

Green Building Policy and Guideline Scan

September 4, 2007

Report Prepared For:

Greater Toronto Area Clean Air Council

Report Prepared By:

Clean Air Partnership



Executive Director:

Eva Ligeti, Clean Air Partnership

Researcher and Author:

Ireen Wieditz, Researcher, Clean Air Partnership

Editors:

Michael Canzi, Manager of Government Programs, Clean Air Partnership Jennifer Penney, Director of Research, Clean Air Partnership

The Clean Air Partnership (CAP) would like to thank the members of Greater Toronto Area Clean Air Council for their financial support, as well as their time and thoughtful reflections on this material. CAP would also like to acknowledge the ongoing support of the Toronto Atmospheric Fund.

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For more information, contact:

Clean Air Partnership
75 Elizabeth Street
Toronto, Ontario M5G 1P4
Canada
416-392-6672
cap@cleanairpartnership.org

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About the Clean Air Partnership

The Clean Air Partnership (CAP) is a registered charity that works in partnership to promote and coordinate actions to improve local air quality and reduce greenhouse gases for healthy communities. Our applied research on municipal policies strives to broaden and improve access to public policy debate on air pollution and climate change issues. Our social marketing programs focus on energy conservation activities that motivate individuals, government, schools, utilities, businesses and communities to take action to clean the air.

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GTA Clean Air Council September 2007

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INTRODUCTION

As part of the *Toronto and Region Inter-governmental Declaration on Clean Air* adopted at the 2006 Smog Summit in Toronto, the GTA Clean Air Council (GTA-CAC) identified a series of actions to reduce air pollutants and greenhouse gases. In Article 3.7 of the Declaration the members of the GTA-CAC made a commitment to:

"Identify and document green buildings programs, policies and standards under development by jurisdictions within and beyond the GTA."

This scan was developed in response to this commitment, and is primarily intended to provide members of the GTA-CAC with an overview of approaches and policy options employed to promote green building development in their neighbouring jurisdictions. This scan describes green building policies/guidelines that have been established in seven municipal jurisdictions (four in the GTA and three beyond), policies/ guidelines that are under development in three further GTA jurisdictions, and the first steps in this direction of the remaining 21 jurisdictions in the GTA.

While there are a number of effective green building policies in existence beyond the GTA, only three were included in this scan due to time and resource limitations. The Region of Waterloo was chosen because of its proximity to the GTA and its involvement in the GTA-CAC, Boulder, Colorado was chosen as it is one of the few jurisdictions that mandates green building construction for the private sector, and Austin, Texas was selected because of its unique financing structure for its green building program. A more complete listing can be found in the City of Toronto's Green Development Standard Phase 1 Study available online at www.toronto.ca/environment/consultantsreport.htm.

Information for this scan was gathered from municipal government websites, from policy documents, and through personal communication with municipal staff.

ESTABLISHED GREEN BUILDING POLICIES AND GUIDELINES	
	EAST GWILLIMBURY ENERGY STAR® Standard for New Housing
Responsibility for administration	Legal and Development Services Department
Key Drivers	Rising energy costs
Type of Initiative (Voluntary; Mandatory)	Mandatory
Building Type Affected (Private; Public)	Private
New / Retrofit/ Both	New
Overview of Guidelines	Developers of residential developments of 10 or more units must build to ENERGY STAR® standards.
Challenges/ Barriers	Exceeds min. energy standards in Ontario Building Code (OBC) - cost implications to development community
Financing	
Contact Information	Dan Stone, Manager of Policy Planning
	T: 905-478-4282 (ext. 249)

ESTABLISHED GREEN BUILDING POLICIES AND GUIDELINES	
	EAST GWILLIMBURY LEED Silver Policy
Responsibility for administration	Legal and Development Services Department
Key Drivers	Reduce GHG emissions
Type of Initiative (Voluntary; Mandatory)	Mandatory
Building Type Affected (Private; Public)	Private and Public
New / Retrofit/ Both	Both
Overview of Guidelines	All new Town facilities and industrial, commercial, institutional and high-rise residential buildings must comply with LEED Silver standards. Major renovations (not defined) must also meet LEED Silver standards, but not until 2010.
Challenges/ Barriers	 Applying the policy to smaller-scale; industrial, institutional, commercial (ICI) buildings Consistency with existing site plan requirements (ie. landscaping); Exceeds min. standards in OBC; Cost implications to development community
Financing	Energy savings accrued being used to cover costs
Contact Information	Robin Skinner, Environmental Planner
	T: 905-478-4282 (ext. 286)

ESTABLISHED GREEN BUILDING POLICIES AND GUIDELINES	
	MARKHAM Centre
Responsibility for administration	Town staff in concert with the Markham Centre Advisory Group
Key Drivers	Vulnerability of electrical system; demand from community; change in market conditions
Type of Initiative (Voluntary; Mandatory)	Voluntary
Building Type Affected (Private; Public)	Private and public
New / Retrofit/ Both	Both
Overview of Guidelines	Eleven (11) guiding principles have been set based on secondary plan, smart growth and new urbanism principles. Performance measures with indicators have been developed for 5 areas: greenlands; built form; green infrastructure; open space; and transportation. Individual report cards are prepared for each project upon its review by the Advisory Group.
Challenges/ Barriers	Performance Measures are a non-statutory document, but have been incorporated into the Secondary Plan as an Appendix. Rely on a level of cooperation with individual applicants.
Financing	The Advisory Group is funded out of the Planning Department's budget on an annual basis.
Contact Information	Richard Kendall, Manager of Development, Central District T: 905-477-7000 ext. 6588
	E: rkendall@markham.ca

ESTABLISHED GREEN BUILDING POLICIES AND GUIDELINES	
	REGENT PARK Sustainable Community Design
Responsibility for admini-	Toronto Community Housing Corporation
stration	(City of Toronto is sole shareholder; 3 City Councillors on Board of Directors)
Key Drivers	Develop a model community driven by sustainability targets, based on an interdisciplinary approach.
Type of Initiative (Voluntary; Mandatory)	Voluntary
Building Type Affected (Private; Public)	Private and Public
New / Retrofit/ Both	New
Overview of Guidelines	A Sustainable Community Design Report documents the process used and the recommendations for sustainable design. The recommendations encompass targets for environmental protection and enhancement including: 35% reduction in per capita water use; 75% energy use reduction; 80% reduction in green house gas emissions; significant improvements in stormwater runoff retention, quality and quantity; 35-60% solid waste diversion; improved natural environment/landscape; and reduced environmental impacts from building materials, construction and demolition.
Challenges/ Barriers	
Financing	 Redeploy operating costs savings from Regent Park that will result from the actions being taken by TCHC in its overall Community Mgmt Plan for annual reinvestment into the demolition and reconstruction of its 2,083 units; Use the revenues from the lease and/or sale of "residual" land to private, public or non-profit entities that are created through approval of increased density to offset the costs of capital reconstruction of its own units; Enter into a series of partnerships with private or non-profit developers to build and finance the "market" component of the new community on a phased basis; Use TCHC's ability to create long-term debt carrying capacity, achieved as it reduces costs while maintaining existing revenues and subsidies, to finance the accumulated capital costs of reconstruction not offset from its annual reinvestment during redevelopment; Secure any remaining shortfalls from other levels of gov't and secure contributions from similar sources for traditional infrastructure and community facility requirements typically available in other Toronto neighbourhoods.
Contact Information	Liz Root, Project Director, Regent Park Revitalization T: 416-981-4085
	www.regentparkplan.ca/sustainability.htm

ESTABLISHED GREEN BUILDING POLICIES AND GUIDELINES	
	TORONTO Green Development Standard
Responsibility for administration	Planning
Key Drivers	Air quality and climate change; reducing energy use; water quality; reducing solid waste; health
Type of Initiative (Voluntary; Mandatory)	Mandatory for City-owned and affiliated projects; Voluntary for the private sector at this time
Building Type Affected (Private; Public)	Both
New / Retrofit/ Both	New
Overview of Guidelines	The Green Development Standard (GDS) is a set of performance targets and guidelines that promote better and more sustainable site and building design to improve the City's environment. The Standard is a "made-in-Toronto" approach that integrates existing City guidelines and targets with standards from private rating systems such as Leadership in Energy and Environmental Design (LEED) and Green Globes. The GDS is intended to ensure that when there is a desire to "build green" in Toronto, local objectives are met. The Standard covers 6 key areas: air quality; greenhouse gas emissions/ energy efficiency; water quality; water efficiency; solid waste; and ecology. The standard will: Apply to new city-owned and affiliated projects; Encourage green development amongst the private sector; Be refined over time.
Challenges/ Barriers	Cost
Financing	Commencing a cost-benefit analysis of the GDS (and have hired Ted Kesik from U of T to undertake the work). The study will be complete next January.
Contact Information	E: sustainablecity@toronto.ca
	www.toronto.ca/environment/greendevelopment.htm

ESTABLISHED GREEN BUILDING POLICIES AND GUIDELINES	
	YORK Region LEED Silver Policy
Responsibility for administration	Property Services Branch
Key Drivers	Reduced energy + water use; healthier, more productive workplace; decrease in materials to landfill; reduced site disturbance
Type of Initiative (Voluntary; Mandatory)	Mandatory
Building Type Affected (Private; Public)	Public
New / Retrofit/ Both	New
Overview of Guidelines	All Regionally-owned facilities over 500 sq. m. will be designed and operated to LEED Silver standards.
Challenges/ Barriers	The newness of green products in the marketplace, consultants' and contractors' lack of experience with LEED buildings.
Financing	Incremental capital costs of 2.5 to 3.5 %, but reduced operating costs. Fire-EMS estimated 10% incremental construction cost; "Tom Taylor Place" (affordable housing units) estimated 30% additional costs including certification Incentives: CBIP; New Building Construction Program (Enbridge)
Contact Information	Subhash Bhatia, Manager of Corporate Energy Services T: 905-830-4444 (ext. 1872)

ESTABLISHED GREEN BUILDING POLICIES AND GUIDELINES	
	Region of WATERLOO LEED Silver Policy
Responsibility for administration	Facilities Management and Fleet Services
Key Drivers	Reduce impact on natural environment; improve indoor air quality; reduce operating costs
Type of Initiative (Voluntary; Mandatory)	Mandatory
Building Type Affected (Private; Public)	Public
New / Retrofit/ Both	New
Overview of Guidelines	All new Regional buildings (with over 500 m ² of occupied space) must be constructed to a minimum of LEED Silver standards. Standard was adopted after successfully constructing the EMS Headquarters and Fleet Centre to LEED Gold standards.
Challenges/ Barriers	Wide variety of building types
Financing	Estimated average cost to achieve LEED Silver standard is 2 to 4%. Payback period for additional costs is 3 to 7 years. Costs may also be offset by applying for grants from NRCan's FCM and other federal, provincial and local organizations as appropriate.
Contact Information	Brian Bechtel, Corporate Energy Specialist
	T: 519-575-4506 E: bbrian@region.waterloo.on.ca

ESTABLISHED GREEN BUILDING POLICIES AND GUIDELINES	
	BOULDER (Colorado) Green points Building Program
Responsibility for administration	Planning & Development Services
Key Drivers	Conserve resources; reduce solid waste; improve indoor AQ
Type of Initiative (Voluntary; Mandatory)	Mandatory
Building Type Affected (Private; Public)	Private
New / Retrofit/ Both	Both
Overview of Guidelines	This program applies to all new residential construction, additions and remodels larger than 50 ft ² . Applicants earn points by selecting green building measures, which are required in order to receive a building permit.
Challenges/ Barriers	
Financing	
Contact Information	Elizabeth Vasatka, Environmental Coordinator
	T: 303-441-1964 E: vasatkae@ci.boulder.co.us
	www.bouldercolorado.gov/index.php?option=com_content&task=view&id=208<e mid=489

ESTABLISHED GREEN BUILDING POLICIES AND GUIDELINES	
	AUSTIN (Texas) Green Building Program
Responsibility for administration	Austin Energy
Key Drivers	Sustainability; reduce energy costs
Type of Initiative (Voluntary; Mandatory)	Mandatory for public; voluntary for private
Building Type Affected (Private; Public)	Public and Private
New / Retrofit/ Both	Both
Overview of Guidelines	The Program provides a wide range of services to developers, builders and homeowners including training, technical support, and access to rebates. All municipal buildings must meet LEED Silver standards and there is a 7 step guide for residential buildings.
Challenges/ Barriers	 Perception that green must cost much more; Inability (unwillingness) of appraisal industry to capture value of GB, i.e. energy & water savings; durability, and health impacts; In speculative or rental market benefits accrue to tenants not to the people who pay to build; Design professionals prefer to use off the shelf designs and rules of thumb rather than design or calculate to the specific project
Financing	 • 83% Austin Energy (City of Austin municipal electric utility); reduction of demand for new generation facilities; • 15% Consulting fees from other utilities and municipalities; • 1% City of Austin Drainage Utility-reduced run-off of stormwater; • 1% City of Austin Water and Wastewater Utility-reduced water consumption
Contact Information	Richard Morgan, Program Manager T: 512-482-5309 E: richard.morgan@austinenergy.com www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Building/index.h tm

GREEN BUILDING POLICIES AND GUIDELINES UNDER DEVELOPMENT	
	NEWMARKET LEED Silver Policy Expected adoption by Council: Summer 2007
Responsibility for administration	Community Services Commission - Public Works and Environmental Services Department; Parks, Recreation and Culture Department
Key Drivers Type of Initiative (Voluntary; Mandatory)	Demonstrate leadership; energy efficiency; tool for measuring sustainability Mandatory
Building Type Affected (Private; Public)	Public
New / Retrofit/ Both	Both
Overview of Guidelines	Retrofits – designed and constructed to meet the 25% energy efficiency requirement of the CBIP program (ie. buildings must be 25% more efficient than the Model National Energy Code). New buildings – designed to meet CBIP. Will also be assessed for potential of meeting LEED Silver.
Challenges/ Barriers	
Financing	Entered an Energy Services Contract with Honeywell Energy Services Canada in June 2006. Capital retrofit costs financed from reserves. Payback period of 9.8 years and annual guaranteed operating savings from Honeywell of \$157,532 which is being paid back to reserves.
Contact Information	Esther Armchuk-Ball, Chair of Policy Review Committee T: 905-953-5300 ext. 2432

GREEN BUILDING POLICIE	S AND GUIDELINES UNDER DEVELOPMENT
	PICKERING Sustainable Neighbourhood Guidelines Expected adoption by Council: June 2007
Responsibility for administration	Planning & Development
Key Drivers	Pickering Council playing leadership role in sustainability; Pickering emphasizing need for Seaton community (a new greenfield area) to be developed as model of sustainability; Pickering identified that sustainable development standards also needed for infill development in built-up area;
Type of Initiative (Voluntary; Mandatory)	Voluntary; will be Mandatory for the Seaton community
Building Type Affected (Private; Public)	Private and Public
New / Retrofit/ Both	New
Overview of Guidelines	 Establishes a certification system based on a LEED-ND approach; Two guidelines prepared: one for neighbourhood scale primarily for greenfield areas; the other for subdivisions/ site/ buildings primarily aimed at infill and redevelopment areas; Uses combination of measurable performance targets and qualitative targets;
	Complements Scorecard for Neighbourhood Sustainability, which measures sustainability in neighbourhoods based on 6 attributes: complete & connected; landefficient & transit-friendly; safe & comfortable; adaptable & resilient; energy & resource efficient; and green & healthy (a sample can be viewed at: http://sustainablepickering.com/SNP/PDFs/scorecard.pdf)
Challenges/ Barriers	Some subjective assessment required; Initial development industry comments supported either identifying many elements as 'required' but with standards set at low levels, or establish voluntary guidelines only; Large number of performance measures identified, creating complex document (about 50 at Neighbourhood scale, and nearly 90 at subdivision/ site/building scale); not user-friendly
Financing	 Anticipate general staff training to be financed through municipal operating budget; If additional staff complement required with greater expertise in sustainability, would be financed through municipal operating budget; May consider peer review approach to assess sustainability of applications, with cost charged back to an applicant; May seek additional grants or sponsorship to assist with testing of guidelines (FCM GMEF funded 50% of development of these guidelines).
Contact Information	Catherine Rose, MCIP, RPP, Manager, Policy Planning & Development Department T: 905.420.4660 x 2038 E: crose@city.pickering.on.ca www.sustainablepickering.com

GREEN BUILDING POLICIES AND GUIDELINES UNDER DEVELOPMENT		
	RICHMOND HILL LEED Silver Policy Goes to Council: May 2007	
Responsibility for administration	Engineering & Public Works Department, Asset Management Division	
Key Drivers	GHG emission reduction; reduce energy costs; environmental leadership	
Type of Initiative (Voluntary; Mandatory)	Mandatory	
Building Type Affected (Private; Public)	Public	
New / Retrofit/ Both	New	
Overview of Guidelines	All new municipally-owned buildings over 500 ft ² to be built to LEED Silver standards.	
Challenges/ Barriers	Understanding and buy-in at all levels (staff, senior management, Council). Having a champion on Council helped overcome barriers.	
Financing	LEED Silver buildings are expected to cost 2-3% more up front but this will be paid back in lower operating (energy) costs in approx. 10 years.	
Contact Information	Dan Olding, Manager of Environmental Programs	
	T: 905-771-5505 E: dolding@richmondhill.ca	

FIRST STEPS	
Program Name/ Ju- risdiction	What's Happening
AJAX	Ajax Operations staff have learned a great deal about the LEED program and will be looking for opportunities to apply it to municipal projects. A new fire hall will be built to LEED standards.
AURORA	Discussing the possibility of implementing LEED on municipal buildings.
BRAMPTON	Nothing in OP. Medical building to be built to LEED standards.
BROCK	Nothing yet.
BURLINGTON	The City became a member of the Canada Green Building Council in 2006. City staff presented a corporate plan to reduce greenhouse gases to a committee of council in March 2007. This report included an action to identify and implement a sustainable building standard for new and retrofit facilities such as LEED or Green Globes, with an emphasis on energy efficiency. The committee referred the report to the city's strategic planning process, which will be finalized in the fall.
CALEDON	The Town became a member of the Canada Green Building Council in 2005. Recreation & Property Services are following LEED principles to increase energy efficiency in a new arena.
CLARINGTON	Member of the Canada Green Building Council. A recent Official Plan Amendment to the Commercial Policy section (approved by Council) includes a policy that certain specified projects (such as Home Depot) should have green building certification, which led to Home Depot
	building to LEED standards after concerns were raised by municipal staff. Newcastle Branch Library being built to LEED standards. Seventy-four (74) new ENERGY STAR homes to be built.
DURHAM	Durham Region has introduced policies into its Official Plan that promote the use of innovative and sustainable practices to achieve energy efficiencies such as green roofs. The amendments were adopted by Council in September but are not yet in effect as there have been several appeals to the Ontario Municipal Board. Durham Consolidated Courthouse will be built to LEED standards.
HALTON HILLS	Try to address LEED principles where possible.
HALTON REGION	An Air Quality, Human Health and the Built Environment report going forward to Committee later this month, and one of the recommendations is directed at encouraging the application of LEED standards to new buildings in the community through the land use planning process.
HAMILTON	Nothing yet, but staff is researching the issue.

FIRST STEPS, cont'd	
KING	Has developed a <i>Sustainable Design Reference Guide</i> . Council has recently requested that the Environmental Advisory Committee carry out research and report back with respect to possible measures which could be put in place to require more prescriptive/regulatory requirements for energy efficient "green" buildings. As part of the approval of new subdivisions, builders are required to include energy efficient housing design as an option for purchasers of the new homes.
MISSISSAUGA	A staff subcommittee (Facilities, Planning, Design, etc.) is preparing for the coordination of a comprehensive approach to green development standards for public and private sectors.
OAKVILLE	Developing a sustainability checklist for developers that will contain incentives to encourage uptake of sustainable measures. The Town is requiring LEEDS features in a subdivision being built on land recently sold by the Town to a developer - a condition of sale.
OSHAWA	Nothing yet.
PEEL REGION	The Energy Management Team, which deals with regionally-owned buildings, has approved an energy management plan.
SCUGOG	Nothing yet.
UXBRDIGE	Mason Homes is buildings 25 Energy Star homes (Phase I). Phase II to follow – # of homes unknown.
VAUGHAN	No formal policy, however, 2 municipal facilities and a few private ones are being built to LEED standards. Block 39 subdivision, approx. 1,400 homes are being built to EnergyStar standards. A number of parties (City, TRCA, Powerstream) were involved in discussions with developers.
WHITBY	The town is establishing a Green Working Committee to review and implement green initiatives. The Town has also recently purchased the Municipal Green Building Toolkit and will be exploring policy initiatives towards implementing green building standards.
WHITHCURCH- STOUFFVILLE	In the process of re-doing OP and will likely incorporate some wording around green/ energy efficient buildings.