

## ENERGY REPORT TERMS OF REFERENCE

Study	<i>Energy Efficiency Report</i>
	<b>Updated: January 6, 2012</b>
<b>Description</b>	<p>The Toronto Green Standard (TGS), GHG 1.1 sets out higher energy performance targets for new development.</p> <p><b>For buildings greater than 2000m<sup>2</sup>, the Energy Report is the <u>Final Design-Stage Energy Modeling Report</u>.</b> The Report is generated by undertaking energy modeling of the designed building using allowable assumptions. The resulting Energy Report details the projected energy use of the building in comparison to a baseline reference building designed to meet the minimum building code requirements (Ontario Building Code or MNECB).</p> <p><b>For buildings less than 2000m<sup>2</sup>, the Energy Report is the <u>Small Buildings Checklist</u> (attached) and the completed <u>NRCan Screening Tool Summary</u>.</b></p> <p><b>Note:</b> Buildings under 2000m<sup>2</sup> may undertake to do an energy model if they wish (for example energy modeling Reports prepared for LEED registered projects, regardless of building size, will be accepted by the City).</p> <p>To help achieve greater energy efficiency, the Better Buildings New Construction Program (BBP-NC) offers technical assistance and information on available incentive programs to assist with the cost of contracting an energy modeller. The BBP-NC program is administered by the Energy Efficiency Office (<a href="http://bbptoronto.ca/">http://bbptoronto.ca/</a>).</p>
<b>When Required</b>	<p>An Energy Report as defined above, is submitted prior to Site Plan approval as part of the Toronto Green Standard for new development for the following application types:</p> <ul style="list-style-type: none"> <li>• Combined Zoning By-law and Site Plan Control Applications</li> <li>• Site Plan Control applications</li> <li>• Combined Draft Plan of Subdivision and Site Plan Control Applications.</li> </ul> <p>For the TGS, see <a href="http://www.toronto.ca/greendevlopment">http://www.toronto.ca/greendevlopment</a></p>
<b>Rationale</b>	<p>The City of Toronto has the goal of achieving improved energy efficiency and reduced greenhouse gas emissions in new building construction. The Official Plan makes the link between building strong communities, a healthy natural environment and energy efficiency standards. In particular policies 3.1 and 3.4.1 support energy efficiency in new development. The Toronto Green Standard was adopted by City Council on Oct. 27, 2009 including a required set of environmental performance measures to be applied to new construction. Energy efficient new buildings are an important component of the standard and to achieving the City's greenhouse gas emission reduction targets.</p> <p>An Energy Report should be based on:</p> <ul style="list-style-type: none"> <li>■ The Energy Efficiency Office and BBP-NC guidelines</li> <li>■ Toronto Green Standard requirements.</li> </ul>
<b>Required Contents</b>	<p>The Energy Report summarizes the projected energy performance of a new building in comparison (as percentage improvement) to a reference building designed to meet Code. Prior to Site Plan approval, the Report submitted should reflect the final design stage of the building based on: the approved Site Plan drawings, and on the design of the building prior to construction taking place. The Report should comply with the Energy Efficiency Office's requirements and the Better Buildings Partnership - New Construction Program.</p> <p>The EEO provides a roster of energy modeling consultants on the BBP website listed above. The applicant is encouraged to discuss the need, scope and the proposed energy efficiency concepts and design assumptions</p>

<p><b>Required Contents</b></p>	<p>with the Energy Efficiency Office (EEO) prior to preparing the Report.</p> <p><b>For Buildings 2000m<sup>2</sup> GFA or Greater (or smaller buildings choosing to do an energy model):</b>  Energy Modeling Reports should be completed using the following software:</p> <ol style="list-style-type: none"> <li>a) EE4-OBC</li> <li>b) DOE 2 version 2.1 or higher</li> <li>c) eQUEST version 3.64 or higher.</li> </ol> <p>The Energy Modeling Report must provide sufficient information to allow for the necessary review and acceptance, in principle, of the proposed energy efficiency schemes. This Report should include the following:</p> <ul style="list-style-type: none"> <li>▪ Summary compliance Report (See <u>Note</u>)</li> <li>▪ Modeler's declaration of compliance.</li> </ul> <p>The output of the Report, which is used to determine Demand Savings and/or Energy Savings, must be signed and stamped by a Professional Engineer.</p> <p><b>Note:</b> In cases where the modeling software used does not generate a standard <b>Summary Compliance Report</b>, generate and include in your submission a summary report indicating: peak kW savings (summer and winter), energy savings, CO<sub>2</sub> emissions, utility cost and a comparison between reference and proposed buildings.</p> <p>Submit the Energy Modeling Report reflecting the final pre-construction design of the proposed building to City Planning in conjunction with the development application and prior to approvals.</p> <p><b>For Buildings Less than 2000m<sup>2</sup> GFA</b>  Complete the attached Small Buildings Checklist along with the Natural Resources Canada Screening Tool for New Building Design found at <a href="http://screen.nrcan.gc.ca">http://screen.nrcan.gc.ca</a>. The Checklist can be completed and signed by either the Architect or the Professional Engineer for the project. Submit the Report to City Planning in conjunction with the development application and prior to approvals. Eligible building types include Multi-Unit Residential Buildings, Schools, Offices, Retail Stores, Hotels, Warehouses, Hospitals and Extended Care Buildings. Otherwise select the most similar building type.</p> <p><b><u>Tier 2 Requirements:</u></b></p> <p>Tier 2, TGS is a higher, voluntary performance standard with incentives. For all building types and sizes, acceptance for Tier 2 minimum energy performance will be based on the Energy Efficiency Office's assessment of the Design Stage Energy Report as above, and the submission of the <u>As-constructed Energy Modeling Report</u> prepared during construction. The As-constructed report reflects the building's final design including any changes made during the construction phase. This Report will be evaluated by third-party project evaluators contracted by EEO. To meet this requirement the applicant must submit, to the EEO at project completion, a final Model Report Summary, working 'SIM' file of energy simulation, drawings, specs and related documentation including operational assumptions.</p> <p><b><u>Drawings:</u></b></p> <p>Site Plan drawings and Building Permit construction drawings should consistently indicate the energy efficiency building strategies employed such as exterior materials, cladding and/or windows in accordance with the approved Energy Report.</p> <p><b><u>Contact:</u></b></p> <p>Please contact <b>Energy Efficiency Office at (416) 392-1500</b> for further information about meeting the Toronto Green Standard energy performance measures, contents of Energy Report submissions and information on the available incentive programs.</p>
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## Toronto Green Standard (TGS) – Small Buildings Checklist

### APPLICATION FORM

#### For Buildings Less than 2000m<sup>2</sup> GFA Only

The Small Buildings Checklist must be completed along with Natural Resources Canada's Screening Tool for New Building Design found at <http://screen.nrcan.gc.ca>. The Checklist must be completed and signed by the Architect for the proposed new building and submitted to City Planning along with a copy of the completed NRCAN Screening Tool for New Building Design – Screening Tool Summary. Eligible building types include Multi-Unit Residential Buildings, Schools, Offices, Retail Stores, Hotels, Warehouses, Hospitals and Extended Care Buildings.

**Small Buildings Checklist Application Date:** \_\_\_\_\_

**New or Revised Application:** \_\_\_\_\_

**Address of Building:** \_\_\_\_\_

**Planning Application Number:** \_\_\_\_\_

**Planner:** \_\_\_\_\_

**Building Owner:** \_\_\_\_\_

**Architect Name:** \_\_\_\_\_

**Architect Address:** \_\_\_\_\_

**Architect Telephone Number:** \_\_\_\_\_

**Architect Fax Number:** \_\_\_\_\_

**Architect Email Address:** \_\_\_\_\_

### Small Buildings Checklist

- I certify that the design parameters selected in the attached NRCAN Screening Tool for New Building Design – Screening Tool Summary represent the current building's design.
- I certify that, based on the NRCAN Screening Tool for New Building Design, the submitted building design satisfies TGS Tier 1 energy requirements compared to the reference building that meets the Model National Energy Code for Buildings.

**Architect Signature:** \_\_\_\_\_

**Architect Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_