

**Submission for  
Leadership Award for  
Green Procurement**

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**Objectives**

This purpose of this initiative is to incorporate all pertinent environmental stewardship standards into PWGSC's IT hardware National Master Standing Offers (NMSOs). This initiative has been harmonised with the Office of Greening Government Operations' (OGGO) Policy on Green Procurement which states:

*" The Government of Canada is committed to implementing the Policy on Green Procurement. This is to ensure that the government cost effectively procures, operates and disposes of its assets in a manner that protects the environment and supports sustainable development objectives. Given our purchasing volumes, it's clear that we can have a significant positive impact in stimulating markets for environmentally sound products, and demonstrate real leadership in greening government.*

*This policy is all encompassing and it applies across all four stages of the procurement process, from planning and acquisition through use and disposal. The policy is intended to make the government a global leader in integrating environmental considerations into all aspects of our procurement system."*

**Description**

The IT hardware NMSO is a GoC wide procurement vehicle that represents an annual spend of \$175 to \$200 million. The NMSO commodities include microcomputer-based desktops and monitors, notebooks, thin clients, and servers. The NMSO is the main procurement vehicle used by all client departments and features 19 NMSO suppliers, both multi-national and SMEs (Small/Medium Enterprise).

The first environmental stewardship criteria for the hardware NMSO were introduced as early as 1995. Since that time the NMSO has incorporated the most comprehensive green criteria available. Incorporating environmental stewardship criteria involves extensive stakeholder consultation and involves an assertive introduction of industry standard initiatives that do not preclude Acquisition Branch's mandate for a fair and equitable competition. The following is a description of the latest iteration of those criteria as described through OGGO's reporting mechanism:

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**What environmental issues are associated with the manufacturing and procurement of the item, including planning, acquisition, use/maintenance and disposal?**

GhG emissions	X Solid waste
Outdoor air contaminants	X Hazardous waste
X Energy and water efficiency	X Toxic, hazardous chemicals (including indoor VOCs)
Ozone depleting substances	

**Is the reduction of consumption being addressed as part of the Green Procurement strategy?**

This year's NMSO will position the Green PC category as the default offering on the desktop NMSO. The Green PC will be a "Small Form Factor" PC. All discrete components such as video and network controllers will be integrated onto one main circuit board, often referred to as the motherboard. This will offer a significant reduction in electronic components and case material (less at end-of-life disposal) and will offer optimal power efficiency.

The NMSO will also introduce alternatives to the traditional desktop microcomputer, specifically "thin client" devices. Thin Clients are diminutive input/output terminals which, when connected to the appropriate network infrastructure, offer the same functionality as a desktop computer. The environmental benefits include: very low power consumption (average ~80% less energy than a desktop PC); longer life cycle (up to six or seven years vs. 3 to 4 years for PC); a drastic reduction of build material (~70% less electronics and no moving parts (no hard drives or cooling fans) which represents less material in the manufacturing process and subsequently at end-of-life disposal.

### **What new criteria are being introduced in the next NMSO vs. the last one?**

EPEAT Silver criteria will become mandatory in the GoC's next NMSO for desktop and notebook computers and monitors. EPEAT gold levels will be optional and will be awarded extra feature points through the NMSO Benchmark Testing process ( <http://canada.nstl.com/SipssWebSites/Report2008>)

The EPEAT standard addresses a broad range of environmental considerations: levels of hazardous materials, recyclability, energy usage, design for end of life/disassembly, durability, and packaging amongst others, through the use of 23 required criteria and 50% of an additional 28 optional criteria. For additional information on criteria, consult:

<http://www.epeat.net/Docs/Summary%20of%20EPEAT%20Criteria.pdf>

There will also be a requirement that suppliers of desktops, notebooks, servers and monitors are part of an industry group established to address end-of-life electronics recycling and reuse in Canada. The Electronics Product Stewardship Canada is such an organization.

All server manufacturers must be a contributing member of The Green Grid. This is a non-profit international industry association that "seeks to define and propagate the best energy-efficiency practices in datacenter operation, construction, and design." Information can be found at [www.thegreengrid.org](http://www.thegreengrid.org).

EnergyStar is also a component of the EPEAT Silver level of compliance. EnergyStar version 4.0 introduces enhanced power saving criteria over its previous iteration and includes the 80Plus initiative, which introduces a technical standard for energy efficient power supplies. The NMSO will require an **earlier adoption** than EPEAT allows for compliance.

### **What Industry-specific standards relating to environmental criteria or best practices have been incorporated?**

- Electronic Products Council, in conjunction with EPA, has developed EPEAT (Electronics Product Environmental Assessment Tool).
  - IEEE standard 1680 is the formal standard document for EPEAT.
- EPEAT is harmonized with EU Directive RoHS and requires ISO 14001 certification
- EPEAT will assign suppliers a rating (silver, gold) and registers electronic products, allowing purchasers to identify EPEAT criteria that have been achieved via a publicly available product database. The database also allows for the comparison of criteria achieved by up to three products.
- TCO '03 also covers many of the elements of EPEAT and the standard is applicable to the upcoming RFSO as well; TCO is the Swedish Confederation of Professional Employees and has been addressing environmental standards particularly for electronic visual display units.

- 80 PLUS performance specification requires internal power supplies in computers and desktop-derived servers to be 80% or greater energy efficient at 20%, 50% and 100% of rated load with a true power factor of 0.9 or greater.
- Energy Star - Voluntary Standard representing the most energy efficient products in their category.
- Green Grid - This is a non-profit international industry association that seeks to define and propagate the best energy-efficiency practices in datacenter operation, construction, and design.
- Electronic Industry Code of Conduct (EICC - [http://www.eicc.info/downloads/EICC\\_English.pdf](http://www.eicc.info/downloads/EICC_English.pdf)). This is a code which involves international manufacturing and operations standards which govern:
  - Environmental Permits and Reporting
  - Pollution Prevention and Resource Reduction
  - Hazardous Substances
  - Wastewater and Solid Waste
  - Air Emissions

### **Assessment of "Green" impact from an outside party**

A recent report commissioned by the Office of Greening Government Operations was submitted by TerraChoice Environmental Marketing and contained the following summary of the IT hardware NMSO green initiatives (described herein as PGP (Policy on Green Procurement)):

The Policy on Green Procurement (PGP) has had a beneficial environmental effect in terms of reducing the impacts of IT hardware (desktop systems and notebooks) in all seven categories studied:

1) Energy savings: The overall effect of the PGP on the energy consumption of one "average" composite IT hardware unit (based on two desktop systems and one notebook) was beneficial, with an average savings of 470.3 KWh/unit/lifetime.

2) Greenhouse gas emissions savings: The overall effect of the PGP on the GHG emissions of one average composite IT hardware unit (based on two desktop systems and one notebook) was beneficial, with an average GHG savings of 102.6 kg CO<sub>2</sub> equivalents/unit/lifetime.

3) Air emissions savings + 4) Water emissions savings: The overall effect of the PGP on air and water emissions of one average composite IT hardware unit (based on two desktop systems and one notebook) was beneficial, with an average savings of 1904 kg air emissions/unit/lifetime and 3.99 kg water emissions/unit/lifetime.

5) Toxic material savings including Pb, Hg, Cd, Cr<sup>6+</sup>, PBB, and PBDEs): The overall effect of the PGP on the toxic material content of one average composite IT hardware unit (based on two desktop systems and one notebook) was beneficial, with an average toxic material savings of 52.5 g/unit.

6) Municipal solid waste savings: All post-PGP units had recycled content in packaging, thus the overall effect of the PGP on the MSW produced by one average composite IT hardware unit (based on two desktop systems and one notebook) was beneficial but small, with an average MSW savings of 1.22 kg/unit.

7) Hazardous waste savings. The overall effect of the PGP on the hazardous waste of one average composite IT hardware unit (based on two desktop systems and one notebook) was beneficial, with an average hazardous waste savings of 1.97 kg/unit.

The complete initial draft of the report is available upon request. Gartner Group will be embarking on a case study on this initiative and should be available in the early fall.

**Potential for “best practice” in green procurement and the ability to influence the future development of the Canadian marketplace for environmentally friendly products and services.**

The following is a testimony from a national microcomputer manufacturer whose client base includes private and public sector accounts.

"MDG Computers Canada Inc. acknowledges that as a direct result of the strong environmental attributes Ian and his team at PWGSC have set as requirements to qualify on the Canadian Federal Government's NMSO (National Master Standing Offer), MDG Computers Canada Inc. has achieved recognition across Canada and the United States and now meets several of the highest levels of "green" certification available. This includes multiple system certifications to EPA Energy Star 4.0 power consumption standards, the first systems made in Canada to achieve GOLD EPEAT (Electronic Products Environmental Assessment Tool) registration and the first Canadian manufacturer to complete a corporate Environmental Sustainability annual report that meets the United Nations GRI (Global Reporting Initiative) standards. By establishing these green requirements within the NMSO specifications and by awarding escalating discounts for higher levels of "green" achievements Ian's team has created a mindset among suppliers that encourages efforts to reduce power consumption of shipped computers, utilize recycled packing materials (cardboard boxes and foam) and establish customer take-back and reuse programs so landfills stop filling up needlessly with material that can be re-used.

A few years ago MDG, like most companies, had no particular goal regarding reduction of its environmental footprint. The NMSO presented a significant business opportunity that could not be ignored, and to compete in that market MDG needed to meet the green requirements that Ian had established as base elements within the NMSO. It all started with a simple requirement to register the company's EMS (Environmental Management System) and so MDG completed and still maintains an ISO14001 registration. As the NMSO proceeds new green requirements are added by Ian, for example requirement of an "80 Plus" Certified power supply was a recent addition. Now virtually all major manufacturers have these lower power consuming devices available across non-NMSO product lines as well as within all NMSO computers.

Today, Ian's voice is no longer alone in the wilderness as provincial and municipal governments, educational institutions and responsible corporations scramble to meet growing customer demand for more environmentally friendly products. I have no doubt that the strong green leadership provide by Ian has led to a significant and quantifiable monetary benefit overall since these measures were introduced. You may be interested to review the attached EPEAT document which details some of the savings which the EPEAT program administrators calculate from all products in its registry.

I know Ian has been at this for a long time and certainly he has earned and deserves the recognition so I am strongly endorse his nomination.

I would be please to provide further information or talk to you about any of these matters.

Sincerely

Brian Monette, President  
MDG"

A letter of reference from a senior manager, specifically Sylvain Cardinal of Informatics and Telecommunications Systems Procurement (ITSP) will follow in a separate e-mail.



Hi Madeleine:

I would like to contribute to the nomination of PWGSC's Informatics Technical Services Division for the Green Procurement Leadership Award. Here is a short piece from Electronics Product Stewardship Canada (EPSC) on the green impact by an outside party:

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(External submission for the Nomination of PWGSC's Informatics Technical Services Division (ITSD) ):  
Electronics Product Stewardship Canada (EPSC) is a not-for-profit, industry-led organization with a membership is comprised of more than twenty leading Canadian electronics manufacturers that are working to design, promote and implement sustainable solutions for the recycling of end-of-life electronics. EPSC members have taken an environmental leadership role by working with stakeholders to create effective industry-led environmental stewardship programs across Canada.

EPSC was first contacted by ITSD officials in 2004 as they considered criteria to encourage a reduced environmental "footprint" for the IT equipment and electronics the government of Canada was purchasing. ITSD recognized the environmental responsibility EPSC members had shown by stepping up and working with governments on regulated recycling programs at the provincial level. This led to the inclusion of criteria in requests for standing offers requiring membership within environmental stewardship associations such as EPSC.

ITSD was also an early adopter of green procurement criteria which is quickly becoming the world-wide defacto standard in this area - the Electronic Product Environmental Assessment Tool (EPEAT). EPEAT is a widely adopted and supported approach which helps purchasers identify environmentally preferable electronic products. With more than 51 criteria across a diverse range of environmental impact areas (such as energy efficiency, reduction of environmentally sensitive materials and product longevity) EPEAT allows for purchasers to realize tangible, measurable environmental results. For example, EPEAT reports that just for 2007 alone, over 3-million EPEAT-certified desktops, notebooks and monitors were sold in Canada (this includes all procurement, not just GoC purchases). By choosing EPEAT-certified products with advanced Energy Star requirements they estimate Canadians saved 1.34-billion kilowatt hours and reduced Green House Gases (GhGs) by 105-million kilograms. (source: <http://www.epeat.net/docs/EnvironmentalBenefits2007.pdf>)

For a number of years now, ITSD has ensured that in certain product requirements EPEAT's "silver level" was met. This underlines how they were a pioneer in recognizing that government had a true leadership opportunity in promoting "green" criteria for information technology equipment and electronics via the procurement channel. With the Government of Canada (GoC) being one of the largest single purchasers of computers and related peripherals, the inclusion of solid, achievable environmental criteria in requests for standing offers has meant a significant and positive environmental impact.

Jay Illingworth,  
Vice President  
Electronics Product Stewardship Canada