

# How to Put Green Into the Procurement of Buildings and Construction

## Is LED Lighting that Expensive? Not in the Long Run!

Replacing older T12 or T8 fluorescent lamps or fixtures with LEDs will significantly improve lighting quality, lighting levels and energy efficiency, but also reduce operations and maintenance costs due to their longer life span (50,000 hours). Savings are even better for high-bay, warehouse and exterior applications where lifts and site safety costs are higher for lamp replacements.



## Introduction

We spend most of our time living and working in buildings. We must design and construct our buildings and infrastructure in a way that creates healthy indoor environments, maximizes our investment and optimizes our total cost of ownership. Procurement decisions that integrate environmental considerations into new buildings and retrofits can help government:

- » [Design and operate energy efficient buildings](#) and reduce GHG emissions.
- » [Create healthy, clean workplaces](#) for its employees and the public.
- » [Sustainably manage](#) energy, water and natural resources.
- » [Use materials efficiently](#) to reduce waste during construction.
- » [Reduce impacts](#) on land use and traffic during construction.
- » [Meet its objectives](#) for improving energy conservation and efficiency<sup>1</sup>, addressing climate change<sup>2</sup> and the diverting waste from landfills.
- » [Adapt to the impacts of climate change](#) by choosing locations that are more resilient.

This section provides guidance on how to integrate green into new buildings and retrofits and achieve value for money from capital investments. For guidance on new buildings, major renovations and/or extensions to existing buildings see the [Build Better Buildings Implementation Guide](#)<sup>3</sup>.

## Green Procurement Approaches for New Buildings and Retrofits

The design and construction of new buildings and retrofits are at times a complex combination of decision-making and procurement methods. Individual material, component or systems decisions cannot be made in isolation because they can affect the overall performance of the building or infrastructure, e.g. energy, water, waste, air quality. Green procurement approaches in building and construction projects aim to address both the overall impact of the project and the environmental characteristics of individual products, components or systems being specified.

<sup>1</sup> [Moving Forward—Energy Efficiency Action Plan 2011](#)

<sup>2</sup> [Charting our Course—Climate Change Action Plan 2011](#)  
[Turn Back the Tide](#)

## APPENDIX A: APPROACHES

### Town of Pasadena and Municipal and Intergovernmental Affairs Go Green and Save Money with Polished Concrete Floors

The Town of Pasadena's new Health and Wellness Centre will use a low maintenance polished concrete floor in the lobby areas. Requiring only weekly soapy water cleaning, the installation cost of concrete floors is between \$2-\$6 per square foot making it a competitive and greener alternative to tile, resilient flooring and carpet. The lustrous sheen, tonal differences, subtle cracks and aggregates take on a stone-like, natural feel that is unique to the building. A polished concrete floor properly maintained is expected to last a hundred years or more.

Source: Department of Municipal and Intergovernmental Affairs, Government of Newfoundland and Labrador

Depending on the size and complexity of the project, a range of different procurement approaches can be used (often in combination):

- » Specify minimum energy performance targets or savings for an energy efficient new building or retrofit including lighting, HVAC or controls improvement or retrofit.
- » Restrict the use of toxic or hazardous substances in building materials.
- » Specify the use of sustainably sourced timber and other natural materials, recycled and reused materials and the recyclability of materials at their end-of-life.
- » Give importance to indoor air quality, low VOCs, occupant wellbeing and adequate ventilation.
- » Require the use of water-saving fixtures, encourage the reuse of grey water and rainwater and storm water management design.
- » Use reference standards such as [ASHRAE 90.1](#), [LEED Silver](#) or [National Energy Code of Canada for Buildings](#) to determine best practices and possible specifications.
- » Include contract clauses related to construction waste management to minimize waste going to landfill.
- » Include performance based incentives in contracts for deep energy retrofits.
- » Include commissioning, measurement and verification for training users as part of retrofits or new building projects.
- » Include selection criteria for consultants, architects or engineers on experience in green building or retrofits.
- » Include selection criteria for contractors in applying appropriate environmental management measures such as pollution prevention or sediment run-off control.

These approaches may be a part of achieving a green building certification such as BOMA BEST, LEED. Pursuit of these certifications can not only achieve higher levels of building environmental performance but is also intended to improve operating and management practices.

### Natural Resources Gains BOMA BEST Certification

In May 2011, the Natural Resources Building in St. John's achieved BOMA BEST Level 3 certification. The Department of Transportation and Works received an award from BOMA Newfoundland and Labrador for achieving the highest level of certification of any building in the province that year.

Source: Department of Transportation and Works, Government of Newfoundland and Labrador

### Importance of Early Decision Making

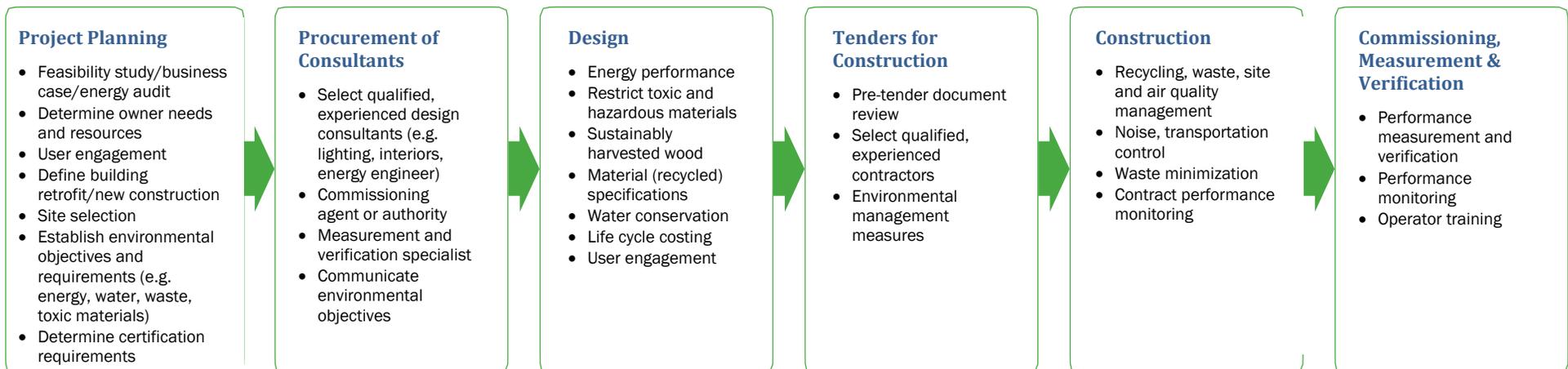
Since buildings have a substantial functional lifecycle, proper procurement, design and construction decisions are essential to achieve optimum total cost of ownership, minimize future costs of rework or change orders and optimum environmental performance. As the 'Project Life Cycle' table below illustrates, the earliest design decisions are the ones that have the greatest potential for environmental performance improvement and largely determine future total cost of ownership. The later design decisions are made, the more costly the changes become to implement and the more waste is potentially created through physical rework, additional materials, components or systems.

### Project Life Cycle

	Concept and Feasibility	Design	Construction
Potential for Environmental Performance Improvement	High	Medium	Low
Cost of Change	Low	Medium	High

This makes the achievement of environmental performance objectives both a complex and demanding task that has opportunities and implications for procurement decisions across all stages of the project life cycle (see Figure 1 below).

Figure 1. Life Cycle Stages of a Building Project



A Green Procurement Checklist for buildings and construction works is provided in the worksheets at the end of Appendix A. The following sections provide additional detail that can support buyers in integrating green considerations into the procurement process.

## APPENDIX A: APPROACHES

### St. Anthony Polar Centre — Multi-Use Recreation Facility Improves Energy Efficiency

During design of the St. Anthony Polar Centre, enhancements upon typical 'base' model arenas were made to the refrigeration plant, ventilation and heating systems, electrical system and architectural design. Through smart engineering and architecture, the extra cost of the enhancements have a forecasted payback of approximately 12 years and are saving the Center 10 percent annual energy and GHG emissions.

Source: Department of Municipal and Intergovernmental Affairs, Government of Newfoundland and Labrador

### Where Do I Start? The Title of the Contract!

Start with the title. If the environmental specification/requirement is a significant component of the overall terms of reference for new buildings and building retrofits/improvements, or perhaps is of high importance to the department, the title of the contract should clearly state this requirement. For example, appropriate titles for tenders or RFPs that will supply environmentally preferable solutions include:

- » “Supply of low VOC architectural coatings.”
- » “Tender for the supply of energy efficient lighting.”
- » “Supply of sustainably harvested lumber.”

Note: The title cannot include the name of any third party environmental/ecologo/certification/industry standard or other words that may be discriminatory to vendors (e.g. geographic criteria).

### Assessing Your Needs and Requirements

A crucial step before starting the procurement process is to assess your needs in light of the potential environmental impact of the building or construction project. Proper feasibility, energy audits and business case development should involve end users to reveal and verify needs (more efficient lighting, enhanced air quality, improved ventilation, control of heating, repair or replacement of materials, components or systems). Departments should thoroughly determine their needs and requirements in order to ensure environmentally conscious decisions are integrated from the start and throughout the procurement process. The various needs and requirements can range from an improvement in energy performance, lighting levels, air quality, ventilation, envelope, water conservation or a life cycle replacement, etc.

### Why Consult with Users?

Even for simple building improvements such as lighting, project success often is determined by user acceptance. For example, prior agreement regarding the proper lighting level within a building space will set the parameters for implementing higher energy standards in a retrofit.

### Identifying the Key Environmental Issues

Whether the new building or building improvement is small (T12 lamp replacement) or large (building a new school or hospital), it is important to take a “systems” approach to understanding the key environmental issues.

For example, retrofitting an office space with new lighting fixtures and lamps that are more efficient will also generate less heat. This, in turn, may require adjustments to the heating or cooling system depending on the season and how much heat the old inefficient lamps generated. The key environmental impacts of building and construction projects and the approaches on how they can be tackled are shown in the table below.

Impact/Issue	Approach
Consumption of energy for site selection, heating, cooling, ventilation, hot water and electricity and resulting CO <sub>2</sub> emissions	<ul style="list-style-type: none"> <li>• Ensure energy efficiency standards and targets are met or exceeded.</li> <li>• Ensure appropriate site selection and orientation.</li> <li>• Use performance based contracts for energy service companies.</li> <li>• Include commissioning and measurement and verification for larger projects.</li> </ul>
Consumption of natural resources	<ul style="list-style-type: none"> <li>• Encourage the use of sustainably harvested resources.</li> <li>• Encourage material efficiency in design.</li> <li>• Set waste diversion targets and ensure proper construction waste management.</li> </ul>
Consumption of water for cooling and occupant use	<ul style="list-style-type: none"> <li>• Encourage water efficiency standards and targets.</li> <li>• Specify water efficient fixtures.</li> </ul>
Emissions of toxic substances during production or disposal of building materials leading to air and water pollution	<ul style="list-style-type: none"> <li>• Encourage the use of:                             <ul style="list-style-type: none"> <li>• Non-toxic building materials, furniture and fixtures.</li> <li>• A life cycle assessment for building materials.</li> </ul> </li> </ul>
Negative health impacts on contractors and building users due to building materials containing toxic substances	<ul style="list-style-type: none"> <li>• Encourage the use of non-toxic building materials, furniture, fixtures, adhesives and finishes.</li> </ul>

### Where Can I Find Environmental Specifications?

There are many resources available for building owners, designers and architects to help them specify green building products, components and equipment including:

- The National Master Specification (NMS)
- Guide to Environmentally Responsible Specifications for New Construction and Renovation (Public Works Canada)
- The Whole Building Design Guide (US)
- The Federal Green Construction Guide for Specifiers (US EPA)

See [‘Additional Information’](#) in Appendix A for details.

## Environmental Specifications

Once you have defined the need and requirements for the new building or improvement project, a set of environmental specifications have to be developed.

Specifications describe to vendors the nature of the contract as well as the measurable requirements against which tenders or RFPs can be evaluated. You can develop environmental specifications in terms of:

- i. **Environmental performance** used for a particular material, product, service or work.
- ii. **Material or production processes** used for a product, service or work.
- iii. **Performance of the end result** or output.

It is very important when developing environmental specifications that they are clear and transparent so that they can be understood by all vendors/suppliers and so that you can verify compliance when assessing tenders or proposals (see [‘Evaluation’](#) in Appendix A). This means that the environmental specifications will be clearly indicated in the tender or RFP documents. If the specifications are not clear and correct, they will inevitably lead to unsuitable bids/proposals from vendors.

### I. Environmental Performance of a Material, Product, Service or Work

You can develop environmental specifications that relate to the characteristics of the product, material or service. This may include such things as energy-use, toxic or hazardous materials, pollutant emissions, or water use. This helps you clearly communicate what you are asking from vendors.

Often, technical standards, ecolabels or certifications used in building and construction can be included in your specification. When reference to a standard or certification is used (e.g. SFI, FSC, Greenguard, Floorscore and ECOLOGO), it must be accompanied by the words ‘or equivalent.’ This allows tenders based on equivalent standards or equivalent solutions not certified according to a specific standard to be considered by the buyer. To demonstrate equivalence, vendors should be permitted to use any form of evidence (such as a technical dossier or test report from a recognized body) but they must provide objective and authoritative evidence in support of any claims.

### Using Ecolabels and Certifications

Ecolabels can be used in two different ways for developing environmental specifications:

1. Help in writing technical specifications to define the environmental characteristics of the goods or services you are purchasing; and
2. Help in verifying and validating compliance with the specifications, by accepting the label as one means of proof of compliance with the technical specifications.

Finally, ecolabels and certifications are a useful source for such information, as they are often based on scientific information and life-cycle assessment.

### What is Energy Performance Contracting (EPC)?

An EPC is a contractual arrangement between a building owner or occupier and an Energy Service Company (ESCO) to improve the energy efficiency of a building. Investment costs are typically covered by the ESCO (or a third party such as a bank), so no financial outlay is required by the owner/occupier. The ESCO receives a fee, usually linked to guaranteed energy savings. After the specified contracting period, savings will revert to the owner/occupier. EPCs are often undertaken for a group of buildings in order to make the contracts more attractive to potential investors.

## II. Material or Production Processes Used for a Product, Service or Work

What a building material/component or system is made of, how it is produced or how the construction work is performed, can form a significant part of its environmental impact. Materials and production methods can explicitly be taken into account when defining technical specifications. However, since all technical specifications should have a link to the subject matter of the contract, you can only include those requirements which are related to the production of the building material/component or system being procured. You must ensure that the principles of non-discrimination, equal treatment and transparency are respected when specifying materials or production methods. You can:

- » Specify that what you are purchasing be made from a specific material, or contain a certain percentage of recycled or reused content (e.g. 30 percent recycled content in all structural steel).
- » Specify that it not contain chemical substances that are detrimental to the environment or health (e.g. cadmium, formaldehyde).
- » Specify that the material/component/system or construction work be delivered in a certain way (e.g. integrated road-rail, construction waste management).

Such specifications should be based on an objective risk assessment and strategic priorities of your organization.

## III. Performance of the End Result or Output

You can also develop performance-based or functional specifications that describes the end result and which outputs (for example in terms of quality, quantity, or reliability) are expected, including how they will be measured (e.g. the building will achieve 15 percent below ASHRAE 90.1 (2010)). They do not prescribe the inputs or the way in which the vendor is to achieve the specified level of performance. The vendor is open to propose the most appropriate solution. A performance-based approach usually allows more scope for creativity and in some cases will challenge vendors into developing innovative technical solutions.

When using performance based specifications, think carefully about how you will assess and compare proposals in a fair and transparent way. You may ask the tenderer to indicate how the desired result will be achieved and meet the level of quality specified. Because of this, performance-based specifications are better suited for RFPs rather than tenders. In the above example, you could ask vendors to describe how they would obtain the 15 percent below ASHRAE 90.1 (2010) and provide some technical data to confirm the feasibility of their proposed methods. If using performance-based specifications, you will also need to consider how they will be incorporated into contractual clauses ([‘Contract Performance and Monitoring’](#) in Appendix A).

### Requirements for Consultants and Vendors

You can also develop requirements related to the capability or management practices vendors are required to perform as a service (e.g. design, engineering).

#### Exclusion of Vendors

A department has the right to exclude vendors by taking into account how their past behaviour or conduct has affected the environment. This is usually written in two forms into mandatory requirements in tenders or RFPs:

- » Having no environmental infractions, liens, lawsuits or convictions pending due to their environmental management activities.
- » Having no infractions, liens, lawsuits or convictions pending due to their professional conduct.

#### Technical Capability

A critical success factor for building and construction projects is the quality of the consultants required, such as designers, engineers, contractors and supervisors need to have relevant knowledge, experience, skills, and references. The project requirements can help inform the criteria to use in procuring consultants throughout the project life cycle—from business case development, feasibility studies to the architect, engineer or lighting designer and general contractor. Specific technical capabilities you may ask from vendors can be:

- » Does the company employ or have access to personnel with the relevant knowledge, experience, skills, educational and professional qualifications to address the environmental requirements of the contract (e.g. LEED AP BD+C, P.Eng., CEM, IES, etc)?
- » Does the company own or have access to the necessary technical equipment for environmental protection (e.g. asbestos removal equipment or construction waste diversion, spillage control, minimizing natural habitat disruption)?
- » Does the company have the means to ensure the quality of the environmental performance aspects of the contract (e.g. access to relevant technical bodies, methods such as energy modelling, life cycle costing, integrated design process)?
- » Does the company have demonstrated experience in at least three projects of similar scope, size and budget (supported by client references)?
- » Can the company identify the key environmental risks and opportunities for the project and show how they should be managed (e.g. storm water management)?

### What is Energy Performance? Hopedale Community Hall — Targeting Green in a Harsh Climate

This new community hall in Labrador will be built sustainably with:

- 80 percent un-vegetated open space provided (no hard landscaping)
- 33 percent above Model National Energy Code for Buildings (1997) energy consumption and cost savings
- 32 percent water use reduction
- 20 percent recycled content targeted for building materials
- 100 percent use of low VOC products

Source: Department of Municipal and Intergovernmental Affairs, Government of Newfoundland and Labrador



### Environmental Management

For new buildings or building improvement contracts you can ask about the environmental management measures that the company will be able to apply in performing the contract. You can only ask for this when the company's management practices are related to the subject matter of the contract.

For example, you can ask that vendors demonstrate their technical capacity (either by having the expertise within the company or by co-operation with experts) to put in place environmental management measures that meet the following requirements:

- » Ensuring effective protection of fauna and flora in the building/construction area and its surroundings (where construction takes place in an environmentally sensitive area);
- » Measures to prevent any harmful waste, toxic or hazardous substance flows that may adversely impact air quality, soil or watersheds;
- » Environmental management measures aimed at minimizing construction waste, respecting noise regulations and avoiding traffic congestion.

One means of demonstrating the vendor's ability to apply such measures is certification under an environmental management system (EMS) such as ISO 14001. Setting a requirement for an environmental management system is best suited where high environmental risks or impacts are also present with a high value contract (e.g. roads, bridges, large buildings, infrastructure, and private public partnerships). Other means of evidence provided by the company that can prove the required technical capacity should also be accepted. Just requesting the presence of third party certification/registration to ISO 14001 or equivalent may not be sufficient. Ideally the significant impacts and risks identified by the vendor through the EMS will be related to the subject matter of the contract and their work or services.

### What is an Environmental Management System?

An environmental management system (EMS) is aimed at improving the overall environmental performance of the organization. It allows vendors to understand their most significant environmental impacts and associated risks, and help them manage and continuously improve their environmental performance. Organizations can develop their own EMS or have ISO 14001 registered.

### Did you know? Federal Government Goes Green.

The federal government has a green procurement policy and already taken significant action to reduce its environmental footprint. For example, all new government office buildings are required to meet the Canada Green Building Council's Leadership in Energy and Environmental Design (LEED—Canada) Gold level.

## Evaluation

### Environmental Award Criteria

Consideration should be given to whether an environmental characteristic should be a minimum requirement (specification) or considered a criteria worthy of evaluation (such as in an RFP). By including environmental criteria into your evaluation, you are able to weigh them against other factors including cost, quality, etc.

In tenders, you should set a minimum level of performance in the technical specifications, and then evaluate on price. In RFPs, you can set minimum levels of performance in the technical specifications and then allocate extra points for even better performance to be evaluated.

This may be particularly useful when the environmental performance or impacts of the project are significant or have implications on life cycle cost and value for money.

To determine an appropriate weighting for environmental criteria in RFPs, you should consider:

- » **How important the environmental objectives** are for the contract, relative to other considerations (e.g. cost, quality).
- » **To what extent these considerations are best addressed in award criteria**, either in addition to, or instead of, in specifications and contract performance clauses.
- » **How many points/marks you can allocate to environment**. This depends on the product/service and the market conditions. For example, if you anticipate low variations on price, but high variability for environmental performance from vendors, it makes sense to allocate more points to evaluate environmental characteristics.

### Using Ecolabels

The environmental criteria underlying ecolabels, which refer to the environmental characteristics of the product or work, may also be used to help draft and assess award criteria. You can use some ecolabel criteria as a minimum requirement in the specifications. Then award additional points during evaluation that meet more of the relevant criteria included in ecolabels. Note that when using ecolabel criteria to set specifications, you can allow that ecolabel to be used as proof of meeting the requirement, but you must also consider and accept “equivalents” as evidence of meeting the underlying criteria. See [‘The World Of Environmental Performance Labels—Reference Sheet’](#) in Section 3 for more information on ecolabels.

### Using Environmental Management Systems

In some cases an environmental management system (EMS) may also serve as evidence during evaluation. At award stage, you can also assess how a contract will be performed, and therefore the vendor's approach to carry out certain measures in accordance with an EMS may be relevant. However, you should not duplicate any requirement for an EMS you may have placed as a minimum requirement.

### Contract Performance and Monitoring

Environmental considerations can be included in contract performance clauses that prescribe how a contract is to be carried out. Note that departments may exclude vendors who do not agree to the contractual clauses. However, there are some guiding principles that should be followed:

- » **Contract clauses should be linked to the performance of the contract** (i.e. the tasks necessary for construction of new building or retrofit being purchased).
- » **Compliance with the contractual clauses should only be monitored** during the execution of the contract (e.g. meeting construction waste diversion or recycling targets through spot auditing of collection reports).
- » **Contract clauses may include the specific commitments**, which have been made part of the procurement process (e.g. enforcing compliance with sedimentation or soil erosion controls claimed in the bid or proposal).
- » **Contract clauses must be set out clearly** in the tender or RFP to ensure companies are aware of all their obligations and can price their bids/proposal accordingly.

Examples of possible contract performance clauses for buildings and construction works:

- » **How the work is performed:**
  - Application of specific environmental management measures (see '[Requirements for Consultants and Vendors](#)' in Appendix A).
  - Minimization of waste associated with the contract (e.g. waste diversion targets).
  - Efficient use of resources such as electricity and water on site (e.g. site lighting follows the work schedule).
- » **Training of contractor staff:**
  - Require that vendor staff are trained in the environmental impact of their work and the environmental policy of the buyer's organization.
- » **Transport of materials, products and tools to the site:**
  - Require the use of reusable containers or packaging to transport materials or products (e.g. reusable pallets, shipping containers).
  - No idling of delivery vehicles on site during unloading.
- » **Disposal of used products or packaging:**
  - Require that all packaging be taken away for reuse, recycling or appropriate disposal by the contractor.

### Monitoring Contract Compliance

Having environmental contract clauses is only effective if vendors/contractors are properly monitored. Monitoring can take several different forms:

- » **The vendor is requested to supply evidence of compliance.**
- » **The contracting authority/department may carry out spot checks.**
- » **The contracting authority hires a third party to monitor compliance.**

Note that appropriate penalties for non-compliance or bonuses for good performance should be included within the contract.

### Additional Information

[National Master Specification \(NMS\) Guide to Environmentally Responsible Specifications for New Construction and Renovations](#), Public Works and Government Services Canada, 2000.

This guide provides case studies, specifications, environmental criteria and material selection information for engineers and designers.

[Public Works and Government Services Canada—Green Building Targets](#), Government of Canada.

The Federal Government has set targets to green its buildings across departments. Requirements include LEED Gold certification for all new construction and assessment against BOMA BEST or Green Globes for existing buildings as well as greenhouse gas emissions.

[Toronto Green Standard](#), City of Toronto.

The Toronto Green Standard (TGS) is a two-tier set of performance measures with supporting guidelines related to sustainable site and building design for new private and public development.

[Federal Green Construction Guide for Specifiers](#), US EPA, 2010.

This zip file contains detailed templates and sample language, clauses across all areas of capital project procurement from consultant qualifications, to storm water management to LEED.

[Whole Building Design Guide](#), National Institute of Building Sciences.

This guide provides significant resources to engineers and designers on how to take a whole building approach to design and construction.

The [Environmentally Responsible Construction and Renovation Handbook](#), Public Works and Government Services Canada, 2000.

This handbook provides details on strategies and methods for environmentally responsible construction and renovation.

The [Environmentally Responsible Green Office at a Glance](#), Public Works and Government Services Canada, 2000.

This guide provides information on how to green office space and building interiors including fixtures, furnishings, leasing and life cycle costing.

[LEED Green Building Rating System](#), Canada Green Building Council.

The rating system that is referenced in the Build Better Buildings Policy.

[Build Better Buildings Policy](#), Government of Newfoundland.

The policy applicable to all new buildings, major renovations/extensions receiving Provincial Government funding or built by Provincial Government corporations or agencies.

[Guide to Implementing the Build Better Buildings Policy](#), Government of Newfoundland.

A practical guide for new buildings and major renovations on how to meet and exceed the requirements of the Build Better Buildings Policy.

### Resources

- [Moving Forward—Energy Efficiency Action Plan 2011](#)
- [Charting our Course—Climate Change Action Plan 2011](#)
- [Turn Back the Tide](#)
- Table adapted from [Guidelines for Sustainable Construction in Public Procurement](#). ICLEI Europe, 2006. Accessed: January 27, 2014.

## Green Procurement Checklist

### 1: Needs Assessment and Planning

- a) Has the existing building material, component or system reached the end of its useful life?  Yes  No  N/A  
 Notes/Comment \_\_\_\_\_
- b) Have the key environmental impacts of the building material, component or system been identified? E.g. waste, energy, emissions, water, worker health, etc.  Yes  No  N/A  
 Notes/Comment \_\_\_\_\_
- c) Are the key environmental impacts a priority for the government/department?  Yes  No  N/A  
 Notes/Comment \_\_\_\_\_
- d) Has the optimum means of meeting the need been determined? e.g. leasing, ownership, refurbishment, new construction etc.  Yes  No  N/A  
 Notes/Comment \_\_\_\_\_
- e) Has the “total cost of ownership” been calculated for all alternatives that meet the need?  Yes  No  N/A  
 Notes/Comment \_\_\_\_\_

### 2: Market and Vendor Analysis

- a) Can vendors provide information on the key environmental impacts and risks of their proposed building project solution?  Yes  No  N/A  
 Notes/Comment \_\_\_\_\_
- b) If no to ‘a’, can the market/vendors supply an environmentally preferable alternative?  Yes  No  N/A  
 Notes/Comment \_\_\_\_\_
- c) Have all vendors been informed of government’s environmental priorities? E.g. energy efficiency, climate change, sustainable resources, etc.  Yes  No  N/A  
 Notes/Comment \_\_\_\_\_

#### Instructions

1. Where an opportunity exists for green procurement, this checklist should be used to integrate environmental factors into the procurement process of new buildings and retrofits.
2. Where questions cannot be answered, (yes, no, n/a), additional research, tasks or other actions should be identified.
3. Use this checklist as a guide only, specific procurement practices may or may not require all items.

\_\_\_\_\_

Building Improvement or Construction Project

\_\_\_\_\_

Contact and Company

\_\_\_\_\_

Date Completed

## APPENDIX A: CHECKLIST

- d) If the building/infrastructure uses energy during use, are more energy efficient alternatives available?  Yes  No  N/A  
Notes/Comment \_\_\_\_\_

### 3: Define Specifications

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- a) Do the environmental specifications target the key environmental impacts?  Yes  No  N/A  
Notes/Comment \_\_\_\_\_
- b) Has a recognized, ecolabelling specification been used to establish the performance specification?  Yes  No  N/A  
Notes/Comment \_\_\_\_\_
- c) Have requirements related to the vendor been integrated into the specification?  
e.g. environmental management system, free from env. fines, etc.  Yes  No  N/A  
Notes/Comment \_\_\_\_\_

### 4: Evaluation and Award Criteria

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- a) Have all bidders been informed of the importance of the environmental factors in the award of the contract?  Yes  No  N/A  
Notes/Comment \_\_\_\_\_
- b) Have evaluation criteria and/or weighting been linked to the key environmental impacts?  Yes  No  N/A  
Notes/Comment \_\_\_\_\_
- c) Can any increased first cost be justified through lower total cost of ownership?  Yes  No  N/A  
Notes/Comment \_\_\_\_\_
- d) Have vendors identified any environmental or cost benefits not covered by the specification?  Yes  No  N/A  
Notes/Comment \_\_\_\_\_

### 5: Contract Performance

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- a) Have contract clauses been linked to the performance of the contract? e.g. take-back requirements, off-peak delivery, etc.  Yes  No  N/A  
Notes/Comment \_\_\_\_\_
- b) Is there a verification procedure in place to ensure environmental specifications are being followed/fulfilled?  Yes  No  N/A  
Notes/Comment \_\_\_\_\_