management Systems (EMS) as the framework in which to manage and continually improve these sustainable practices.

1.2 Programs, Sectors, and Products

The following key greening programs have been implemented in the United States:

- **EPA’s Comprehensive Procurement Guidelines (CPG) Program** – a source of information on buying products manufactured with recycled content. The Resource Conservation and Recovery Act (RCRA) requires EPA to consider a variety of criteria to determine which items it will designate in the CPG: availability, the potential impact, economic and technological feasibility of producing the item, and other uses of the recovered material. EPA also considers comments from end users, manufacturers and other interested parties. In its Recycled Material Advisory Notices (RMANs), EPA provides a recommended range of recycled content for more than 50 products in eight categories;

- **Environmentally Preferable Purchasing (EPP) program** – helps the federal government "buy green," and in doing so, uses the federal government's enormous buying power to stimulate market demand for green products and services. Geared first to help federal purchasers, this site can help green vendors, businesses large and small -- and consumers;

- **ENERGY STAR® Program** – Information on energy efficient products is available through the ENERGY STAR® program, a voluntary partnership between EPA and the Department of Energy (DOE). More than 35 product categories qualify for the ENERGY STAR® label, indicating that they use less energy and reduce both energy costs and environmental impacts;

- **"Buy-Recycled" Program** – specifically designed to establish a statewide preference program, to develop a promotion program, certification procedures, and to establish procedures for monitoring effectiveness;

- **Affirmative Procurement Program** – EPA-designated items that can be made with recovered materials are identified in the list this list. EPA's Recovered Materials Advisory Notice (RMAN) provides recovered material content ranges for designated items;

- **WaterSense Program** – voluntary EPA program that encourages efficient use of the nation’s water resources. WaterSense has developed a system for labeling water-using products and services that meet EPA water efficiency standards. WaterSense-labeled products typically use 20% less water than conventional products;
• Federal Energy Management Program (FEMP) – The FEMP program from the Department of Energy works with federal agencies to increase energy efficiency, water conservation, and use of renewable energy sources in federal government operations. Local government purchasers can obtain guidance from FEMP’s many information resources, including its Product Energy Efficiency Recommendations publication, which contains energy efficiency fact sheets that can be used when reviewing energy-efficient products and developing preferred product lists.

The following sectors apply to green purchasing:

<table>
<thead>
<tr>
<th>Energy</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industries: construction, machinery, chemicals</td>
<td>Transport</td>
</tr>
<tr>
<td>Solid and hazardous waste</td>
<td>Agriculture</td>
</tr>
<tr>
<td>Health care</td>
<td>Mining</td>
</tr>
<tr>
<td>Tourism</td>
<td>Wood and furniture sector</td>
</tr>
</tbody>
</table>

The following products apply to green purchasing:

<table>
<thead>
<tr>
<th>Recycled content products</th>
<th>Energy Star and energy-efficient products; energy efficient stand-by power devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative fuel vehicles/alternative fuels</td>
<td>Bio-based products</td>
</tr>
<tr>
<td>Non-ozone depleting substances</td>
<td>EPA Priority chemicals</td>
</tr>
<tr>
<td>Waste reduction plans</td>
<td>Construction materials</td>
</tr>
<tr>
<td>Cleaning products</td>
<td>Non-toxic non-emulsifying floor cleaner products</td>
</tr>
<tr>
<td>Replacement of organic solvent baths with aqueous parts washers</td>
<td>Replacement of organic solvent baths with aqueous parts washers</td>
</tr>
</tbody>
</table>

1.3 Principles, Practices, Standards

In fiscal year 2002, Federal agencies spent more than $250 billion for goods and services to support the activities of approximately 1.7 million employees in 60 agencies. In addition, Federal agencies spent another $15 billion on small purchases via purchase cards. By including environmental considerations in Federal purchasing decisions (part of the responsible purchasing approach, as defined below), government procurement and contracting processes can be used to purchase products and services that reduce an organization’s environmental impacts.
**Responsible Purchasing.** Responsible purchasing includes considerations for the environment, social aspects, and price, performance, and availability, as illustrated below:

![Responsible Purchasing Triangle](image)

Environmental attributes can be specified through product-specific, process-specific, and manufacturer-specific attributes as well as consideration for the life cycle perspective, as indicated below:

**Identification of Environmental Attributes**

<table>
<thead>
<tr>
<th><strong>Product-Specific Attributes</strong></th>
<th><strong>Process-Specific Attributes</strong></th>
<th><strong>Manufacturing-Specific Attributes</strong></th>
<th><strong>Lifecycle Perspective</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled content</td>
<td>Transportation</td>
<td>Lack of environmental violations</td>
<td>Manufacture</td>
</tr>
<tr>
<td>Energy and water efficiency</td>
<td>Use of renewable energy</td>
<td>Credible Environmental Management System</td>
<td>Use</td>
</tr>
<tr>
<td>Bio-based</td>
<td>Greenhouse gas emissions</td>
<td>Public environmental/social reporting procedures</td>
<td>Distribution</td>
</tr>
<tr>
<td>Low toxicity</td>
<td>Closed-loop manufacturing facility</td>
<td>Mechanism for engaging stakeholders</td>
<td>Maintenance</td>
</tr>
<tr>
<td>Durability</td>
<td></td>
<td>Absence of ongoing protests</td>
<td>Depreciation</td>
</tr>
<tr>
<td>Low VOC</td>
<td></td>
<td></td>
<td>Upgrade</td>
</tr>
<tr>
<td>Renewable resources</td>
<td></td>
<td></td>
<td>Disposal</td>
</tr>
<tr>
<td>Packaging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upgradeable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource conservation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBT-free</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Responsible purchasing strategies include a series of factors that can help governments achieve its strategic objectives. These include written policies, cooperative efforts, price references, lifecycle costing, best value purchasing, green teams, vendor outreach, approved product lists, eco-labels, incentive programs, employee training, plagiarizing, piloting of projects, and measuring results.

Implementing Green Policies for Energy Efficiency. As part of its effort to implement energy-efficient product procurement policies at the local government level, the EPA has drafted guidelines that identify mechanisms for establishing effective policies, tools, and specifications:

- A number of local governments have established energy-efficient product procurement policies through local government resolutions. This mechanism can be particularly effective in making energy-efficient product procurement policies binding and permanent. In addition, a resolution can increase public awareness by providing a clear articulation of a local government’s specific energy efficiency goals;
- In some local governments, the mayor or county executive has been the source of an energy-efficient product procurement policy;
- Some local governments have incorporated energy-efficient product procurement goals into planning documents. Other local governments have produced plans for implementing energy-efficient product procurement activities. In some instances, local governments have included energy-efficient product procurement goals in climate action plans;
- Strategies used by local governments to modify procurement policies include the following:
  - *Allow price flexibility.* Some local governments, while encouraging purchasers to identify least first-cost opportunities, allow a certain degree of flexibility to pursue energy-efficient options;
  - *Establish price preferences.* Local Ensuring Clarity of Energy-Efficient governments have used price preferences to increase the price they are willing to pay for energy-efficient products. A price preference is a specified percentage (typically 5% to 15%) that a local government will allow the price of an energy-efficient product to exceed the cost of a conventional product and still give equal consideration. In this way, price preferences can place energy-efficient products with cost premiums on level ground with conventional products and thus overcome least-first cost requirements;
  - *Require life-cycle cost accounting.* Local governments can use life-cycle cost accounting to make energy-efficient products competitive with conventional products when making purchasing decisions;
- Ensure clarity of energy-efficient product procurement policy language. While senior officials may be responsible for issuing energy-efficient product procurement policies, lower-level employees are often responsible for ensuring that these policies are implemented effectively and continue to produce results. Ambiguous definitions of “energy efficiency” or “environmentally preferable” products can result in inconsistency, especially in governments where procurement activities are decentralized. It is important to ensure that policy language is clear and consistent so that it will be effective;

- Focusing on life-cycle costs. Some local governments have policies that require purchasers to use a least first-cost approach when selecting products. Least-cost requirements can present an implementation varies for energy-efficient product procurement, since energy-efficient products can have slightly higher initial costs. When initial costs of energy-efficient products are higher than the costs of conventional products, local governments have found it is important to consider life-cycle costs savings of the energy-efficient products. Over the product’s lifetime, an energy-efficient product almost always has lower energy and maintenance demands. These benefits typically offset any initial cost premium.

- The table below shows how agencies should consider the following when implementing energy-efficiency product procurement programs:
Integration of Green Purchasing into Environmental Management Systems. To reduce the Federal government's environmental footprint and improve the implementation of green purchasing and other greening the government initiatives such as EPP, the President mandated that all appropriate Federal facilities implement Environmental Management Systems (EMS) by December 2005. As a result, Federal facilities across the country developed and implemented EMS to improve their environmental performance. There are 17 elements of an EMS that conform to the International Organization for Standardization (ISO) 14001 (1996) Standard, because Federal agencies indicated that they were either using the elements of ISO 14001 as the structure for their EMS or were familiar with these elements. While ISO requirements are not mandatory for all EMS developers to follow, those who have chosen to use the ISO framework, as the majority of the 2500 Federal facilities creating EMSs have elected to do, will want to be aware of these requirements. The table in Annex 1 includes the 17 EMS elements and their related green purchasing components.
EPP Program Principles. Under the EPP program, EPA has developed five guiding principles to provide broad guidance for applying environmentally preferable purchasing in the Federal government setting. Applicability of these principles in specific acquisitions will vary depending on a variety of factors, such as: the type and complexity of the product or service being purchased; whether or not the product or service is commercially available; the type of procurement method used (e.g., negotiated contract, sealed bid, etc.); the time frame for the requirement; and the dollar amount of the requirement.

- **Principle 1: Environment + Price + Performance = Environmentally Preferable Purchasing.** Environmental considerations should become part of normal purchasing practice, consistent with such traditional factors as product safety, price, performance, and availability.

- **Principle 2: Pollution Prevention.** Consideration of environmental preferability should begin early in the acquisition process and be rooted in the ethic of pollution prevention, which strives to eliminate or reduce, up-front, potential risks to human health and the environment.

- **Principle 3: Life Cycle Perspective/Multiple Attributes.** A product or service's environmental preferability is a function of multiple attributes from a life cycle perspective.

- **Principle 4: Comparison of Environmental Impacts.** Determining environmental preferability might involve comparing environmental impacts. In comparing environmental impacts, Federal agencies should consider: the reversibility and geographic scale of the environmental impacts, the degree of difference among competing products or services, and the overriding importance of protecting human health.

- **Principle 5: Environmental Performance Information.** Comprehensive, accurate, and meaningful information about the environmental performance of products or services is necessary in order to determine environmental preferability.

Best Value. The “best value” principle may apply to green procurement. Environmental considerations that result in payment of a price premium for goods or services may be reasonably related to an agency's definition of its "minimum needs" and, therefore, may be permissible. This is not much different than paying a higher price for better performance or quality. Federal personnel may consider paying a reasonable premium for environmentally preferable products on a number of grounds. For example, a reasonable price premium may be justified because the environmental attributes of a product or service provide offsetting reductions in operating and disposal costs.

1.4 Metrics, Indicators, and Other Data

The following statistical information was compiled to illustrate some key environmental data with regard to energy usage, cost, and green savings:
Total green purchasing estimates by the US government is 20% of GDP;
US energy consumption is 25% from Industry, 27% from transportation, and 48% from buildings;
When recycled materials are used to produce paper, aluminum, and glass, energy consumption can be reduced by up to 95%, water consumption by up to 50%, air pollution by 95%, and water pollution by up to 97%;
Purchasing energy-efficient products reduce government facility energy costs by approximately 5% to 10% (LBNL, 2002);
Relative to conventional products, ENERGY STAR-qualified products typically use 25% to 50% less energy and can offer consumer energy cost savings of as much as 90% (U.S. EPA, 2006b; U.S. EPA, 2008);
Replacing conventional products with energy-efficient ones can lower a local government’s GHG and air pollution emissions. Replacing 100 conventional light bulbs with compact fluorescent light bulbs (CFLs), for example, can reduce nearly 70,000 pounds of CO2 emissions over a nine-year product lifetime (U.S. EPA and U.S. DOE, 2008) (see Tables below);
State and local governments spend a combined $50 billion to $70 billion to purchase energy-using products each year. According to the Department of Energy (DOE), approximately 60% of the cost of efficiency investments goes to labor costs. In addition, half of all energy-efficient equipment is purchased from local suppliers (U.S. DOE, 2004). For every dollar spent in local economies, energy efficiency generates about $0.55 to $0.85 more economic activity than the payment of energy bills;
Energy-efficient light commercial HVAC equipment can use up to 10% less energy than conventional equipment, translating into savings of approximately $3 to $4 per square foot over the lifetime of the equipment (U.S. EPA, 2002);

### Estimated Energy Cost and CO2 Savings from a Sample of Energy Star Products

<table>
<thead>
<tr>
<th>Action</th>
<th>Annual Energy Cost Savings</th>
<th>Annual CO2 Savings (Tons)</th>
<th>Lifetime (years)</th>
<th>Life-Cycle Energy Cost Savings</th>
<th>Life-Cycle CO2 Savings (Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replace 5,000 computers and monitors with ENERGY STAR-qualified products and activate power management</td>
<td>$400,000</td>
<td>2,200</td>
<td>4</td>
<td>$1,450,000</td>
<td>13,600</td>
</tr>
<tr>
<td>Replace 50 conventional vending machines with ENERGY STAR-qualified products</td>
<td>$7,500</td>
<td>64</td>
<td>14</td>
<td>$79,200</td>
<td>890</td>
</tr>
<tr>
<td>Replace 500 incandescent exit signs with ENERGY STAR-qualified LED exit signs</td>
<td>$12,300 in energy costs plus $11,400 in maintenance costs</td>
<td>105</td>
<td>10</td>
<td>$99,900 in energy costs plus $92,200 in maintenance costs</td>
<td>1,046</td>
</tr>
<tr>
<td>Replace 10 conventional commercial dishwashers with ENERGY STAR-qualified products</td>
<td>$11,500</td>
<td>400</td>
<td>10</td>
<td>$128,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Replace 100 conventional water coolers with ENERGY STAR-qualified coolers</td>
<td>$3,300</td>
<td>28</td>
<td>10</td>
<td>$25,500</td>
<td>280</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Category</th>
<th>Effective Date of Current Specification</th>
<th>Percent Energy Savings Compared to Conventional Product</th>
<th>Payback Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multifunction Devices</td>
<td>April 2007</td>
<td>20%</td>
<td>0 years (typically no retail cost premium)</td>
</tr>
<tr>
<td>Printers, fax machines, and mailing machines</td>
<td>April 2007</td>
<td>15%</td>
<td>0 years (typically no retail cost premium)</td>
</tr>
<tr>
<td>Scanners</td>
<td>April 2007</td>
<td>50%</td>
<td>0 years (typically no retail cost premium)</td>
</tr>
<tr>
<td>Heating and Cooling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All source heat pumps</td>
<td>April 2006</td>
<td>6%</td>
<td>&lt; 5 years</td>
</tr>
<tr>
<td>Boilers</td>
<td>April 2002</td>
<td>5%</td>
<td>&lt; 1 year</td>
</tr>
<tr>
<td>Ceiling fans</td>
<td>September 2006</td>
<td>45%</td>
<td>0 years (typically no retail cost premium)</td>
</tr>
<tr>
<td>Furnaces</td>
<td>October 2006</td>
<td>15%</td>
<td>&lt; 2 years</td>
</tr>
<tr>
<td>Geothermal heat pumps</td>
<td>April 2001</td>
<td>30%</td>
<td>&lt; 5 years for new construction</td>
</tr>
<tr>
<td>Light commercial HVAC</td>
<td>January 2004</td>
<td>5%</td>
<td>&lt; 1 year</td>
</tr>
<tr>
<td>Ventilating fans</td>
<td>October 2003</td>
<td>70%</td>
<td>0 years (typically no retail cost premium)</td>
</tr>
<tr>
<td>Commercial Food Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial dishwashers</td>
<td>October 2007</td>
<td>30%</td>
<td>2 years</td>
</tr>
<tr>
<td>Commercial fryers</td>
<td>August 2003</td>
<td>15%</td>
<td>2 years (for typical unit)</td>
</tr>
<tr>
<td>Commercial hot food holding cabinets</td>
<td>August 2003</td>
<td>65%</td>
<td>2 years</td>
</tr>
<tr>
<td>Commercial ice makers</td>
<td>January 2008</td>
<td>25% - 30%</td>
<td>4 years (for typical unit)</td>
</tr>
<tr>
<td>Commercial solid door refrigerators and freezers</td>
<td>September 2001</td>
<td>35%</td>
<td>1 year</td>
</tr>
<tr>
<td>Commercial steam cookers</td>
<td>August 2003</td>
<td>50%</td>
<td>0 years (typically no retail cost premium)</td>
</tr>
</tbody>
</table>

“Green” Savings in the Department of Defense

<table>
<thead>
<tr>
<th>Green Savings within the Department of Defense (DoD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DoD energy consumption reduction estimates by utilizing energy-efficient technology</td>
</tr>
<tr>
<td>Increased productivity within DoD by utilizing Internal Air Quality (IAQ) building’s HVAC systems</td>
</tr>
<tr>
<td>DoD annual savings from Internal Air Quality (IAQ) building’s HVAC systems</td>
</tr>
<tr>
<td>Water reduction consumption within DoD by utilizing water-efficient systems</td>
</tr>
<tr>
<td>Water reduction consumption annual savings within DoD by utilizing water-efficient systems</td>
</tr>
<tr>
<td>Water reduction consumption annual savings within DoD by utilizing water-efficient systems</td>
</tr>
</tbody>
</table>

1.5 Best Practices/Lessons Learned

Annex 2 provides a case study that illustrate good practices and lessons learned in environmental purchasing for the City of Santa Monica.
2.1 Policy Framework

**Definition.** In Canada, “green” procurement is defined as the integration of environmental considerations – alongside quality, performance, price and availability – into the procurement process, from planning to final disposal. Green procurement means that environmental impacts of the goods procured have been appropriately considered using techniques such as total life-cycle costing. Green procurement is further defined as the integration of environmental performance considerations in the material acquisition and support process, including requirement identification and definition, planning, procurement, operation and maintenance, disposal of goods and realty infrastructure, and closure activities in respect of acquired services and facilities.

**Framework.** There are two agencies in the Minister of the Environment responsible for directing, enforcing, and monitoring the country’s environmental policies: Environment Canada (EC) and the Canadian Environmental Assessment Agency (CEAA). The EC assists in implementing the country’s environmental agenda by coordinating environmental policies and programs for the federal government. CEAA provides Canadians with environmental assessments that contribute to informed decision making, in support of sustainable development. The CEAA plays a leadership role in the review of major projects assessed as comprehensive studies and those referred to review panels. It also coordinates the Government of Canada's Aboriginal consultation activities during the environmental assessment process. The CEAA is headquartered in Canada’s capital and has six regional offices.

Canada’s first Federal Sustainable Development Strategy (FSDS) launched in October 2010 outlines specific targets and implementation strategies for federal departments and agencies to adhere to. It establishes a framework for sustainable development planning and reporting with three key elements: (1) An integrated, whole-of-government picture of actions and results to achieve environmental sustainability; (2) A link between sustainable development planning and reporting and the Government’s core expenditure planning and reporting system; and, (3) Effective measurement, monitoring and reporting in order to track and report on progress to Canadians.

The Public Works and Government Services Canada (PWGSC) is the buyer and property manager for the Government of Canada. PWGSC directs federal departments and agencies to incorporate environmental considerations into the procurement decision-making processes for all goods and services purchased. Under the country’s Policy on Green Procurement, the Agency strives to procure, operate and dispose of its assets in a manner that protects the environment and supports sustainable development objectives. The policy took effect in April 2006 and seeks to reduce the environmental impacts of government operations and promote environmental stewardship by integrating environmental performance considerations in the procurement process.
Federal departments and agencies are responsible for setting green procurement targets and including environmental criteria and specifications. As a result, suppliers have a key role to play in advancing the government's environmental agenda by providing environmentally preferable goods and services. Green procurement policy applies to all Departments within the meaning of Section 2 of the Financial Administration Act, unless specific acts or regulations override it. Deputy heads are required to ensure that the objectives of green procurement are met while maintaining compliance with all legislative, regulatory and policy obligations. Consistent with the overall objectives of value for money in procurement, deputy heads are accountable to ensure their management control framework in support of procurement incorporates environmental performance considerations: from planning, identification and definition of requirements, acquisition, operation and maintenance to disposal of goods or closure activities of acquired services.

2.2 Programs, Sectors, and Products

The following key greening programs have been implemented in Canada:

- **Pollution Prevention Program** - In 1995, the Government of Canada committed itself to the implementation of pollution prevention within its own government operations, cooperative pollution prevention activities with other levels of government and industry, and the demonstration of leadership and innovative pollution prevention actions with all Canadians, as well as with the international community. The Government of Canada is advancing pollution prevention through strengthening legislation and regulations, integrating the pollution prevention approach into current programs, designing guidelines and codes of practice for industrial operations, working in partnership with the private sector, other orders of government and communities, supporting non-regulatory initiatives and participating in developing and implementing international agreements. In greening its own operations, federal departments took prevention-based measures to advance progress in waste reduction and management, water and energy conservation, vehicle fleet management, procurement, land management, training and awareness and behavior change.

- **The Accelerated Reduction and Elimination of Toxics (ARET) program** - It is part of the Pollution Prevention Program. The main focus is on energy and toxic reduction.

- **Federal Buildings Initiative (FBI)** –helps managers to take advantage of long-term cost savings of greener building operations. The FBI involves a partnership between the public and private sector to improve the energy efficiency in federal-owned facilities without financial investment or risk on the part of the government. The FBI program uses private capital, resulting from longer-term cost savings, to finance building energy, water, and air system retrofits;

- **First-Purchase Strategies** - Concrete steps are also being taken to create markets for greener energy through first-purchase strategies. As part of its sustainable development strategy, Environment Canada has committed to purchase 15–20 percent of its building energy from renewable sources by the year 2010, and to commence greener power pilot projects in fiscal year 1998/99;
• **Greener Energy Purchasing Agreement** - To realize the “first-purchase strategies” commitment, Environment Canada, along with Natural Resources Canada (NRCan), signed a greener energy purchasing agreement with the Alberta Energy Company. In it, the two federal departments agreed to purchase up to a total of 13,000 megawatt hours of greener power per year for their Alberta facilities over the next 10 years;

• **National Eco-Labeling Program** - In an effort to select greener goods and services, departments are trying to employ a multi-faceted approach which includes the use of national eco-labeling programs, the incorporation of environmental specifications in government tenders, and life-cycle analysis. Greener procurement strategies have relied most heavily on national eco-labeling programs, with the most influential being Canada’s Environmental Choice Program (ECP).

The following sectors apply to green purchasing:

<table>
<thead>
<tr>
<th>Agriculture and Food</th>
<th>Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>Health Care</td>
</tr>
<tr>
<td>Construction</td>
<td>Dry Cleaning</td>
</tr>
<tr>
<td>Furniture Manufacturing</td>
<td>Metal Finishing</td>
</tr>
<tr>
<td>Mining, Oil and Gas</td>
<td>Shipyards</td>
</tr>
<tr>
<td>Green Chemistry</td>
<td>Tourism</td>
</tr>
<tr>
<td>Printing and Graphics</td>
<td>Transportation</td>
</tr>
<tr>
<td>IT equipments</td>
<td>Communication Devices</td>
</tr>
</tbody>
</table>

The following products apply to green purchasing:

<table>
<thead>
<tr>
<th>Waste reduction plants</th>
<th>Construction materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning products</td>
<td>Textile medical products</td>
</tr>
<tr>
<td>Ships, boats &amp; parts (excluding pleasure boats)</td>
<td>Office equipment (excluding photocopy &amp; fax equipment)</td>
</tr>
<tr>
<td>Personal medical goods</td>
<td>Clothing</td>
</tr>
<tr>
<td>Highway and bridge maintenance</td>
<td>Office supplies</td>
</tr>
<tr>
<td>Gas distribution</td>
<td>Photocopy &amp; microfilm equipment</td>
</tr>
<tr>
<td>Electric power</td>
<td>Newspapers</td>
</tr>
<tr>
<td>TV, VCR, accessories, &amp; unrecorded tape</td>
<td>Computers, video units, printers etc.</td>
</tr>
<tr>
<td>Other paper, containing wood</td>
<td>Other paper, wood-free</td>
</tr>
</tbody>
</table>

Source: OECD Report 2003 - The Environmental Performance of Public Procurement

2.3 Principles, Practices, Standards

*Procurement Instruments.* Procurement instruments are designed to apply environmental impact assessment methodologies based on preventative and value for money approaches, including factors such as maximization of energy efficiency, lifecycle impact, recyclable content, and alternatives that promote pollution prevention and reduction in water usage. Solicitation documents are developed by procurement officers in order to incorporate environmental criteria in technical specifications (a) using specific criteria; (b) point-rated evaluation criteria when insufficient competition exists, and (c) indication of critical criteria for consideration in the assessment.

*Evaluation Criteria.* A life cycle assessment approach is used to identify the key environmental impacts associated with the service being procured. This assessment requires an understanding of each phase of the procurement process: planning, acquisition, use and maintenance, and disposal. The extent of the environmental impact associated with each phase will vary depending on the nature of the service being procured and the goods that are typically used to deliver the service. Procurement instruments are designed to apply environmental impact assessment methodologies based on preventative and value for money approaches, including factors such as maximization of energy efficiency, lifecycle impact, recyclable content, and alternatives that promote pollution prevention and reduction in water usage.

*Environmental Criteria and Best in Class Assessments.* To ensure environmental criteria are properly incorporated, procurement officers will identify common environmental criteria for which an acceptable level of competitive bids can be expected, and consider establishing mandatory requirements or evaluation criteria accordingly in the solicitation document. For environmental criteria that only some suppliers can meet and where the level of competition may
be insufficient, point-rated evaluation criteria may be considered. Once the key environmental issues associated with the service have been identified and a list of environmental criteria or specifications has been established, the capability of suppliers to meet the criteria identified as 'best in class' must be assessed. This can be accomplished through:

- A review of industry information from industry associations, supplier websites, or industry reports;
- Consultation with PWGSC and other departments that have previously conducted research on related services, and/or;
- Issuance of a Request for Information (RFI) to determine the capability of suppliers to meet the environmental criteria. The RFI should identify a list of key environmental considerations for the services and suppliers should indicate their ability to address them.

Bid Evaluation. Bids must be evaluated in accordance with the evaluation criteria established in the bid solicitation. The evaluators must not use criteria or factors not included in the bid solicitation or derive conclusions from information contained in bids that may prove wrong. Whenever possible, the same evaluators should evaluate all bids. When evaluating bids, evaluators must consider all vital information provided in the bid, and must not base their evaluation on undisclosed criteria. Third parties may be used to review bids when bids require specific expertise (such as in the case of emerging technologies or highly complex goods or services), requiring a non-disclosure and conflict of interest agreement before such participation.

2.4 Metrics, Indicators, and Other Data

- According to the OECD Report 2003 “The Environmental Performance of Public Procurement”, Canada’s green purchasing was 11.47% of GDP between 1990-1997.
- Through voluntary actions, ARET sought the virtual elimination of 30 persistent, bio accumulative and toxic substances, as well as significant reductions in emissions of another 87 toxic substances. Overall, there has been a 67% reduction in the release of toxics included in the ARET program from base year levels. Of 316 facilities participating in ARET, 136 have already met or exceeded year 2000 targets for all categories of substances on which they report. A commitment was made by Environment Canada, Industry Canada and other departments and organizations to develop a successor program to ARET. Summary of toxic reduction from the ARET program:

<table>
<thead>
<tr>
<th>Total number of facilities participating in ARET</th>
<th>316</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elimination of bio accumulative and toxic substances</td>
<td>30 persistent toxics</td>
</tr>
<tr>
<td>Reductions in emissions of another toxic substances</td>
<td>87 toxic substances</td>
</tr>
<tr>
<td>Total reduction of toxics</td>
<td>67%</td>
</tr>
<tr>
<td>Total number of facilities participating in ARET who achieved reduction of toxic</td>
<td>136</td>
</tr>
</tbody>
</table>
As of March 2001, the ARET initiative recruited nearly 300 companies, representing about 74% of industrial energy use. These companies achieved savings of $21 million per year in energy costs for investments of $210 million (includes federal government contribution and company contributions) and carbon dioxide reductions of 175,000 tons per year. In terms of expenditures in pollution prevention technologies and methods, processes related to reuse and recycling of materials remained the most popular investment (over 65%). Following reuse and recycling were prevention of leaks and spills (59%) and energy conservation (45%). These three methods have remained the most popular pollution prevention investments since 1995;

Procurement and management of the federal fleet represents an important opportunity area for greener procurement. The passage of The Alternative Fuels Act by Parliament in 1995 demonstrates the Government of Canada’s commitment to environmental leadership by reducing a broad range of air pollutants through the increased use of alternatively fueled vehicles. This Act required that 50 percent of Government of Canada’s eligible new vehicle purchases in fiscal year 1997/98 operate using alternative fuels where cost-effective and feasible. This requirement rose to 60 percent in 1998/99 and 75 percent in 1999/2000. As a result, Environment Canada has reduced its fleet from 711 to 555 vehicles to date. Furthermore, approximately 60 vehicles have been converted to use alternative fuels. (Environment Canada’s Sustainable Development Strategy, April 1997);

The Federal Buildings Initiative (FBI) helped managers to take advantage of long-term cost savings of greener building operations. These initiatives have resulted in an annual reduction of carbon dioxide emissions by 12,700 metric tons and yearly savings of CDN$ 930,000 after a 7.2 year pay-back period. Following the expiration of the contract, the savings will be retained by the Department. (Environment Canada’s Sustainable Development Strategy, April 1997).
2.5 Best Practices/Lessons Learned

Over the years, Environment Canada has learned many important lessons through partnerships with other governments and through its own experience in implementing a greener procurement strategy. In order to effectively advance greener procurement within government organizations, it is useful to apply the following change management principles:

- **Secure a champion from senior levels** to establish organizational commitment, drive the change process, and achieve real success. Leadership from senior managers is essential to send the necessary signal that greener procurement is a real priority;

- **Encourage a culture of environmental awareness** by emphasizing incremental, pragmatic changes to the day-to-day decision-making and responsibilities of all managers and employees;

- **Involve key employees** in the design and implementation of the greener procurement strategy. Employee participation will increase buy-in and help to ensure the strategy is designed to meet the organization’s unique characteristics and needs;

- **Simplify the environmental decision-making process** by integrating tools that are easy to understand and use into the organization’s procurement processes. Employees are less likely to use complicated tools when dealing with time pressures, competing purchasing priorities, and the intimidation factor of selecting greener goods and services;

- **Define clear environmental accountabilities** throughout all managerial and employee levels to strengthen commitment, stimulate action, and facilitate the examination of past greener procurement efforts;

- **Limit the scope** of initial efforts by reaching for “low-hanging fruit”: those areas that have the greatest opportunity for positive environmental change in the short-term. For example, organizations could develop specific strategies for high-volume goods or could focus training efforts on those employees who make the largest proportion of procurement decisions;

- **Establish realistic, but challenging environmental targets** to focus efforts, maintain momentum, and encourage a culture of continuous improvement;

- **Recognize innovative initiatives and reward successes** to foster creativity and risk-taking within the organization; and **Foster partnerships** with other governments, non-governmental organizations, and industry leaders to increase practical knowledge, share best practices, minimize duplication of effort, and initiate joint greener purchasing initiatives (http://www.apo-tokyo.org/gp/e_publi/gsc/0305RES_PAPERS.pdf).

A great deal of additional work is required to leverage the Government of Canada’s purchasing power and increase the quantity of greener goods and services that departments buy. Some important steps that should be taken over the next years include:

- Creating a Greener Purchasing Forum of Canadian governments with appropriate private sector involvement to share information, leverage collective purchasing power and, ultimately, develop common procurement standards based on best practices. These standards could then be used by all levels of government to provide suppliers with greater certainty and consistency in developing greener products and services;
• Instituting, as part of federal government procurement processes, the requirement that potential suppliers fully describe the positive environmental attributes of their products, processes, services, and environmental management systems;
• Fostering greater collaboration and exchange of greener procurement tools across governments, both nationally and internationally. In Canada, this could be encouraged through the creation of a national web site;
• Fostering greater collaboration with other federal departments to better leverage federal government purchasing power and to develop shared performance indicators in assessing the efficacy of governmental procurement strategies;
• Developing additional partnerships with industry and non-governmental organizations to design and develop greener goods and services;
• Capitalizing on future technological advances in electronic commerce over the longer-term. Greener criteria could then be seamlessly embedded into procurement software to make greener purchasing a default option and to facilitate the tracking of greener purchases for government departments.
European Union – (Focus on Finland, Norway, Sweden)

3.1 Policy Framework

*Environmental Integration.* Since 1997, environmental integration is a requirement under the EC Treaty. Article 6 of the Treaty states that "environmental protection requirements must be integrated into the definition and implementation of the Community policies, in particular with a view to promoting sustainable development." The importance of integration is reaffirmed in the Sixth Environment Action Programme which stipulates that "integration of environmental concerns into other policies must be deepened" in order to move towards sustainable development.

*Europe 2020 Strategy.* On March 3, 2010, the European Commission launched the Europe 2020 Strategy: A European strategy for smart, sustainable and inclusive growth. The strategy notes that public procurement plays a key role as one of the market-based instruments that should be used to achieve the strategic objectives. It calls on public procurement to (a) improve framework conditions for business to innovate, making full use of demand side policy, and (b) support the shift towards a resource efficient and low-carbon economy, e.g. by encouraging wider use of green public procurement. Instruments relevant for green purchasing include Life Cycle Analysis (LCA), eco-labeling, and direct environmental assessment. The EU Treaty principle of a high-level environmental protection calls for integrating environmental criteria into public purchasing.

*European Commission and the Directorate-General for the Environment.* The Directorate-General for the Environment (DG Environment) is one of the more than 40 Directorates-General and services that make up the European Commission. The objective of the Directorate-General is to protect, preserve and improve the environment for present and future generations. To achieve this it proposes policies that ensure a high level of environmental protection in the European Union and that preserve the quality of life of EU citizens. The DG makes sure that Member States correctly apply EU environmental law. In doing so, it investigates complaints made by citizens and non-governmental organisations and can take legal action if it is deems that EU law has been infringed. In certain cases DG Environment represents the European Union in environmental matters at international meetings such as the United Nations Convention on Biodiversity.

*European Environment Agency.* The European Environment Agency (EEA) is charged with providing political decision-makers and the public with information on the state of the environment in Europe and with monitoring the impacts of environmental policy. The information is intended to assist the planning and implementation of environmental policy measures in the EU and its member states. The EEA compares the state of the environment and impacts of environmental policy in different European countries.
Government Procurement Agreements. Governments are required to incorporate the EU’s and OECD’s green procurement policy into their sustainable development strategies, national public procurement policies, laws, and regulations. National Procurement Guidelines or Government Procurement Agreements (GPA) are built on the general principles of national treatment, non-discrimination and transparency and follows the EU Directives closely. The agreement obliges each signatory to provide non-discriminatory and transparent procurement procedures. The GPA also provides for a system of thresholds that trigger these obligations, a prohibition on discriminatory technical specifications, an obligation to publish tender notices and an obligation to use objective and nondiscriminatory criteria to contract selection and award. GPA also provides for challenge procedures for aggrieved suppliers as well as a dispute settlement mechanism for the parties. All member and non-member states are expected to incorporate this agreement's requirements into their green procurement policies.

National Procurement Policy Strategies. Member states develop their national procurement policy strategies to promote sustainable development, which assures a healthy and sound environment for present and future generations. The policies should aim to advance reform of the procurement function across public bodies by adopting optimal procurement structures and effective purchasing policies and procedures. This involves an assessment of existing procurement structures, policies, procedures and skills. It requires that, following the assessment process, appropriate procurement policy, procedures and practices are adopted, which lead to value for money outcomes over time.

Finland. The Ministry of the Environment is responsible for carrying out Finland’s environmental policies. In 2009, the Ministry passed a resolution that aims at reducing the environmental load and climatic impacts caused by the public sector. All procurement in the State central government, such as the ministries, must take the environmental perspective into consideration by 2015 at the latest. It is recommended that municipal and State local government take the environment into consideration in at least 25% of procurement in 2010, and in half of procurement in 2015. The targets are binding for State central government and recommended for municipalities and state enterprises.

Norway. In addition to initiating, developing and carrying out its own measures through its own instruments, the Ministry of the Environment of Norway has an important role in influencing other Ministries and sectors at the national level. The Ministry is responsible for coordinating the environmental policy objectives of the Government, and ensuring follow-up and monitoring results of environmental policies. The environmental administration also contributes in a number of arenas in order to ensure that international cooperation at all levels is expanded and strengthened. Policies are divided into 7 target areas: 1. Nature diversity and outdoor recreation; 2. Cultural heritage and cultural environments; 3. Water pollution, hazardous substances and waste; 4. Air pollution and climate; 5. International environmental cooperation and environmental issues in polar areas; 6. Planning for a sustainable development; 7. Other instruments.
All government institutions follow up the government’s environmental policy and action plan and incorporate it into their internal management systems. The objectives of the policy are: to minimize the overall environmental impact of government purchases of products and services; to make efficient use of government resources, and to contribute to a competitive business sector by encouraging a market which promotes innovation and the development of environmental technology and environmentally sound products. Five general principles frame the policy:

1. Products and services must be chosen on the basis of lifecycle costs, quality and environmental properties;
2. Priority must be given to products and services that are energy-efficient, have a low content of hazardous chemicals, low pollutant emissions and low resource consumption;
3. In the case of products for which eco-labeling criteria have been developed (Nordic Swan and EU Flower labels), these criteria must be applied as far as possible;
4. In the case of services, priority must be given to suppliers with routines and expertise that ensure a low environmental impact, e.g. suppliers who can document this by using ISO 14001 or the national Eco-Lighthouse Scheme.

The Government’s environmental policy sets specific requirements for procurement of the priority product groups. These are specified in the table below. It is a condition that the requirements do not lead to any significant increase in total costs (life cycle costs) relating to the purchase and that the purchase fulfils the same utility. Procurers may therefore use their own judgment in special cases. The requirements apply mainly to purchases for which tender specifications are drawn up.
**Property management and building**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals</td>
<td>Avoid building materials containing substances on the authorities' priority list of pollutants or relevant substances on the Norwegian Pollution Control Authority's (SFT) list of hazardous substances requiring special attention. If eco-labelling criteria have been drawn up (Nordic Swan or EU Flower) for a product group, products fulfilling these criteria should be chosen.</td>
</tr>
<tr>
<td>Energy use and greenhouse gases</td>
<td>In building projects, set specific requirements for energy use, e.g. in the form of KWh per m². Make it a requirement that heating is not based on electricity or fossil fuels. The requirements should be stricter than the minimum requirements in technical regulations.</td>
</tr>
<tr>
<td>Tropical timber</td>
<td>Do not use tropical timber in any form, either in the building itself or in the materials used during the building period.</td>
</tr>
<tr>
<td>Waste/hazardous waste</td>
<td>In building projects, set a target of 60-80 weight percentage segregation at source (including demolition, excluding construction pit). In the case of demolition, conversion and rehabilitation demand an environmental survey in order to prevent incorrect disposal of chemicals that are hazardous to health and to the environment.</td>
</tr>
<tr>
<td>Environmental know-how</td>
<td>Ask architects, consultants and contractors to document training/courses in environmentally sound planning and building.</td>
</tr>
<tr>
<td>Leases</td>
<td>Stipulate relevant environmental requirements when signing leases.</td>
</tr>
</tbody>
</table>

**Transport and vehicles**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicles (greenhouse gases, local air pollution, noise)</td>
<td>Choose vehicles producing low emissions of greenhouse gases, NOx and particulate matter. When purchasing or leasing passenger cars, with the exception of emergency vehicles and other vehicles with special functional requirements, the guideline limit is maximum 120-140 g CO2 in 2008. The limit may be tightened at a later date. The possibility of stipulating that all government vehicles operate on CO2-free or CO2-neutral fuel by 2020 is being investigated. Diesel-operated vehicles must have particulate traps. Choose low noise, easy-roll, stud-free tyres whenever possible.</td>
</tr>
<tr>
<td>Business travels</td>
<td>Purchase UN-approved CO2 quotas to counterbalance emissions from government employees’ international air travel. Make greater use of e-meetings as a substitute for business travel whenever practical.</td>
</tr>
</tbody>
</table>

**ICT equipment**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals, energy, greenhouse gases, waste</td>
<td>Choose ICT equipment with low energy consumption, low content of pollutants (see the authorities’ priority list) and easily upgradable. Attach importance to e-cooperation when choosing equipment.</td>
</tr>
</tbody>
</table>

**Food**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals, energy, biodiversity, animal welfare</td>
<td>By 2015, 15% of food consumed in government institutions shall be organic.</td>
</tr>
</tbody>
</table>

**Textiles**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals</td>
<td>Avoid textiles containing substances on the authorities' priority list or substances on SFT’s list of hazardous substances requiring special attention. If eco-labelling criteria have been drawn up for a product group (Nordic Swan or EU Flower), choose products fulfilling these criteria. When purchasing textiles, give consideration to how these can be cleaned with the least possible chemical use. For example, textiles that cannot be washed but require cleaning with environmentally hazardous chemicals should be avoided.</td>
</tr>
</tbody>
</table>

**Health and hygiene consumer material**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals, use of resources, etc.</td>
<td>Whenever possible choose products that satisfy the criteria for Nordic Swan or EU Flower eco-labels.</td>
</tr>
</tbody>
</table>

**Printed matter and paper**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals, use of resources, etc.</td>
<td>Whenever possible choose copy paper, envelopes and printed matter that satisfy the criteria for Nordic Swan or EU Flower eco-labels and which are made of recycled paper.</td>
</tr>
</tbody>
</table>

**Office furniture and supplies, cleaning, hotels**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Whenever possible choose products that satisfy the criteria for Nordic Swan or EU Flower eco-labels, if such criteria exist. In other cases, give preference to products and services which are energy-efficient, have a low content of pollutants (priority list), produce low pollutant emissions and use few resources. Priority should be given to goods made of recycled material and approved for recycling.</td>
</tr>
</tbody>
</table>


**Sweden.** The Ministry of the Environment of Sweden is responsible for dispensing environmental policy. To support this work, the Parliament has decided on 16 environmental quality objectives that indicate the state of the Swedish environment that environmental action is intended to lead to, including reduced climate impact, good-quality groundwater, sustainable forests, and rich diversity of plant and animal life. Divisions under the Ministry are responsible for specific policy instruments and related tasks that promote particular green matters within the framework of the country’s sustainable development policies. This work includes compiling and analyzing information, presenting material for government bills, questions and interpellation
replies in the Parliament, and preparing business prior to government decisions. Other tasks include representing Sweden in international contexts and handling contacts with the ministry’s agencies. Government agencies implement the laws and the activities that the Government has decided on, such as the Swedish Research Council for the Environment, Agricultural and Spatial Planning (FORMAS), Swedish Chemical Agency, and the Stockholm Environment Institute.

3.2 Programs, Sectors, and Products

Programs. EU Member States incorporated the following EU/OECD green procurement policies into their national procurement laws, policies, and regulations:

- OECD Green Public Procurement (GPP) program
- The EU Agreement on the European Economic Area
- EU Eco-label standards
- EU Government Procurement Agreement
- EU Public Procurement Directives
- EU Government Procurement Agreement (GPA)
- EU Life Cycle Analysis (LCA)
- EU Treaty principle of a high-level environmental protection

Finland. In Finland, sectors where green procurement applies include energy, construction and housing, transport, food service, and energy-using equipment and services. Products and services include:

- Cleaning services
- Computers, printers, copying machines and other office machinery
- Plastic products
- Motor vehicles
- Paper products
- Food products and services
- Manufactured goods, e.g., furniture, toys, lightning, other consumables
- Transport services
- Optical/medical devices
- Chemicals and chemical products, medicine
- Construction materials and work
- Industrial machinery
- Repair and maintenance services
- Textile products

Norway. Under Norway’s Green Government project, measures by the central government include:
• Adoption of a specific environmental policy for government procurement, containing specific requirements for the priority product groups (2008);
• Government institutions with a significant impact on the environment must implement a third-party certified environmental management system, such as ISO 14001 or EMAS, for all or part of their activities;
• Other ministries and subordinate agencies shall, as a minimum, have a simpler environmental management system, ref. for example the Guide to Green Government (the Green Government project) issued in 2003 and update in 2007;
• Better statistics and reporting on the environmental impact of government procurement;
• The Government will consider instructing government institutions to include social and ethical standards in their procurement practice.

Sweden. In Sweden, green public procurement covers areas such as the purchase of energy-efficient computers and buildings, office equipment made of environmentally sustainable timber, recyclable paper, electric cars, environment-friendly public transport, organic food in canteens, electricity stemming from renewable energy sources, and air conditioning systems complying with state of the art environmental solutions.

3.3 Principles, Practices, and Standards (EU)

Green Public Procurement. Green Public Procurement (GPP), a voluntary instrument where individual Member States and public authorities can determine the extent to which they implement it, is defined by the European Commission Environment as “public procurement for a better environment,” as "a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured.” Green purchasing means basing all purchasing decisions and allocation of contracts on environmental criteria along with other criteria such as price and quality. Not only does green purchasing positively contribute to environmental protection at a local level, it also creates a powerful market demand for greening the production and serves as a model to influence the behavior of companies, private institutions and households. Ministries of Environment and Finance in Member States are responsible for implementing and monitoring green procurement patterns. Governments are required to submit monitoring reports to their respective agencies for all their green purchasing practices.

Technical Specifications. Procurement directives under the EC explicitly allow contracting authorities to choose between specifications based on technical standards or on performance-based standards. The EC encourages the use of variants in the event that a market analysis does not render clear results as to the viability of green alternatives. If this is the case, it may be interesting to ask potential bidders to submit green variants. This means that a minimal set of technical specifications for the product is established, which will apply to both the neutral offer and its green variant. For the latter, an environmental dimension will be added. When the bids are submitted, they can be compared (the neutral ones and the green ones) on the basis of the same set of award criteria. Hence, variants can be used to support the environment by allowing a
comparison between standard solutions and environment-friendly options (based on the same standard technical requirements). Companies are free to provide offers based on the variant or the initial tender, unless indicated otherwise by the contracting authority. The following would need to be indicated in advance in the tender document: (a) that variants will be accepted, (b) the minimum environmental specifications the variants have to meet (e.g. better environmental performance), and (c) specific requirements for presenting variants in bids, such as requiring a separate envelope indicating variant or indicating that a variant can only be submitted combined with a neutral bid.

Other Regulatory Provisions. A contracting authority can specify “environmental performance levels” if it wishes to do so, providing they afford ‘equal access to economic operators and do not have the effect of creating unjustified obstacles to the opening up of public procurement to competition’. A contracting authority may also choose to define technical specifications in terms of performance or functional requirements, which may include environmental characteristics provided that the requirements are sufficiently precise to allow an economic operator to determine the subject of the contract and a contracting authority to award the contract”.

Contracting authorities may also use the specifications of European, national or multi-national eco-labels.

Where a local authority awards a contract to the ‘most economically advantageous’ tender, it shall use criteria linked to the subject matter of the contract to determine that an offer is the most economically advantageous including …environmental characteristics”. Requirements for the local authority to indicate the weight or priority it attaches to each of the relevant criteria are included in the regulatory code. Technical specifications shall be set out in the publication of notice or in the contract documents and shall refer to either performance/functional requirements or to standards. If standards are used, the purchaser must accept equivalent products.

In formulating the specifications, life-costs shall be taken into consideration, and whenever possible the purchaser shall lay down environmental characteristics in terms of performance or functional requirements, and define the specifications so as to take into account accessibility criteria for people with disabilities or design for all users. The specifications shall afford equal access for tenders and not have the effect of creating unjustified obstacles to opening up competition. Reference to specific makes or sources are only permitted on an exceptional basis, where a sufficiently precise and intelligible description of the subject matter of the contract is not possible without such a reference. If so, such reference shall always be accompanied by the words “or equivalent”.

The bid evaluation criteria should include the following components: quality, delivery period or period of completion, environmental characteristics, running costs, cost effectiveness, price, aesthetical, functional and technical characteristics, service and technical support. The bidder selection is based on price and non-price criteria, with price accounting for 75%. The non-price criteria include references, personnel, and competence; equipment, depots, and salt storage; quality plan and subcontractors; methodology and traffic safety; a customer service provision;
environmental assurance; and a special winter index feature. Bids must also include a 10% annual bonding requirement.

3.4 Metrics, Indicators, and Other Data

General. Public authorities in Europe spend approximately 2 trillion Euros annually, equivalent to 17% of the EU’s gross domestic product. Government consumption of products and services in OECD Member countries is estimated to be responsible for 9 to 25% of GDP. Government procurement represents 13.5% of EU GDP as of 2007. The EU moved in 2008 to set binding limits on emissions of fine particles known as PM2.5. Released by cars and trucks, these microscopic particles can cause respiratory diseases. Under the new law, which takes effect in 2011, EU countries will have to reduce exposure to fine particles in urban areas by an average 20% by 2020 (based on 2010 levels).

Finland

The value of public procurement in Finland is EUR 27 billion per year, which is 15% of GDP. Finland would save EUR 20–30 million at the local level if all municipalities could achieve a 9% energy-saving target by 2016. Reaching the same target would mean savings of EUR 11–13 million in the Government. At least 30% of purchased electricity will be produced from renewable energy sources by 2010 and at least 60% by 2015.

The main industries of the environmental goods and services sector in Finland in 2009 are described below.

<table>
<thead>
<tr>
<th>Industry (TOL 2008)</th>
<th>Enterprises (Number)</th>
<th>Size of personnel (Staff-years)</th>
<th>Total turnover (EUR million)</th>
<th>Turnover from environmental business activity (EUR million)</th>
<th>Turnover from environmental business activity as percentage of total turnover (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production of electricity with hydropower and</td>
<td>57</td>
<td>374</td>
<td>136</td>
<td>136</td>
<td>100</td>
</tr>
<tr>
<td>wind power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewerage</td>
<td>125</td>
<td>397</td>
<td>103</td>
<td>99</td>
<td>96</td>
</tr>
<tr>
<td>Collection of non-hazardous waste</td>
<td>253</td>
<td>1 852</td>
<td>258</td>
<td>246</td>
<td>95</td>
</tr>
<tr>
<td>Collection of hazardous waste</td>
<td>10</td>
<td>63</td>
<td>9</td>
<td>7</td>
<td>77</td>
</tr>
<tr>
<td>Treatment and disposal of non-hazardous waste</td>
<td>114</td>
<td>1 251</td>
<td>347</td>
<td>324</td>
<td>93</td>
</tr>
<tr>
<td>Treatment and disposal of hazardous waste</td>
<td>11</td>
<td>437</td>
<td>131</td>
<td>127</td>
<td>97</td>
</tr>
<tr>
<td>Dismantling of wrecks</td>
<td>21</td>
<td>99</td>
<td>10</td>
<td>5</td>
<td>45</td>
</tr>
<tr>
<td>Recovery of sorted materials</td>
<td>85</td>
<td>1 072</td>
<td>544</td>
<td>541</td>
<td>99</td>
</tr>
<tr>
<td>Remediation activities and other waste</td>
<td>45</td>
<td>343</td>
<td>70</td>
<td>46</td>
<td>65</td>
</tr>
<tr>
<td>management services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>721</td>
<td>5 888</td>
<td>1 609</td>
<td>1 530</td>
<td>95</td>
</tr>
</tbody>
</table>

Statistical information on the environment includes figures on public sector investment and operating expenditure in environmental protection 1994-2006:

Environmental protection expenditure 1993-2006 is captured in the table below.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central government</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating expenditure</td>
<td>112.0</td>
<td>139.3</td>
<td>150.7</td>
<td>160.5</td>
<td>165.7</td>
<td>197.8</td>
<td>210.3</td>
<td>219.7</td>
<td>223.0</td>
<td>245.8</td>
<td>256.0</td>
<td>261.1</td>
<td>267.1</td>
</tr>
<tr>
<td>Revenue</td>
<td>0.2</td>
<td>5.9</td>
<td>6.7</td>
<td>13.5</td>
<td>19.3</td>
<td>11.6</td>
<td>22.9</td>
<td>24.4</td>
<td>24.5</td>
<td>25.4</td>
<td>28.8</td>
<td>31.9</td>
<td>33.6</td>
</tr>
<tr>
<td>Current transfers</td>
<td>0.0</td>
<td>0.0</td>
<td>0.5</td>
<td>3.4</td>
<td>3.4</td>
<td>1.3</td>
<td>4.1</td>
<td>4.2</td>
<td>4.3</td>
<td>3.2</td>
<td>2.5</td>
<td>3.6</td>
<td>4.5</td>
</tr>
<tr>
<td>Fees and other</td>
<td>0.2</td>
<td>5.9</td>
<td>6.2</td>
<td>10.1</td>
<td>16.0</td>
<td>10.3</td>
<td>18.8</td>
<td>20.1</td>
<td>20.2</td>
<td>22.2</td>
<td>26.3</td>
<td>28.2</td>
<td>29.1</td>
</tr>
<tr>
<td>Investment</td>
<td>34.1</td>
<td>32.6</td>
<td>39.9</td>
<td>43.6</td>
<td>45.7</td>
<td>20.7</td>
<td>22.6</td>
<td>20.8</td>
<td>18.1</td>
<td>22.1</td>
<td>18.9</td>
<td>15.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Investment grants given</td>
<td>56.5</td>
<td>53.3</td>
<td>67.1</td>
<td>56.0</td>
<td>63.2</td>
<td>59.7</td>
<td>73.9</td>
<td>60.7</td>
<td>64.1</td>
<td>63.8</td>
<td>67.4</td>
<td>73.7</td>
<td>71.4</td>
</tr>
<tr>
<td>Investment grants received</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other transfers given</td>
<td>17.8</td>
<td>201.2</td>
<td>225.5</td>
<td>232.1</td>
<td>231.9</td>
<td>226.2</td>
<td>223.5</td>
<td>233.2</td>
<td>229.3</td>
<td>236.0</td>
<td>242.5</td>
<td>240.4</td>
<td>252.7</td>
</tr>
<tr>
<td><strong>Total expenditure</strong></td>
<td>220.5</td>
<td>426.4</td>
<td>483.2</td>
<td>492.1</td>
<td>506.6</td>
<td>504.4</td>
<td>530.3</td>
<td>534.5</td>
<td>534.6</td>
<td>567.6</td>
<td>584.8</td>
<td>590.7</td>
<td>598.1</td>
</tr>
<tr>
<td><strong>Total income</strong></td>
<td>0.2</td>
<td>5.9</td>
<td>6.7</td>
<td>13.5</td>
<td>19.3</td>
<td>11.6</td>
<td>22.9</td>
<td>24.4</td>
<td>24.5</td>
<td>25.4</td>
<td>28.8</td>
<td>31.9</td>
<td>33.6</td>
</tr>
<tr>
<td><strong>Local government</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating expenditure</td>
<td>251.4</td>
<td>250.4</td>
<td>259.9</td>
<td>269.4</td>
<td>286.6</td>
<td>273.5</td>
<td>295.2</td>
<td>317.9</td>
<td>332.9</td>
<td>343.2</td>
<td>346.0</td>
<td>374.0</td>
<td>391.0</td>
</tr>
<tr>
<td>Revenue</td>
<td>383.5</td>
<td>374.2</td>
<td>396.8</td>
<td>407.0</td>
<td>422.2</td>
<td>435.9</td>
<td>447.1</td>
<td>460.3</td>
<td>464.6</td>
<td>489.4</td>
<td>491.6</td>
<td>518.5</td>
<td>543.9</td>
</tr>
<tr>
<td>Current transfers</td>
<td>2.4</td>
<td>3.9</td>
<td>3.0</td>
<td>3.2</td>
<td>6.6</td>
<td>3.5</td>
<td>4.6</td>
<td>4.4</td>
<td>6.3</td>
<td>6.1</td>
<td>5.4</td>
<td>6.9</td>
<td>5.6</td>
</tr>
<tr>
<td>Fees and other</td>
<td>381.1</td>
<td>370.3</td>
<td>393.7</td>
<td>403.8</td>
<td>415.6</td>
<td>432.4</td>
<td>442.5</td>
<td>455.9</td>
<td>458.3</td>
<td>483.3</td>
<td>486.2</td>
<td>511.6</td>
<td>538.4</td>
</tr>
<tr>
<td>Investment</td>
<td>137.2</td>
<td>98.6</td>
<td>150.9</td>
<td>184.8</td>
<td>155.6</td>
<td>128.2</td>
<td>164.9</td>
<td>126.1</td>
<td>168.9</td>
<td>183.4</td>
<td>176.7</td>
<td>94.0</td>
<td>219.3</td>
</tr>
</tbody>
</table>

Source: Public sector environmental protection expenditure 2006. Statistics Finland
Investment grants given | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0
Investment grants received | 7.6 | 7.9 | 7.7 | 16.1 | 16.8 | 21.0 | 10.3 | 11.1 | 9.0 | 9.2 | 7.7 | 9.2 | 11.6
Other transfers given | 1.3 | 1.0 | 0.8 | 1.0 | 1.9 | 2.0 | 2.8 | 2.7 | 3.2 | 2.8 | 3.0 | 2.4 | 2.9
Total expenditure | 390.0 | 350.0 | 411.6 | 455.3 | 444.0 | 403.7 | 462.8 | 446.6 | 505.0 | 529.4 | 525.7 | 470.4 | 613.3
Total income | 391.0 | 382.1 | 404.5 | 423.2 | 439.0 | 457.0 | 457.3 | 471.4 | 498.6 | 499.3 | 527.7 | 555.6 |

Public sector (consolidated total)

Operating expenditure | 363.5 | 387.9 | 410.5 | 429.9 | 452.3 | 471.3 | 505.4 | 537.6 | 555.9 | 589.0 | 602.0 | 635.1 | 658.1
Revenue | 381.6 | 378.7 | 401.7 | 418.0 | 437.3 | 444.4 | 465.2 | 478.5 | 482.3 | 509.2 | 516.4 | 543.3 | 572.3
Current transfers | 2.4 | 3.9 | 3.5 | 5.7 | 7.1 | 3.3 | 5.2 | 3.8 | 3.3 | 5.2 | 4.6 | 5.0 | 4.2 | 5.5
Fees and other | 379.3 | 374.9 | 398.1 | 412.3 | 430.1 | 441.0 | 460.1 | 474.7 | 477.0 | 504.6 | 511.4 | 539.1 | 566.8
Investment | 171.4 | 131.2 | 190.7 | 228.4 | 201.3 | 148.9 | 187.5 | 146.9 | 187.0 | 205.5 | 195.5 | 109.5 | 226.2
Investment grants given | 54.7 | 51.8 | 66.5 | 55.0 | 63.2 | 54.4 | 69.0 | 54.7 | 59.2 | 59.1 | 59.8 | 68.4 | 65.2
Investment grants received | 5.8 | 6.4 | 7.1 | 15.2 | 16.8 | 15.7 | 5.4 | 5.1 | 4.0 | 4.5 | 4.1 | 3.9 | 5.4
Other transfers given | 16.7 | 200.4 | 225.0 | 231.8 | 233.2 | 227.5 | 223.5 | 232.3 | 229.1 | 235.7 | 241.2 | 239.6 | 251.7
Total expenditure | 606.2 | 733.1 | 892.7 | 945.1 | 950.1 | 901.9 | 985.4 | 971.5 | 1 031.3 | 1 089.2 | 1 098.5 | 1 052.7 | 1 201.1
Total income | 387.4 | 385.1 | 408.8 | 433.2 | 454.1 | 460.0 | 470.6 | 483.6 | 486.4 | 513.7 | 520.5 | 547.2 | 577.7


**Norway**

The following charts and figures provide some key statistics on environmental expenditures:
Environmental protection expenditures in industry and petroleum, by environmental domain. 2008. NOK million

Current environmental protection expenditure and investments, by industry. 2008. NOK million

Sweden
Environmental requirements in procurement have reduced the cost to public authorities in Sweden by 1.24%, which corresponds to approximately 0.6 billion Euros.
3.5 Best Practices/Lessons Learned

A number of key challenges to the implementation of GPP have been identified in the RELIEF project and European Commission survey on “Green Public Procurement in Europe 2006”*. These challenges include:

- **Lack of political support.** According to the “Green Public Procurement in Europe 2006” report, a high percentage of public authorities cited lack of management support as a barrier to broader implementation of GPP. This indicates that senior officials within the public sector across Europe do not have a high awareness of the importance of the GPP agenda or that their awareness is not made explicit to their purchasing staff.

- **Green products are perceived to cost more.** A key challenge identified by many public sector organisations is changing behavior within purchasing departments. In particular using purchase price alone to decide between offers, rather than the full life-cycle cost of the product or service, can affect the take-up of green products and services. While applying environmental criteria to procurement procedures can sometimes mean higher initial purchasing costs, the overall costs often actually decrease since the higher purchasing prices of green goods and services are compensated for by lower operating, maintenance or disposal costs.

- A study carried out in 2008 (“Collection of Statistical Information on Green Public Procurement in the EU”) revealed that in general GPP does not increase costs but can actually help the purchasing organization to cut costs. Using a Life-Cycle Costing (LCC) approach to calculate the financial impact of GPP, the average financial impact of GPP within the seven best performing Member States was -1% (on average for 10 priority products groups/services) in 2006/2007.

- **Lack of legal expertise in applying environmental criteria.** Many purchasers within public authorities do not and should not be expected to know all the environmental and social impacts of purchasing particular products or services. In some cases purchasers still struggle to define what an “environmentally and/or socially preferable” product or service is, and how to include appropriate criteria to identify these in tendering. The ability to accurately assess and verify information submitted by tenderers in response to environmental criteria is also a challenge.

- **Lack of practical tools and information.** 25% of the respondents to the EC’s 2006 survey* cited a lack of practical tools and information. Addressing this gap is one of the purposes of creating websites for public consumption, as well as the national GPP websites.

- **The need for systematic implementation and integration into management systems.** Decentralized organisations require effective management systems to ensure the consistent application of environmental and social initiatives – and this applies equally to GPP. Joint procurement is one of possible approaches to overcome this kind of obstacles.

- **Lack of training.** Staff responsible for carrying out specific tasks do not always have the skills, or are not provided with the appropriate training. Training is generally required for procurers on the legal and technical aspects of GPP implementation, on the concept of life-cycle costing and for end-users on the sustainable use of products.
• **Lack of co-operation between authorities.** There is still little in terms of systematic implementation of GPP across Europe, with the majority of public authorities acting alone, often on their own initiative. Both informal and formal cooperation needs to grow to enhance GPP. The lack of coordinated exchange of best practice and networking between authorities has been identified as an obstacle to greater GPP implementation.

• **Limited established environmental criteria for products/services.** For many product and service groups, public authorities do not have access to clear and verifiable criteria which allow them to incorporate environmental considerations into their tendering while complying with the requirements of the Procurement Directives and other sources of procurement law.
AUSTRALIA

4.1 Policy Framework

Definition. The Government of Australia views environmental purchasing as an inclusion of environmental factors in decisions on the purchase of products and/or services. It is sometimes called “green”, “sustainable” or “environmentally preferable” purchasing. The aim of considering environmental factors is to buy products or services that have less impact on the environment and human health than otherwise comparable products or services.

Framework. The State Procurement Act of 2004 established the State Procurement Board (the Board) to oversee procurement operations for public authorities. The Board came in to effect on the 4th October 2005. The Department of Finance and Administration has responsibility for providing high-level guidance for Australian Government procurement. Value for Money is the core principle governing Australian Government procurement. This is supported by the four principles of: Efficiency and Effectiveness; Accountability and Transparency; Ethics; and Industry Development. Chief Executives are responsible for ensuring that they achieve best Value for Money in their agency’s procurement decisions. It is important that Australian Government agencies demonstrate leadership to the Australian community by developing their own EMS as a step towards adopting best practice in managing environmental performance.

The Commonwealth Procurement Guidelines and Best Practice Guidance (CPG). CPG provides the procurement policy framework within which government agencies determine their own specific procurement practices. It requires analysis on life cycle costing. Officials buying goods and services need to be satisfied that the best possible outcome has been achieved, taking into account all relevant costs and benefits over the whole of the procurement life cycle. The Commonwealth Procurement Guidelines and Best Practice Guidance state that the core principle governing Australian Government procurement is value for money, a concept evaluated on a whole of life basis for the goods or services being procured. Value for money should take into account: fitness for purpose; the performance history of each prospective supplier; the relative risk of each proposal; the flexibility to adapt to possible change over the lifecycle of the property or service; financial considerations including all relevant direct and indirect benefits and costs over the whole procurement cycle, and; the evaluation of contract options (e.g., contract extension options).

State level green purchasing policies vary widely from more prescriptive requirements, to less structured guidance (where all factors are equal, there is a requirement to demonstrate why the greenest option has not been chosen), to considering environmental criteria on purchases over a certain value.

Regulation. There are four main areas of environment-focused regulation directed at purchasing in Australia: Statutory restriction on the sale and use of certain substances including banned or restricted substances; Minimum standards on products and buildings; Compulsory labeling schemes including energy and water consumption star ratings on appliances and fuel
consumption labels on vehicles; Trade Practices Act legislation governing misleading or deceptive conduct (including environmental claims in marketing). This has been applied to help overcome the widespread issue of ‘greenwash’ in the marketing of green products and services.

Agencies must report on AusTender all Commonwealth contracts and agency agreements, including standing offer arrangements and amendments to these arrangements, which meet the contract reporting criteria in Guidance on Procurement Publishing Obligations.

4.2 Programs, Sectors, and Products

The most significant policies and regulations applied to green procurement are:

- **Competition and Consumer Act 2010** - This guide is to educate businesses about their obligations regarding environmental claims under the Competition and Consumer Act 2010. It aims to assist manufacturers, suppliers, advertisers and others to assess the strength of any environmental claims they make and to improve the accuracy and usefulness to consumers of their labeling, packaging and advertising.

- **EPBC Act** - Under section 516(a) of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), Australian Government agencies have annual reporting obligations that require documentation of the effect of their actions on the environment. Agencies need to identify steps taken to minimize the impact of those actions and mechanisms for reviewing and increasing the effectiveness of mitigating measures. In particular, the EPBC Act requires that Australian Government agencies include information about their performance against Ecologically Sustainable Development (ESD) principles in their annual reports. The reports must include how the administration of legislation and actions by the agency, during the period, accorded with the principles of ESD and identify how the outcomes contribute to ESD.


- **Financial Management and Accountability Act 1997 (FMA)** - Agencies are required by the Commonwealth Procurement Guidelines to publish on AusTender standing offer arrangements and contracts with a value of $10,000 or more, to demonstrate that public procurement is open and transparent, and that agencies are accountable for procurement decisions. From 1 January 2005, Commonwealth Authorities and Companies Act bodies subject to the Finance Minister's (CAC Act Procurement) Directions are also required to publish details of certain contracts and standing offers.

- **Environment Protection and Biodiversity Conservation Act 1999** - Australian Government agencies are required to include information about their performance on Ecologically Sustainable Development (ESD) principles in their Annual Reports.

- **The National Packaging Covenant** is a self-regulatory agreement between industry in the packaging chain and all spheres of government that promotes a product stewardship and life
cycle approach to address packaging waste. It aims to reduce the environmental impacts of packaging. The Australian Government has agreed to facilitate implementation of purchasing policies for recycled goods. As a signatory to the National Packaging Covenant, the Australian Government has agreed to undertake a number of actions including reducing waste through improved purchasing. Agencies are therefore obliged to develop a purchasing policy that fosters the purchase of recycled goods and to improve environmental outcomes through the use and recovery of recycled packaging. The implementation of suggestions contained in this website will help agencies meet their obligations in these areas.

The following green procurement programs have been implemented:

- **Greening of Government Program** - Promotes environmental purchasing to address a wide range of environmental issues, including waste minimization, energy efficiency, water conservation and reductions in greenhouse gas emissions. As part of that effort to incorporate ESD into government operations, the Australian Government has established a Greening of Government Programme. One aspect of that Programme focuses on purchasing. Australian Government procurement policy requires that agencies, within the context of obtaining “Value for Money”, take account of relevant environmental policy, legislation and Government targets in purchasing activities. The Greening of Government Programme website includes a variety of tools to help buyers implement environmental purchasing;

- **Green Star Rating Program** – The program was developed to be a comprehensive, national, voluntary environmental rating scheme that evaluates the environmental design and achievements of buildings. Green Star rating tools help the property industry to reduce the environmental impact of buildings, improve occupant health and productivity and achieve real cost savings, while showcasing innovation in sustainable building practices. Green Star has built on existing systems and tools in overseas markets including the British BREEAM (Building Research Establishment Environmental Assessment Method) system and the North American LEED (Leadership in Energy and Environmental Design) system;

- **Australia & New Zealand Green Star building certification program** - The Green Building Council of Australia (GBCA) is a government-endorsed initiative established in 2002. Created to develop a sustainable property Industry in Australia, striving to drive the adaptor of green budding practices through market-based solutions. The Green Star initiative -promoted and supported by GBCA endorses sustainability within the commercial building industry through design, technology and operations. They also promote integration of these "green" practices into mainstream design and construction;

- **Energy Savings Initiative** - A national Energy Savings Initiative (ESI) would place obligations on energy retailers to find and implement energy savings in households and businesses. An ESI would help consumers to save money by encouraging the identification and take-up of energy efficient technologies.;

- **Climate Change Grant Program** - The Australian Government has allocated $3M toward the Climate Change Grant Program (the Grant Program). The Grant Program aims to help the Australian public understand the need to act on climate change and reveal the opportunities and benefits of a clean energy future. The Grant Program opened on 30 June 2011 and provides organizations with the opportunity to apply for grants of up to $250,000 to highlight
activities that demonstrate the opportunities associated with Australia moving to a clean energy future;

- **National Solar Schools Program** - The program offers eligible primary and secondary schools the opportunity to compete for grants of up to $50,000 (GST exclusive), to install solar and other renewable power systems, solar hot water systems, rainwater tanks and a range of energy efficiency measures;

  Since the program commenced on 1 July 2008, almost 7,300 schools have registered their interest to participate. Total funding of more than $128 million has already been paid to over 2,800 schools. Of these, more than 1,700 projects have been installed across the nation. These schools are already generating their own electricity from renewable sources and improving their energy efficiency by reducing energy consumption. As part of the 2011-12 Budget, the Government announced that the NSSP will close on 30 June 2013, and has two remaining funding rounds. Savings generated will be reinvested in new proposals to move Australia to a clean energy future. Approximately $50 million in funding remains available under the program;

- **Johannesburg Plan of Implementation** - The Plan of Implementation agreed to by the Australian government at the recent World Summit on Sustainable Development (WSSD) includes specific reference to sustainability in public purchasing at all levels to provide support for the development of sustainable development strategies and programmes, including in decision-making on investment in infrastructure and business development; continue to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the costs of pollution, with due regard to the public interest and without distorting international trade and investment; promote public procurement policies that encourage development and diffusion of environmentally sound goods and services; provide capacity-building and training to assist relevant authorities with regard to the implementation of the initiatives listed in the present paragraph; use environmental impact assessment procedures.

- **OECD Council Recommendation Project** - There is also an OECD Council Recommendation on "Improving the Environmental Performance of Public Procurement" project. The scope of the environmental purchasing project addresses each aspect of the OECD Council Recommendation. It relates to measures which encourage the incorporation of environmental criteria into public procurement of products and services, along with price and performance criteria; the introduction of financial, budgeting, and accounting measures to ensure that public procurement policies and practices consider the environmental costs of products and services; the provision of information, training, tools and technical assistance to officials involved in the public procurement and use chain; and, the establishment of procedures for the identification of products and services that meet the objectives of greener public purchasing policies.
The following sectors apply to green purchasing:

| Construction | Ecological footprint |
| Water        | Textile              |
| Energy       | IT                   |
| Transport    | Furniture and Wood   |
| Tourism      | Vehicle fleet        |
| Waste services | Alternative non-toxic chemicals |

The following products apply to green purchasing:

| Green technology | Household hazardous waste |
| Building materials | Recycling               |
| Textile materials   | Renewable energy systems |
| IT equipments      | Energy-efficient lighting and appliances |
| Chemical products | Vehicles               |

4.3 Principles, Practices, and Standards

Risk Assessment. Many environmental purchasing initiatives begin with conducting a risk assessment of the goods and services to be purchased, asking which pose greater risks of environmental harm, require energy consumption, demand high levels of resource input, generate difficult or high volume wastes, or could adversely impact human health. Considerations include cost savings to be made from the purchases.

Environmental Purchasing Guide. This Guide is for Australian Government officers involved in procuring goods and services. It is also relevant for employees who are developing and implementing environmental management systems (EMS) to improve their organization’s environmental performance (Federal agencies are required to implement EMS). The Guide introduces the general principles of environmental purchasing, links these to key Australian Government policies and provides advice on getting environmental purchasing started in an organization. Checklists that provide assistance specific to key types of goods and services purchased by the Australian Government accompany the Guide. The Guide will also assist suppliers, who wish to sell to the Government, to understand how environmental issues are considered in the procurement process. We also hope that this guidance will assist other organizations that are interested in making their consumption and production more sustainable.

Environmental Checklists – Environmental checklists are used by agencies to summarize important considerations for evaluating a product or service, together with supporting environmental information, relevant Australian Government policies and, where applicable, testimonials and tips for purchasers and users. Their criteria provide a basis for generating specification language – what questions to ask in a tender and what type of information to require of bidders.
The criteria are assigned relative weightings, depending on their environmental importance. Default values are given based on a qualitative assessment by the Department of the Environment and Heritage, the Australian Greenhouse Office and their consultants. This assessment involves consideration of Australian environmental priorities, key government policies, market conditions, and relevant international examples of environmental purchasing criteria/specification sets. Purchasers can amend these weightings if they hold different views about the relative importance of the various criteria. A buyer may decide, for example, to reduce the default weighting allocated to noise produced by a piece of equipment if the equipment will always be located well away from staff.

The Toolkit for Environmental Purchasing identifies the types of information that could be requested from suppliers to enable evaluation of the environmental aspects of products obtained through tenders. The size of the order and the nature of potential suppliers should be taken into account when drafting the specification. Product labels may identify use of recycled materials and other environmental aspects of a product. These should be viewed with some caution to ensure that the claims are actually meaningful to the conditions under which the product will be used and that the labels do not ignore significant issues. Quantitative evidence of superior environmental performance from the labeled product may also be requested. The applicable international standard for eco-labels is ISO 14024 – Environmental Labeling.

**Eco-labels** – Eco-labels provide useful information regarding the environmental attributes of a product or service. There are several key types of eco-label, Specific labeling schemes often focus on a particular issue (such as energy efficiency, water consumption or greenhouse emissions) or impact (such as Dolphin Friendly). They usually take part of the life cycle and evaluate it against specific criteria. Examples include the Energy Rating (Star) Label, the Fuel Consumption Label, and the Greenhouse Friendly Label; all are administered by the Australian Greenhouse Office. Production labeling schemes assess the method of production. Many of these examples can be found in the areas of food production (such as the various organic labels) and forestry (in Australia, the Australian Forestry Standard).

**Value for Money Principle** - The CPGs state that “value for money is the core principle governing Commonwealth procurement” and they make clear that “the lowest price is not necessarily an indicator of best value for money”. Good environmental performance can be considered to add value to a product. Evidence from studies in Australia and overseas indicates that a high standard of environmental performance by a service provider may be associated with a high standard of management generally, and could, therefore, represent reduced risk and better quality service for Australian Government agencies.

**Environmental life cycle assessments of products** – These assessments have shown that the environmental impacts created when a product is used are often much greater than those resulting from manufacture of the product. This is generally the case for products that use power, water, fuel or other consumables. Similarly, the costs of such consumables over the lifetime of a product may be far greater than the initial cost of the product. It is therefore important for a
purchasing evaluation to take the costs of these consumables into account when comparing products. This can help to ensure that appropriate and comprehensive Value for Money decisions is made.

Technical Specifications requirements — These include: Low overall energy consumption; Reduced overall waste and fewer use of resources; low environmental impact packaging; low operating noise levels; companies that document additional environmental benefits of their products or superior environmental performance of their companies.

Contract Reporting. Contract reporting criteria have reporting thresholds of $10,000 for FMA agencies; and or relevant CAC Act bodies, above $400,000 for procurements other than procurement of construction services; or $9 million for procurements of construction services.

4.4 Metrics, Indicators, and Other Data

General. Australian government agencies spend around $17 billion each year on goods and services. Their activities generate greenhouse gas emissions, office waste that goes into landfills, as well as utilizing other scarce resources such as water. The consumer market for natural, healthy and sustainable products and services in Australia has grown over 25% to $15 billion in 2008 and is expected to reach at least $22 billion by 2010. Office equipment accounts for an estimated 15% of the Australian Government's tenant light and power, giving rise to about 60 thousand tons of carbon dioxide equivalent greenhouse gas emissions. Upgrading to energy-efficient equipment, and using it efficiently, can cut power consumption by office equipment by about 80%. The Government set up a goal for their energy efficiency. They target of less than 10,000 MJ per person per year by 2002 for tenant’s light and power use in Australian Government office buildings.

Department of Human Services (DHS). In May 2010:

- DHS rolled out an automatic computer shutdown program for desktop computers across all departmental sites. This initiative is estimated to save up to $135,000 per year on electricity costs and 900 tons in carbon dioxide emissions;
- DHS continues to ensure that fleet vehicles, where fit for purpose, have a Green Vehicle Guide rating of 10.5 or greater. The department’s E10 fuel policy remains in place and staff are required to purchase E10 fuel if possible;
- The department has successfully trialed the implementation of default duplex print settings for two departmental sites. When rolled out nationally it is estimated to save the department 12,000 reams of paper per year or potentially some $60,000 per year.

CRS Australia:

- Purchased 10 per cent of its energy as certified renewable energy (GreenPower) in New South Wales, the Australian Capital Territory, South Australia and Victoria;
- Encouraged nightly shutdown and the use of sleep modes for computing and other office machinery
• Continued the automatic shutdown of computers each weekend and started an eiPower Pilot—this will allow power policies to be applied to PCs, so they can be turned off after specified periods of inactivity. The objective of the eiPower software is a reduction in power consumption to meet green standards and to realize cost savings;
• Began to implement virtual data centre servers to reduce the physical footprint and power consumption;
• Continued to replace incandescent lighting with T5 lighting (narrow-diameter fluorescent light tubes) where possible;
• Continued to use timers and sensor switches for lights where possible;
• Commenced trials for the Desktop Faxing Project. The project will involve the transition from physical fax machines to desktop faxing, which will reduce power usage and costs;
• All 220 of CRS Australia’s fleet vehicles are subscribed to the Green Fleet Carbon Offset Program. This equates to an offset of 1002.2 tons of CO2-e (carbon dioxide equivalent), achieved by planting a total of 3740 bio-diverse trees;
• Under CRS Australia’s motor vehicle policy, metropolitan offices must have a business fleet of four-cylinder cars; the same policy is promoted in regional areas. The use of vehicles that run on alternative fuels such as ethanol-blended fuel is encouraged;
• In 2009–10, on average, all vehicles in the fleet exceeded the Government Green Vehicle Guide (GVG) efficiency target, and over 80 per cent rated in the top half.


4.5 Best Practices/Lessons Learned

Best Practices. The Government recorded good practices through a range of activities:

• Benchmarking performance and setting clear targets; establishing champions to coordinate and drive green purchasing; creating communication initiatives to engage with staff and develop active behavioral change; engaging with suppliers and greening large and complex supply chains; trialing innovative and new products;
• In many cases, an environmentally friendly option will reduce costs, either initially or over the life of the product;
• Environmental life cycle assessments of products have shown that the environmental impacts created when a product is used are often much greater than those resulting from manufacture of the product. This is generally the case for products that use power, water, fuel or other consumables. Similarly, the costs of such consumables over the lifetime of a product may be far greater than the initial cost of the product.
• The results from pilot projects show that green procurement can help to: provide cost savings; reduce waste sent to landfill; conserve natural resources; ensure compliance with legislation; enhance corporate image; reduce corporate risk; create more sustainable markets;
Lessons Learned/Barriers. There are a number of barriers that have significantly reduced the progress made by organisations. For instance, the critical challenge of defining what constitutes a green purchase has hampered progress as organisations struggle to understand what is green and how to balance competing priorities. The purchasing policies of both public and private sector organisations often contain green elements but few organisations have a specific green or sustainable purchasing policy. In addition, often the green elements in purchasing policies are not sufficiently specific to provide practical strategies to assist purchasing staff and ensure effective implementation. As with any prudent purchasing policy the first aim should be to reduce overall consumption and to focus on efficiency. This should be the initial filter through which all subsequent purchasing decisions are subjected.

Many organisations are attempting to establish some governance in the area of green purchasing. However, there is a relative absence of rigorously considered regulation to set a legislative framework for the environmental impact of the products and services available in Australia. Lack of standards in the areas of labeling and measuring environmental impact have led to increasing concerns about the accuracy and relevance of many environmental claims and the growing issue of “greenwash”, where in the marketing of products and services, environmental attributes are misrepresented, unsubstantiated or exaggerated. This has been cited by some organisations as a reason for the lack of organizational progress in green purchasing. There is also a need for organisations to commence reporting publicly on their progress in green purchasing and a set of commonly used indicators would assist in overall measurement and transparent reporting (see table below, left). (source: ecobuy.org.au).

Drivers. There is a range of organizational green purchasing drivers, which are generally attributed to the potential for government or industry regulation and a perception that green purchasing decisions are ‘the right thing’ (see table below, right).
5.1 Policy Framework

Brazil. Brazil’s National Environmental Policy has three purposes: to protect and enhance the existing environment, to reclaim the damaged environment, and to ensure sustainable socio-economic development. The government relies on three tools to achieve these purposes: (1) the adoption of a National Environmental Policy (NEP), (2) the creation of the National Environment Council (CONAMA), and (3) the institution of the Federal Technical Register of Environmental Defense Means and Activities. NEP’s general objectives are:

1. achieving sustainable development consistent with environmental consciousness;
2. defining and protecting priority areas;
3. establishing quality criteria and standards and creating regulations under them;
4. carrying out research and development;
5. supporting education on the environment and safe technologies;
6. preserving resources and maintaining ecological equilibrium; and
7. preventing pollution through enforcement.

Implementation of NEP is achieved under this law through coordinated roles assigned to federal, state, local agencies, and NGOs. These roles are assigned to the respective branches of government by the National Environmental System (SISNAMA). SISNAMA is composed of three different tiers of agencies and organizations. The top tier is represented by CONAMA, whose responsibility is given to the Executive Branch. The second tier is the Special Environmental Agency (SEMA) of the Ministry of the Interior. The third tier is represented by the Federal Public Administration (composed of sectoral, sectional, and local agencies) and by NGOs. SISNAMA implements NEP’s mandates through these specific tools:

1. setting of emissions standards;
2. implementing environmental zoning;
3. conducting Environmental Impact Assessments;
4. licensing and reviewing of polluting activities;
5. creating incentives for installation of environmentally benign technologies;
6. creating protected areas;
7. creating a national environmental information system;
8. creating the Federal Technical Register of Means and Activities for the Defense of the Environment;
9. establishing disciplinary measures for failure to implement the means.

The Brazilian Ministry of the Environment (MMA), created in 1992, is the central agency in charge of coordinating, supervising and controlling Brazil’s environmental policy. It is also responsible for promoting the use of sustainable natural resources and applying sustainable development within the formulation and implementation of national policies. Environmental licensing is a legal obligation before any potentially damaging and polluting activities take place.
in any part of Brazil’s territory. A framework has been created by the federal government in order to facilitate the licensing process.

IBAMA, the enforcement agency of the MMA (much like the EPA in the US), was established in 1989 and is the government’s main tool for providing information with regards to environmental welfare and protection. Despite its administrative and financial autonomy, it is responsible for implementing new policies and standards for environmental quality, evaluating environmental impacts, examining environmental degradation and for distributing environmental licenses. IBAMA has the power to impose administrative fines, but when more serious environmental crimes are committed, it is responsible for informing federal authorities for further prosecution. Other executing agencies include ICMBio, Forest Service, the National Water Agency, and Botanic Garden (Rio). CONAMA, which represents ministries of the federal government, state governments, local authorities, NGOS and civil society, and productive sectors, is a regulatory body responsible for regulation improvements.

Chile. The aim of this Chilean environmental law is to ensure the right to "live in an environment free of pollution," the right "to environmental protection [and] preservation of nature," as well as the right to the "conservation of the environmental heritage." The Chilean law imposes legal liability for damaging the environment and establishes a standard for that liability. Surprisingly, the standard imposed is "intentional or willful damage," which is quite unlike the other framework laws discussed in this article, which impose strict liability. This law imposes novel obligations on the government itself, beginning with the "duty of the State to facilitate citizen participation and to promote educational campaigns aimed at environmental protection." Control of arbitrary decisions issued by government agencies in the implementation and enforcement of this law is prevented by an ample system of appellate review. Additionally, there is a built-in system of diligence in implementation, which is motivated by strict timetables for the review that favor the respondent.

The Chilean law sets out particular mechanisms for the implementation of its goals. Among them are environmental education and research at various levels in the educational system. The law also allows for the financing of any environmentally related projects to be supplemented from "scientific, technological, and social development funds" established under the National Budget Law. Implementation of the Chilean law takes place mainly through the Environmental Impact Assessment System (EIAS), which combines the permitting of projects and activities with the use of Environmental Impact Assessments (EIA) or Environmental Impact Declarations. Management of this system is delegated to the National Environmental Commission (NEC) or its corresponding Regional Environmental Commission (REC), as appropriate.

In order to ensure consistency and proper management, the NEC has a duty to "seek to standardize any environmental criteria, requirements, conditions, background, certificates, proceedings, technical demands and procedures that the ministries and other competent State bodies may establish." This effort is supplemented by the duty placed on Governors of municipalities to work together with the REC and coordinate compliance within their municipalities.
Mexico. The framework of Mexico’s General Law of Ecological Equilibrium and Environmental Protection seeks the establishments of the bases for defining principles of ecological policy and regulating the instruments for their application; ecological regulation; environmental preservation, restoration and improvement; protection of natural areas and life; rational use of natural elements leading to sustainable development; prevention and control of air, water, and soil pollution; agreement between federal, state, and local government on the subject; coordination of agencies and bodies of Public Federal Administration, as well as appropriate participation of society. Coordination of federal, state, and local authorities is specifically addressed under this law. The federal government is charged with "matters ... with general scope for the nation or of federal interest." The matters given to the federal government are wide-ranging, covering land, air, and water pollution prevention and protection, as well as hazardous waste regulation.

Specific responsibilities are given to different federal agencies and bodies. The law assigns the Social Development Secretariat (SEDESOL) multiple responsibilities including the implementation of this legislation, the formulation of a general ecological policy, the development of programs "to preserve and restore ecological equilibrium and [to] achieve integrated management of natural resources" and the issuance of technical standards. SEDESOL is also responsible for the formulation of ecological criteria to be used in applying the general ecological policy, the evaluation of environmental impact activities, and the application of technology to reduce vehicle emissions in coordination with other agencies.

The responsibilities given to state and local governments under this framework include waste water, urban development programs, ecological regulation, regulation of use of non-federally reserved minerals or other materials "which can only be used for manufacture of construction materials or decoration," preservation and restoration in population centers, and regulation and management of non-hazardous solid waste. The responsibilities of the state and local governments are to be carried out either "exclusively or through shared participation with the federal government." States and local governments are further compelled to apply the ecological technical standards issued by SEDESOL. States and local governments are given the right to request technical assistance from SEDESOL to ensure this application. SEDESOL can enter, "with the participation of other agencies," into coordination agreements with state and then with local governments through the state. An important national mechanism established to accomplish the aims of this framework law is the National Ecology Commission (FEC), whose role is seen as a coordinating tool among secretariats, as well as a "forum to promote cooperation between the public and the State in this area." The Commission must "analyze problems and propose ecological priorities, programs and actions."

Specific technical standards govern the implementation of this law. These standards, issued by SEDESOL, are required to take into account the interest of public welfare as well as the assurance of "preservation and restoration of ecological equilibrium and environmental protection." All potential emitters of any type of discharge which could cause environmental damage are required to "observe the limits and procedures established in the applicable
ecological technical standards." Mexico's framework is enforced through a system of inspection and oversight, and emergency powers given to SEDESOL. The law provides for administrative sanctions, criminal sanctions, public denunciations, and appeals. (Source for Brazil, Chile, and Mexico: http://digitalcommons.pace.edu/pelr/vol13/iss2/26)

5.2 Programs, Sectors, and Products

Brazil. The following major initiatives were undertaken by the Government on federal, state and local levels:

- **Brazilian Ministry of the Environment** - draft amendment to the National Procurement Law to be sent to Congress is in progress, including In Article 3, the need to respect environmental sustainability as a general principle of procurement. Environmental protection as a criterion for the selection of products and services.
- **Sector-specific Sustainable Procurement Products (SPP) program** - established to support national sustainable development priorities in Brazil, linking certification standards and eco-labels with their own procurement plans.
- **“Amazon Friendly Cities”** is a Greenpeace initiative under which Brazilian cities like Campinas, Botucatu, Manaus, Piracicaba and Rio have signed a charter mandating the adoption of sustainable procurement practices within the sector of timber procurement. Private sector support has also been forthcoming for market initiatives like the Bovespa Corporate Sustainability Index (ISE), which indirectly impacts on sustainability aspects of procurement;
- **Minas Gerais Competitive Program** - supports enterprises which develop technology in the environmental area, including construction and acquisition of equipment, research and development activities. It also provides working capital and supports activities that envisage improvement of enterprise competitiveness, including process development and fulfillment of environmental rules, through modernization of equipment and process and automation, informatization, including hardware and software, products and process development and also supporting costs of buying technology, absorption and adaptation, capacitating on techniques and management methods, considering quality, innovation and marketing, programs implementation and specialized consulting contracts on entrepreneurship, quality and knowledge management, including quality certifications;

Chile. The following programs apply to green procurement in Chile:

- **ChileCompra** - The law requires public authorities to produce an annual procurement plan, which is published to the public in electronic format on ChileCompra (www.chilecompra.cl). Institutions have to submit details on the 10 most relevant procurement projects, i.e. more than US$ 200,000 (in case the institution does not plan to be involved in procurement projects above this amount, it has anyhow to describe the 10 most expensive ones). The following information must be included for each procurement: a detailed description of the goods and services; a general description of the procurement project and purpose; estimated dates; and geographical location of where the goods and services will be procured;
• **Energy efficiency (EE) criteria** – Since 2008, this program recommends energy efficiency (EE) criteria in public procurement at each stage of the process; the emphasis is on lifecycle costing. The directive is accompanied by a Guide and a Manual giving further practical tips on how to incorporate such criteria into the specifications and explaining the EE labels that have been launched in Chile and recommending purchases of equipment that bears the Energy-Star label. The directive is not obligatory.

• **CENDA Recommendations** – In 1998, the Centro de Estudios Nacionales de Desarrollo Alternativo (CENDA) produced a document for the government to address the integration of sustainable procurement practices in Chilean public institutions. Environmental criteria recommendations are based on the OECD Guidelines for Multinational Enterprises and include the following: to establish and maintain an environmental management system appropriate to the firm; to implement a communication system that informs both workers and citizens about the impacts of the firm’s activities on the environment, health and security; to assess and consider in decision making processes the foreseeable environmental, health and security impacts of the firm’s activities; to implement and maintain emergency plans aimed at preventing, mitigating and controlling negative effects on the environment, health and security; and; provide employees appropriate education and training concerning environmental, health and security issues associated with the firm’s activities.

The recommendations of CENDA are for the government to focus its efforts on quick wins (based on shares of public expenditures, with the following products that could apply to green procurement:

<table>
<thead>
<tr>
<th>Recycled paper</th>
<th>Food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative energy</td>
<td>Alternative non-toxic chemical products</td>
</tr>
<tr>
<td>Low energy consumption computers and lighting</td>
<td>Construction materials</td>
</tr>
</tbody>
</table>

CENDA recommends focusing on the following sectors to apply to green procurement:

<table>
<thead>
<tr>
<th>Services and construction and maintenance</th>
<th>Medicines and Pharmaceutical products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering, Social science and IT services</td>
<td>Medical equipment and supplies</td>
</tr>
<tr>
<td>Travel and lodgings</td>
<td>Professional services</td>
</tr>
<tr>
<td>Food and drink</td>
<td>Public works and construction</td>
</tr>
<tr>
<td>Supplies and components for structures</td>
<td>Health and sanitation services</td>
</tr>
<tr>
<td>Transport</td>
<td>Buildings &amp; Construction</td>
</tr>
<tr>
<td>ICT &amp; Electronics</td>
<td>Oil &amp; Gas</td>
</tr>
<tr>
<td>Retail</td>
<td>Textile</td>
</tr>
<tr>
<td>Tourism</td>
<td>Waste</td>
</tr>
<tr>
<td>Water</td>
<td>Metals &amp; Minerals</td>
</tr>
</tbody>
</table>

**Mexico.** A number of law reforms, policies and regulations have taken place that further the government’s sustainable development goals:
The National Program of the Environment and Natural Resource - the primary program that prioritizes targets in key environmental areas but it also establishes links with the environmental objectives and targets in ten national sectoral programs: agrarian reform, agriculture, economy, education, energy, finance, health, social development, tourism and transport. The Program to Promote Sustainable Development in the Federal Public Administration represents an effort to coordinate public policies towards sustainable development by including sustainable development targets and action plans in sectoral planning. “Presidential” targets have been set for all secretariats, including performance requirements in terms of environmental outcomes and public administration;

- **Sustainable Forestry Development Act** - offers a new forestry model that will help to curb illegal cutting and preserve and strengthen ecosystems;

- **Ecological taxes** are increasingly used in Mexico. The government has proposed innovative solutions such as incentives for using cleaner fuels and smog control measures. Through the Secretariat of Finance and Public Credit ecological taxes on new automobiles have been incorporated, aimed at fostering technological updating of the country’s fleet and thereby improving air quality (SEMARNAT 2001, p. 133).

- **Ecology Law** - pursuant to the Ecology Law, SEMARNAT established Advisory Councils for implementing and monitoring environmental policies that include the participation of academics, NGOs, business, and local and federal authorities. These advisory bodies responsible for advising, assessing and following through on environmental policy. Citizen participation has been strengthened through such national, regional, state and local Advisory Councils.

The following products apply to green purchasing:

<table>
<thead>
<tr>
<th>Water</th>
<th>Food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas</td>
<td>Vehicles</td>
</tr>
<tr>
<td>Electricity</td>
<td>Machinery</td>
</tr>
<tr>
<td>Lease and maintenance services</td>
<td>Office equipment</td>
</tr>
<tr>
<td>Construction materials</td>
<td>Engineering services</td>
</tr>
<tr>
<td>Advanced energy technologies</td>
<td>Renewable energy including hydro power</td>
</tr>
<tr>
<td>Water Use Efficiency</td>
<td></td>
</tr>
</tbody>
</table>

Applicable sectors are:

<table>
<thead>
<tr>
<th>Agriculture</th>
<th>Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fisheries</td>
<td>Health</td>
</tr>
<tr>
<td>Rural and Urban development</td>
<td>Education</td>
</tr>
<tr>
<td>Industry</td>
<td>Energy</td>
</tr>
<tr>
<td>Trade</td>
<td>Tourism</td>
</tr>
</tbody>
</table>
5.3 Principles, Practices, and Standards

Brazil. Brazil’s environment agency has developed the following key programs:

- The REVIZEE Program whose objective is to inventory marine life and its characteristics in order to establish sustainable fishing practices;
- The National Coastal Development Plan (PNGC) to ensure sustainable development in Brazil’s coastal areas;
- The National Biodiversity Program (PRONABIO), which runs a series of projects related to biodiversity;
- Pilot Program for the Protection of Brazil’s Tropical Forests, whose objective is to develop sustainable development practices in national forests and disseminate best practices;
- National Program for the Environment (PNMA), which seeks to strengthen the institutional capacity of the agencies responsible for environmental programs at the state and local levels;
- Promote the development of management tools to protect ecosystems and to make viable the application of market analysis mechanisms to environmental management and sustainable use of natural resources;
- Implementation of the Green Protocol, as mentioned in section
- Initiatives at federal level – Under its Sustainable Procurement Program (SPP), a Presidential Decree ruled on a ban on the use of ozone depleting substances as per the Montreal Protocol; revisions to the Public Procurement Law (8666/93) includes a series of sustainability criteria that include environmental standards;
- Initiatives at State Level – The State of Acre encourages use of certified wood and supports local producers and associations. The State of Amazonas purchases certified chairs to be used in its public schools. In Rio, a new law regulates genetically modified food in meals served in public schools; in Sao Paulo, Decrees ban the purchase of products or equipment containing ozone-depleting substances. Governor’s Resolutions created a Working Group to establish environmental criteria for public procurement;
- Initiatives at local level - in the States of Paraná, Santa Catarina, and Rio Grande do Sul, municipalities have formed in partnership with small family-owned organic farms and NGOs. Local governments subsidize local production of organic food and purchase part of the production to be used in meals at local public schools;

Chile. The following procurement principles or procedures apply to green procurement:

- ChileProveedores - the national register of suppliers, called ChileProveedores was created in 2006 to centralize all the information relating to suppliers. The register enables state buyers to check that registered suppliers are in a position to contract with the State by looking at documents pertaining to their financial and legal situation and technical competence. As at
December 2007, 80% of tenders required applicants to be registered. The requirements for a buyer to be able to contract with the state are set out in the law:

- **Technical specifications** - The public authority must set out technical specifications and process details (article 20 Procurement Regulation). These specifications should enable the procurement agency of the public authority to compare bids and choose the most advantageous. Price cannot be the only consideration. When drawing up the specifications the procurement agency should promote effectiveness, efficiency and quality but also consider savings to be made in its budget. However, the specifications must ensure that equal treatment of all bidders is maintained and that no arbitrary differences are established between them. There are certain elements which the specifications must obligatorily contain, these include the requirements that the bidder and the product/service must comply with, the timeline for the tender process, the payment procedure and the objective criteria which will be used in the evaluation and decision process;

- **Rewarding compliance: Article 23 of the Procurement Regulation** - This article refers to optional additional criteria that may be included in the specifications. One of the conditions is that points may be awarded to bidders in order to reward compliance with laws promoting the environment, employment of disabled people or other matters of significant social impact. However, the regulation is clear that such criteria may not be the only criteria taken into consideration when awarding the tender. The regulation stipulates that the language of such additional criteria must be clear and precise;

- **Energy Efficiency Criteria** - Although SPP is a novel concept in Chile, there are some indications that it is gradually being internalized by public bodies. On the environmental side, one example corresponds to the March 2008 directive launched by the “Dirección de Compras y Contratación Pública” incorporating energy efficiency (EE) criteria in public procurement at each stage of the process. A Guide and a Manual giving further practical tips on how to incorporate such criteria into the specifications and explaining the EE labels that have been launched in Chile for light bulbs and fridges, accompanies the directive. Although the directive evidences some advances in SPP, some are critical because it has a voluntary nature and only provides non obligatory recommendations to public bodies;

- **Whole Life Costing or Total Cost Ownership** - Article 6 of the Law on Procurement specifically states that all present and future costs are to be taken into account when assessing which product/service is the most “advantageous”. The consideration of both present and future costs is also emphasized in the articles relating to the drawing up of specifications. Article 20 of the Procurement Regulation specifically states that the public authority should not only take into consideration the price but also the conditions that might impact on the benefits or the costs that are to be expected.

**Mexico.** The following procurement procedures are of significant importance in Mexico: Value for money, equal treatment, transparency and competition are the principles relevant to the interpretation of the legislation.

- **Article 134 of the Federal Mexican Constitution** establishes the obligation of public entities to consider price, quality, financing, opportunity, economy, efficiency, equal treatment and competition in the procurement process. In connection with transparency, there are special
provisions and mechanisms in all the processes of the Mexican state to guarantee it, so it is possible to state that such fundamental principles apply to the Mexican procurement system. Also, the Federal Judicial power has confirmed the existence of such principles through its jurisprudence. As article 134 of the constitution establishes, public-open tendering is the prevailing type of procurement procedure. In case of justified exceptions, emergencies, force majeure, acts of God, public health and national security reasons, among others, other methods of procurement established in the law, which are (i) an invitation to at least three persons, and (ii) a direct award. Other kind of procurement methods such as framework agreements and electronic reverse auctions are included;

- **Awarding contracts** - The lowest price is the determinative factor in the awarding of contracts among the bids that meet the specific technical requirements;
- **Technical specifications** - bidders who participate in a public procurement procedure must comply with all specifications required by the contracting authority. Nevertheless, there are some rules for the contracting authorities to determine specifications in order not to limit the participation of bidders. Methods are available for joint procurements, e.g. framework agreements and consolidated buys;
- **Rules on excluding tenders** - Bidders can be excluded in any case when they do not comply with the bid instructions and the law;
- **Rules on short-listing tenders** - Short lists are only permitted under the case that the bidders do not comply with the bid instructions. Suppliers’ lists are a way to facilitate the work for the contracting entities, but not a cause for not receiving the bids;
- **Rules on awarding the contract** - Both the PWRSL and the BGLRS have as a general principle not to award to the lowest price but the best offer considering the best conditions and the best acceptable price. Each law has its own criteria under a specific method;
- **Rules on alternative bids** - Alternative bids may only be considered if the contracting authority has requested them. Nevertheless, the laws do not consider this possibility and therefore it is almost never used at a federal level, since they have an implied risk related to the evaluation of the bids.

5.4 **Metrics, Indicators, and Other Data** (No data available for Mexico at the time of this review)

**Brazil**

- Federal government expenditure/ year US$ 6.4 billion (2002) for total public procurement (all modalities);

**Chile**

- It is estimated that in 2006 the state saved approximately US$ 100 million through the use of the Chilecompra systems (90% of these savings were generated through obtaining better prices and the remaining 10% through replacing the need for many tenders by arranging framework agreements);
- Eight hundred public authorities are using the ChileCompra system.
5.5 **Best Practices/Lessons Learned**

**Brazil.** The following challenges and bottlenecks exist in Brazil at the government level:

- Actions are inconsistent and do not continue over different terms of office;
- Insufficient and inconsistent knowledge about sustainable procurement;
- Lack of political will (and courage) of decision makers;
- Lack of public policies and regulations on sustainable procurement;
- Highly bureaucratic public procurement system;
- Need to organize data base on availability of sustainable products and services;
- Lack of integrated and comprehensive study on how to use EMSs and certification to establish sustainable procurement;
- Lack of awareness on elaborate issues such as sustainable consumption and production, sustainable procurement, environmental management systems, even among local environmental authorities;
- The main difficulties to implement the Green Protocol directives are the expenses incurred by the public banks for establishing the internal changes and operational modifications to incorporate the environmental variable on the analysis for credit concession, and the society paradigm changes about the consumption and production standards;
- It will be necessary to adopt classification systems to consider the environmental impact and its implications in the credit risk. The Inter-American Investment Corporation/CII (under the IDB) has adopted this system. The inclusion of the environmental variable in the concession of credit and fiscal benefits is good for the “green market” principles and also for the “+ Clean production process”, considering that the credit or fiscal benefits demanders will make efforts to implement all the environmental legislation dispositions, with priority to “+ Clean Production” and to rational use of natural resources, offering local alternatives or compensatory measures for saving their right to official credit.

**Chile.** One of the main obstacles corresponds to the lack of knowledge about the preparedness of the Chilean market to supply sustainability goods and services and the rather modest presence of sustainable certifications and labeling. Other significant challenges are linked to:

- The absence of objective tools or criteria for assessing the sustainability of the goods and services offered by suppliers;
- Impact that introducing sustainability criteria would have on SMEs currently supplying the public sector;
- Need to demonstrate that sustainable procurement produces investment and consuming savings, and;
Mexico. As a means to promote environmental compliance, Mexico is currently engaged in a pilot study in which water use and discharge fees are waived when the permit holder installs certain clean technologies. Should the project prove successful, it is possible that such fee waiving programs will be also implemented in other areas of environmental protection legislation.
### Annex 1 - ISO 4001 Integration into Environment Management Systems (EMS)

<table>
<thead>
<tr>
<th>EMS Element (ISO 14001)</th>
<th>Green Purchasing Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2 Environmental Policy</td>
<td>A conforming Federal Facility Environmental Policy Statement can include green purchasing, by reference, in the commitments to compliance with legal and other requirements and prevention of pollution. An organization also may include a more direct green purchasing commitment, such as:</td>
</tr>
<tr>
<td></td>
<td>[Facility] will consider environmental factors in all purchasing decisions and will give preference to those products and services designated by or recommended in Federal green purchasing preference programs, as well as those products and services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.</td>
</tr>
<tr>
<td>4.3.1 Environmental Aspects</td>
<td>The procedure to identify environmental aspects and significant impacts must be applied to procurement (purchasing) and contracting as activities you control or influence. Other activities also may have procurement-related aspects, such as the purchase of products or services that consume resources and/or generate wastes.</td>
</tr>
<tr>
<td></td>
<td>Include procurement and contracting personnel and key purchasers on the EMS Cross Functional Team identifying and ranking aspects and impacts.</td>
</tr>
<tr>
<td></td>
<td>Consider Including compliance with procurement-related legal and other requirements among the criteria for determining significance.</td>
</tr>
<tr>
<td>4.3.2 Legal and Other Requirements</td>
<td>A conforming legal and other requirements procedure should identify all procurement-related laws, regulations, and Executive Orders. Any agency-specific procurement requirements, including your agency's Affirmative Procurement Plan and Green Purchasing Strategic Plan² are considered “other requirements” and should be incorporated into any list or register of legal and other requirements for the EMS.</td>
</tr>
<tr>
<td>4.3.3 Objectives and Targets</td>
<td>Determine realistic green purchasing objectives for each appropriate significant aspect, based on the commitment to pollution prevention, legal and other requirements, significant aspects, and mission requirements. Consider targeting all purchases over a threshold amount, based on environmental impact and the amount of influence your facility has over the product or service provider(s) (See Environment Agency of</td>
</tr>
</tbody>
</table>
Great Britain).

Establish measurable green purchasing targets that can be accomplished within a reasonable timeframe. For example:

**Objective:** Improve green purchasing practices.

**Targets:**

- Provide green purchasing training to procurement staff.
- Identify opportunities to purchase green products and services.
- Consider requiring the use of FAR clause 52.223-10 in all relevant service contracts.
- Create Green Purchasing SOPs for Buildings, Power, Electronics, Vehicle Fleets, Office Supplies, Copy Paper, Cleaning Products, Meetings, and Landscaping and provide management emphasis to these initiatives.
- Conduct employee awareness training on the purchase and use of green products and services and participation in recycling programs.

Remember, objectives and targets are documented and reviewed and updated on an established schedule.

<table>
<thead>
<tr>
<th>4.3.4 Environmental Management Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish programs to pursue green purchasing objectives and targets and define a timeframe within which each should be achieved. Identify both human and financial resources to ensure that green purchasing programs are effective, as well as metrics to determine progress.</td>
</tr>
<tr>
<td>Establish a procedure to review new and modified contracts and contract renewals to ensure the contract language includes requirements for green purchasing.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4.4.2 Training, Awareness and Competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify procurement training needs based on significant aspects and legal and other requirements for Federal green purchasing preference programs. Train procurement and contracting staff and product users on green purchasing and encourage them to request goods and services that reduce environmental impacts and meet performance standards.</td>
</tr>
<tr>
<td>Consider requiring that key procurement and contracting personnel take the Office of Personnel Management’s “What is Green Purchasing, Anyway?” training course available at the Gov Online Learning Center website: <a href="http://www.golearn.gov">www.golearn.gov</a> The DOD Green Procurement Strategy offers a list of green materials, services, and technologies.</td>
</tr>
</tbody>
</table>
### 4.4.3 Communication

The Communication Procedure should include guidance on who is responsible for internal communication on significant aspects, including those related to green purchasing, as well as how often and to whom information will be disseminated.

### 4.4.5 Document Control

Document control procedures will apply to all green purchasing documentation, including Affirmative Procurement and EPP plans, specifications, purchase orders and contracts and list of green products approved for purchase.

Procedures and responsibilities for creation and modification of purchasing documents as applicable.

### 4.4.6 Operational Control

Ensure that all significant aspects related to green procurement are addressed by operational controls. Develop and implement control procedures to ensure that product users, specification writers and the procurement and contracting personnel include an evaluation of environmental considerations, along with price, performance and availability, in the criteria for purchasing decisions. Green contract language for more than 600 products and services is available at [http://yosemite1.epa.gov/oppt/eppstand2.nsf](http://yosemite1.epa.gov/oppt/eppstand2.nsf).

Operational control procedures should ensure that purchases of designated and mission-appropriate green products and services support the environmental policy, legal and other requirements and green purchasing objectives and targets.

Communicate green purchasing procedures and requirements to suppliers and contractors, especially those that provide goods and services for activities that have significant environmental aspects.

### 4.4.7 Emergency Response

Emphasize the purchase of environmentally preferable products to reduce the potential for incidents requiring emergency response.

Consider including green spill response material specifications in the Emergency Response Procedure.

### 4.5.1 Monitoring and Measurement

A conforming procedure will document what green purchasing data to collect and how to collect and manage...
the data related to significant environmental aspects and requirements for reporting on green purchasing.

Per Federal green purchasing program requirements, monitor purchases of recycled content products, bio-based products, alternative fueled vehicles, alternative fuels, and non-ozone depleting products. Your organization may also want to monitor purchases of any other product or service that has a reduced impact on the environment when compared with competing products that serve the same purpose.

When possible, measurements should quantify positive environmental impacts as well as progress toward meeting established green purchasing objectives and targets. For example measure reductions in solid waste associated with purchases of environmentally preferable products, reductions in hazardous waste disposal associated with substitution of less toxic products, as well as reductions in energy and water use associated with products to increase efficiency.

<table>
<thead>
<tr>
<th>4.5.2 Nonconformance and Corrective and Preventive Action</th>
<th>Designate responsibility for investigating and correcting findings of nonconformance with the green purchasing EMS requirements, in accordance with facility corrective action procedures.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5.3 Records</td>
<td>Identify green purchasing records, such as training, purchases of specific products, reports to management and government agencies and audits. Maintain these environmental records in accordance with facility EMS procedures.</td>
</tr>
<tr>
<td>4.5.4 EMS Audit</td>
<td>Ensure that green purchasing EMS elements are included in the activities to be considered in either internal or external audits of the EMS.</td>
</tr>
<tr>
<td>4.6 Management Review</td>
<td>Ensure that progress toward achieving green purchasing objectives and targets and any green purchasing operational controls are discussed as part of the EMS Management Review. Ensure that the management review considers recommendations to improve facility green purchasing efforts.</td>
</tr>
</tbody>
</table>
Annex 2 – United States Case Study

Case Study of The City of Santa Monica’s Environmental Purchasing

I. Overall Objectives:

To identify and purchase products and services that minimizes the burden on the environment and human health.

II. Overall Background:

In order to achieve its objectives the Santa Monica launched two programs: The Sustainable City Program and Toxics Use Reduction (TUR) Program. The Sustainable City Program’s far reaching goals include reducing resource consumption, reducing the use of hazardous materials, reducing waste generation and pollution, and safeguarding the local environment and public health. In addition, the city adopted the Toxics Use Reduction (TUR) Program, a set of policies implemented by the city’s Environmental Programs Division that are part of the broader Sustainable City Program.

With the goal of reducing the city’s use of toxics, the TUR Program governs the purchasing of all products that contain chemicals. The Environmental Programs Division’s implementation of this program involves overseeing the purchasing of cleaning products, fleet maintenance products, and pest management services. Under these programs four pilot projects were executed for the following purchasing products: cleaning, fleet maintenance, integrated pest management service, and recycled products

III. Procurement Agencies:

- The Environmental Programs Division implements the TUR Program, a set of policies designed to reduce the city’s use of toxics that governs the purchasing of any product containing chemicals. The Environmental Programs Division conducts research, drafts specifications, reviews bids, and makes recommendations;
- Other city divisions, including the Engineering Division, Public Works Division, and the Fleet Maintenance Division, also conduct research, draft specifications, review bids, and make recommendations;
- The City Council reviews and approves all bids for purchases over $25,000 including the purchase of alternative cleaning products. The City Council supports environmental purchasing. The city’s buyers in the Purchasing Division procure products for individual departments and the central warehouse. If a product contains a chemical, they consult the Environmental Programs Division for specifications. They also are aware of the city’s policies for recycled content products;
- Individuals in city departments contact the Purchasing Division for all purchases over $1,000. Individuals also make small purchases (under $1,000) using quick purchase orders. They have been informed of the city’s policies for recycled-content products and products
containing chemicals but act independently. Individuals obtain many items, such as cleaning products and recycled-content office paper, from the central warehouse.

Case Study - Environmental Cleaning Purchasing Products

In this project Santa Monica focuses on including end-users’ insights in order to create environmentally purchasing criteria for purchasing alternative cleaning products. The environmental cleaning products purchased by Santa Monica include:

- All-purpose cleaner
- Bathroom cleaner
- Brass polish/cleaner
- Carpet shampoo
- Chrome polish/cleaner
- Degreaser/cleaner
- Deodorizer
- Disinfectant
- Enzymatic cleaner/digester
- Furniture polish
- Glass and window cleaner
- Graffiti remover
- Liquid hand soap
- Solvent spotter

Environmental purchasing for cleaning products included the following processes:

- Researching products – Custodial products were selected for this pilot project. Prior listing technical specifications for alternative products, the city gathered information from the Washington Toxic Coalition and local consultant as well as they took under consideration the outcomes of Canada’s Environmental Choice and Germany’s Blue Angel programs in the area of custodial products. Ultimately, the custodial staff’s opinions were included;
- Drafting specifications – the evaluation criteria for alternative cleaning products were: toxicity, air quality, corrosiveness, and biodegradability, for their products. Santa Monica also specified that products be supplied in concentrated form to reduce the amount of packaging.

The criteria evaluated by Santa Monica for alternative cleaning products were as follow:

- Acute toxicity
- Biodegradability
- Skin irritants
- Flammability
- Chronic toxicity
- VOC levels
- Corrosiveness
- Presence of petroleum or hydrocarbons
- Presence of ozone-depleting chlorinated compounds
- Presence of artificial dyes or fragrances

- Obtaining vendor information- After receiving vendors’ alternative cleaning products proposals Santa Monica used these information to send the Requests for Proposals (RFPs). Sometimes vendors experienced difficulty to provide list of ingredients according to the evaluation criteria. In such a case vendors were given a poor score in this category;
- Evaluating bids and testing products - Santa Monica reviewed all of the bids received based on its established criteria. The city reviewed material safety data sheets and statements by vendors that their products met the established criteria. In addition, for certain criteria, such as biodegradability, the city required that vendors provide lab tests. Products meeting the established environmental and human health criteria were then tested for efficacy by the city’s custodial staff. This hands-on testing, and the corresponding feedback from staff members, was a crucial step in the process of evaluating competing bids. After the city tested products for performance, it evaluated them for cost. Cost was not the primary consideration used in evaluating products. Instead, the goal of the program was “to achieve a cost savings while maintaining or improving the level of service”;
- Running a pilot program – Prior purchasing alternative cleaning products Santa Monica ran a pilot program for 10 months. Within this time the specific products were identified by consultants and supervisors and managers were educated of its benefits. Custodian staff tested the products and gave their feedback. Their input when awarding contracts were taken under consideration;
- Evaluating the product and process – Every year Santa Monica provides a monitoring report on its custodial purchasing practices. Based on this the city decides their further changes and implementations.

The lessons learned from the pilot include the following aspects:

Cost savings:
- In its first 2 years, Santa Monica estimates that it saved approximately 5 percent by purchasing alternative cleaning products rather than traditional products. This cost savings resulted in part from the reduced packaging and shipping costs associated with concentrated products. In addition, improved custodial training led to more efficient use of products, which also contributed to cost savings.

Environmental Impact:
- Replaced toxic products used throughout the city with less toxic or nontoxic alternatives in 15 of 17 cleaning product categories;
- Eliminated approximately 3,200 pounds annually of hazardous materials in products purchased;
• Increased morale of custodians who recognize the city’s concern for their health and working conditions and who appreciate the opportunity to participate in making decisions about their work.

Evaluation Criteria:
• Developed proven and effective procurement specifications that can be adapted for use in future TUR Program efforts;
• Revising its criteria for cleaning products to simplify future use;
• Considered switching to a pass or fail evaluation system;
• Creating equal bidding opportunity for small and large companies by eliminating requirements for providing resources to support environmental or social responsibility causes. Small companies struggling to market one product, on the other hand, might not have such resources;
• Training end-users to test the alternative cleaning materials helped to draft technical specifications and select the most effective products;
• Evaluating the product and process through a monitoring system report helps the city to plan future changes and improvements.

Overall Summary for Lessons Learned with respect to policies and procurement procedures:

• Work with existing purchasing procedures:
  Santa Monica did not wait to change existing purchasing policies in order to effect environmental purchasing. Instead, with each product category, the city used existing procedures. Some environmental products are purchased using a formal, citywide bid, while others are requested by individual city departments. The city’s warehouse stocks many high volume, frequently used environmental products, while others are purchased on an as-needed basis. For each purchasing procedure used, the Environmental Programs Division supplies information and, in some cases, the actual specifications used.

• Look for ways to improve purchasing policies and systems:
  Santa Monica also looks for ways to improve purchasing policies and systems (e.g., computerization) in order to facilitate environmental purchasing. After evaluating the purchasing process for alternative cleaning products, the city decided to revise its specifications to simplify them for future use. The city also is investigating adding language to its municipal code that will ensure that environmental purchasing continues to be a high priority for the city and make it easier to accomplish. In addition, the city is expanding its computerized tracking of purchases.

• Approach environmental purchasing one step at a time:
  As part of the TUR Program, the city had many goals for environmental purchasing that included adopting new purchasing policies for a wide range of products. The city started, however, with a single group of products: alternative cleaning products. When that program was well established, the city turned its attention to IPM. By focusing on one product category at a time, the city was able to implement a more comprehensive, workable
purchasing process. In addition, each time the city buys a new product, it tests the product using a pilot program. Only after the pilot stage has been successfully completed and evaluated does the city buy the product on a large scale.

- Address the entire purchasing process as a system, rather than focusing on just the product: Santa Monica’s approach to purchasing starts with up-front research by appropriate individuals and then proceeds to drafting specifications, testing products, training end-users, and evaluating both the products purchased and the purchasing process. By focusing on the entire process rather than individual products, Santa Monica is able to realize its environmental purchasing goals.

- Create partnerships between environmental and procurement staff: Santa Monica’s Environmental Programs Division and Purchasing Division combine their expertise and share the workload of environmental purchasing. The Environmental Programs Division’s research, advice, and specifications assist buyers with the task of purchasing products and services deemed safer for the environment and human health. The buyers, in turn, help Santa Monica achieve its purchasing goals by screening requests from other city divisions. The Environmental Programs Division also provides advice to procurement staff in city divisions preparing requests for the Purchasing Division or making small purchases.

- Enlist the support of both high-level officials and end-users: The support of Santa Monica’s city manager, City Council, and department heads is invaluable to the city’s environmental purchasing efforts. The insight and support of the end users for alternative products and services also are instrumental to the city’s success. Santa Monica recognizes the importance of, and actively solicits, this kind of broad-based support for environmental purchasing.

- Recognize and utilize the specific expertise of end-users: Santa Monica relies on its end-users to provide essential feedback about a product’s performance. When a particular end-user is recognized by his peers as having expertise with a specific product category, Santa Monica finds soliciting that end-user’s comments to be particularly helpful. For example, to test custodial floor care products, Santa Monica relied on the city’s leading floor care expert, a member of the city’s custodial staff.

- Keep staff with purchasing power aware of policy changes: A number of individuals making small purchases (under $1,000) continued to buy traditional, more toxic products even after Santa Monica had officially changed its policies. Environmental Programs Division staff read through all purchase orders for chemical products to verify whether the new policy was being implemented. If the product purchased did not meet the city’s new criteria, Environmental Programs Division staff informed the purchaser and the department head. The department heads are supportive of the program and help ensure implementation of the policy. When individual staff were asked why they did not follow policy, they provided valuable feedback that helped Santa Monica improve its program.
• Expect a certain amount of resistance to change and skepticism about alternative products: Initially, many end-users were skeptical about the efficacy of alternative products or resistant to changing established practices. Santa Monica found that including end-users in all phases of decision-making and having pilot programs helped it meet this challenge.

• Investigate third-party certification and other ways to verify vendor information: Santa Monica’s efforts to evaluate environmental products were made more challenging because it could not always obtain complete, accurate information from vendors. In addition, city staff lack the time and expertise to verify manufacturers’ claims about their products. The city investigated Green Seal and other certification programs but has not found an organization that provides the comprehensive information it is seeking. Deborah Raphael noted that third-party certification, either by the government or by a nonprofit organization, would help Santa Monica’s efforts. She also expressed interest in finding other potential ways to ensure that vendors provide complete, accurate information.

• Train staff in how best to use alternative products: Santa Monica’s research revealed that many alternative products, such as cleaning products, require different methods of application. Santa Monica found that training end-users in how best to use the alternative cleaning products increased the effectiveness of the products and boosted approval ratings for the new products. In addition, staff training contributed to efficient use of the products, which helped save the city money. IPM is another area in which Santa Monica sees the benefit of training end-users. Training city staff in how to prevent pests is a cornerstone of this effort, and staff’s implementation of these procedures helps reduce the need for treating pests.

• Track specific purchasing information by computer, if possible: Santa Monica’s warehouse tracks purchases according to product category. This helped the Environmental Programs Division evaluate the success of the city’s switch to alternative cleaning products. Santa Monica also tracks purchasing information for small purchases (under $1,000). These quick purchase orders are entered in a newly established database, and quarterly reports are generated. The city also can access specific information on citywide formal bids of more than $25,000. As noted above, however, the city currently has no way to track specific purchasing information for purchases between $1,000 and $25,000. The custom computer system recently ordered by the city will track this information and enable the city to more easily measure the success of its environmental purchasing efforts. Source: http://www.epa.gov/epp/pubs/case/santa.pdf
Annex 3

Main Findings from an OECD study on International Procurement Regimes and the Scope for the Inclusion of Environmental Factors in Public Procurement

The OECD paper reviewed four international procurement regimes: the Government Procurement Agreement (selected because of its character as a plurilateral agreement within the WTO system); the procurement regime of the European Union (selected because it represents a regime operating in the context of a common market rather than only a free trade area); the North American Free Trade Agreement (selected as an example of a procurement regime operating in the context of a regional free trade agreement between members of the WTO who are signatories to the GPA); and the Australia and New Zealand Government Procurement Agreement (selected as an example of a bilateral procurement agreement between countries not party to the WTO Government Procurement Agreement).

The excerpts below capture key conclusions focusing on best practices for technical specifications and on evaluating offers and selecting contractors.

Best Practices for Technical Specifications

- The distinctions between environmental impacts associated with products and those associated with production process methods is addressed in all cases, but they appear to differ in the extent to which the latter can be included in technical specifications. At the one extreme, the EU appears to take a "hard line" restricting the use of PPMs. However, there is some ambiguity in different texts. There is also some ambiguity in the case of NAFTA, with different articles of the Agreement appearing to be at odds with each other. At the other extreme, the ANZGPA appears to place few constraints on the use of PPMs in technical specifications;
- All of the regimes allow for the use of non-price factors in contract award criteria. However, it would appear that the scope for the inclusion of other factors, including environmentally relevant factors, differs. Perhaps most significantly, while the EU mandates the selection of the "most economically advantageous" tender, the GPA uses the term "most advantageous". The latter would, of course, imply a greater degree of allowable discretion;
- In a related vein, whole-life costs and "value for money" are common features of all the international procurement regimes reviewed, the extent to which this can include nonfinancial external costs appears to differ. For example, while both the EU and the ANZGPA would allow for the financial costs of disposal to be considered, arguably the latter seems to allow for greater discretion with respect to the incorporation of external environmental costs for which there are no market or administered prices;
- In the qualification and selection of suppliers, the scope for the use of management related factors (such as certification of an environmental management system) as a proof of "technical capacity" also appears to differ somewhat between the regimes. In this case, NAFTA seems most restrictive, with greater scope allowed for the purchase of services or works contracts where this might be more directly relevant than in the case of goods;
• Other factors such as degree of discretion allowed in the use of "eco-labels" as technical specifications, preferences for performance standards rather than technological standards, and, more generally, the pursuit of secondary policy objectives through public procurement are also important. All of these points are key to an understanding of the extent to which government authorities can incorporate environmental criteria in their tendering procedures and in procurement generally. In general, the report concludes that there is, in fact, considerable legal scope to do so. However, it is also clear that a number of important issues remain unresolved due to the relatively immature state of case law in this area. The effect that this uncertainty may be having on the willingness of procurement officers in member country governments to exploit this potential scope is not clear;

• It does, however, seem clear that the systems reviewed in these cases each reflect an understanding that the procurement process can and should provide opportunities to advance environmental objectives. The extent to which this can be achieved without prejudicing the procurement principles of transparency and non-discrimination (that to a greater or lesser extent underlie each of the systems) will no doubt become clearer as practice develops.

Factors in evaluating offers and selecting contractors

There are two broad categories of factors used in evaluating offers (Arrowsmith et al., 2000). The first category encompasses the fulfillment of the contract, and primarily addresses the quality of the good or service to be provided and the price. The second broad category encompasses the use of contracts to advance public policy (industrial, social, and environmental) goals.

If price is the most important factor, the choice among tenders is simplified and mechanical. Selection based on lowest price is usually used when the purchaser is buying something well defined or off-the-shelf and there is little or no question about whether the good to be provided will meet quality specifications. If the standard for an award is to select the “most advantageous” or “best value” tender, then a variety of factors are considered. The selection of a contract can become both more discretionary and more complex, and takes place only after a technical evaluation process in which these factors are scored and ranked. Examples of quality-related factors include: “delivery date, running costs, cost-effectiveness, quality, aesthetic and functional characteristics, technical merit, after-sales service and technical assistance.” (Arrowsmith et al. 2000) The purchaser can also use a “minimum threshold” or a “low price technically acceptable” approach that sets forth minimal standards that must be met before a tender will be considered.

Procurement is based on value for money, which is defined as “the optimum combination of whole life cost and quality (or fitness for purpose) to meet the customer’s requirement.” The emphasis on whole life costs means that departments are “required to take account of all aspects of cost, including running and disposal costs, as well as initial purchase price” (HM Treasury 1999). Thus, life-cycle costing (also known as whole-of-life costing) is an attempt to put a price tag on the true costs of long-life, complex purchases -- from project inception through development, acquisition, and support to disposal at the end of its useful life, also known as “cradle to grave.” Rather than analyzing just the initial cost, life cycle cost estimates include:
Life cycle cost comparisons are not likely to be necessary if the life expectancy of the goods is less than one year or if most of the expenditure occurs in one year. However, lifecycle cost comparisons are “critical when comparing lease-rent-buy alternatives. They are also important for low initial price, high ongoing cost versus high initial price, low ongoing cost options, for example, a solar hot-water system compared with either gas or electricity” (Commonwealth of Australia, Department of Finance and Administration 1996).

A well known method for making cost comparisons and determining whether a government program or procurement can be justified - what some might call a “decision rule” – is net present value (NPV). NPV is computed by assigning monetary values to benefits and costs, discounting future benefits and costs using an appropriate discount rate, and subtracting the sum total of discounted costs from the sum total of discounted benefits. Items with different life spans can be compared using equivalent annual value (EAV), which is the NPV discount-averaged over the expected life span of each option to give an equivalent annual value that can be used for comparison. When the NPV is calculated for two options, decision-makers should choose the option with the larger NPV. Projects should not be undertaken if the NPV is less than zero, unless the decision-maker is willing to “lose money” to achieve a non-economic objective.

As noted above, procurement policies sometimes are adopted to pursue “secondary” objectives that are considered after the “primary” objective of using procurement policy to obtain goods and services at advantageous terms. For years, procurement has been used as a tool of industrial policy and developed countries have employed preferential procurement policies to promote domestic industries via government contracts. Traditionally, procurement has favored domestic suppliers. This “home bias” can also result from tacit discriminatory behavior that is not codified in written rules.

In more recent years, procurement policies have been adopted to address social and environmental goals (but these have had a much smaller impact than policies designed to favor domestic industries). Preference is sometimes given to businesses owned by disadvantaged social and ethnic groups. Beginning in the late 1970s, state and local governments in the United States introduced policies to restrict awarding contracts to companies that do business in or with countries with poor human rights records. More pertinently for this report, environmental criteria (which do not relate directly to lifecycle financial costs) have been included as criteria in many procurement regimes.
Nonetheless, the Canadian Treasury Board indicates that “a sound benefit-cost analysis should be at the heart of every business case presented to senior managers and to ministers.” Similarly, in the United States, the Office of Management and Budget calls for benefit-cost analysis to support government decisions to initiate, renew, or expand Federal programs or projects that would result in measurable benefits or costs extending three or more years into the future. Just undertaking the analysis can sometimes be an instructive exercise in understanding the long-term effects of a decision.

The use of secondary procurement goals raises issues of discrimination. According to the OECD, “discriminatory or preferential procurement practices can take several pervasive forms, which can act as protectionist measures, thus limiting import competition and introducing distortions that limit choices, increase prices and discourage economic efficiency” (OECD 2001a). Concerns have been voiced that the use of secondary policies may undermine transparency, a key feature of many procurement processes. The Tokyo Round Agreement on government procurement (GATT Code), which entered into force in January 1981, set forth rules for open and transparent bidding with regard to the purchase of goods by central government entities. The WTO Agreement on Government Procurement (GPA) expanded the disciplines to services and construction work and covers sub national governments, as well as certain public and regulated private companies. The GPA applies to contracts worth more than specified threshold values.

Source: (http://www.oecd.org/dataoecd/2/13/43494573.pdf )
References
(By Country)

AUSTRALIA


CANADA


EUROPE


Buy Smart. Green Procurement for Public Purchasing. Sweden


LATIN AMERICA


UNITED STATES


