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YORK REGION DRAFT OFFICIAL PLAN GREEN BUILDING POLICIES

The Planning and Economic Development Committee recommends the adoption of the recommendations contained in the following report dated August 11, 2009, from the Commissioner of Planning and Development Services.

1. RECOMMENDATIONS

It is recommended that:

1. This report be circulated to local municipalities, the development community, Regional partners and stakeholders, and the Ministers of Energy and Infrastructure and Municipal Affairs and Housing.
2. This report be circulated to the Minister of Municipal Affairs and Housing with a recommendation to enhance the sustainability, energy and water efficiency requirements of the Ontario Building Code immediately for higher density development and ground related buildings.
3. Staff continue to work with the local municipalities and the development industry on practical policy and implementation approaches to the green building policies in the Regional Official Plan, including exploration of alternative equitable approaches to achieve green buildings prior to final adoption of the Regional Official Plan in November 2009.

2. PURPOSE

This report provides a review of the green building policies of the draft Regional Official Plan. The draft Regional Official Plan, which was endorsed by Regional Council for circulation in June 2009, includes policies which require that new buildings in York Region's new communities and Regional Centres and Corridors be constructed to LEED or "equivalent alternative" standards.

Regional staff are exploring alternative equivalent standards with the local municipalities and the development industry that could result in refinements to policies in the draft Regional Official Plan.

3. BACKGROUND

York Region chooses a sustainable approach to growth

York Region has taken a sustainable approach to the growth challenges ahead. The Region's Sustainability Strategy, which was approved in 2007, provides a long-term framework for making smarter decisions about growth management and undertaking municipal responsibilities that better integrate the economy, environment and community. The Sustainability Strategy has informed the Region's growth management strategy, the update to the Regional Official Plan, and the criteria for how the new communities of the Region should develop.



York Region will be growing to 1.5 million residents by 2031, as well as 780,000 jobs and 510,000 households. Given the significance of this level of growth, it is the opportune time for strategic action and to make sustainable choices in how our new communities are built including encouraging and requiring innovation in energy use, transportation and housing choices, water management and green buildings. Green buildings are an important way to achieve the Region's sustainability objectives. This is consistent with the vision of the Province's Growth Plan for the Greater Golden Horseshoe which is to ensure economically, socially and environmentally sustainable growth to 2031.

Attachment 1 to this report includes a primer on green buildings and the draft Regional Official Plan and answers to many of the frequently asked questions on green buildings and the draft policies.

Best Practices for New Communities Discussion Paper and Workshop Initiated the Discussion on Criteria for new communities

In December 2007, York Region released the *Best Practices for New Communities Discussion Paper*. This paper catalogued innovative tools around the Region, and across Canada in the areas of water management, energy and green buildings, transportation, urban design, planning tools and incentives and stimulated discussion on the development of the new communities of York Region. Following the release of the *Discussion Paper*, a *Best Practices Workshop* was held in December 2008 to gather feedback from Regional stakeholders and partners, and further explore the best practices presented in the discussion paper.



Overall, residents and stakeholders support the creation of criteria for York Region's new communities. Many agreed that new communities need to be built differently and that innovation needs to be encouraged. It was also suggested that these communities have strong pedestrian environments, be serviced by transit, and include a sufficient mix of housing types to allow for residents to age in place. Other suggestions included the use of green buildings, alternative energy sources and conservation methods, closer live/work relationships and a better integration of the natural environment into our communities.

Draft New Communities Criteria Released in March 2009 and Circulated Widely for Discussion

The feedback from the *Best Practices for New Communities Discussion Paper* and the *Best Practices Workshop* was used to formulate draft criteria for new communities, which were endorsed by Regional Council in March 2009 for circulation and incorporation into the draft Regional Official Plan.

All new development within the whitebelt communities of Vaughan, Markham, and East Gwillimbury, will be required to meet the criteria and it will help to influence new development within the existing Urban Areas.

The draft criteria contains policies in the following categories; community design, energy and green buildings, water management, transportation and greenspace. The criteria were circulated widely and focussed consultation was conducted with the local municipalities and the Building Industry and Land Development Association (BILD).

Provincial Policy Supports Green Building Policies, Ontario Building Code is an Obstacle

The Planning Act and Provincial Policy Statement have been recently amended to give municipalities additional tools ensure communities develop more sustainably. Places to Grow is founded on the principles of building compact, vibrant and complete communities and optimizing the use of existing and new infrastructure to support growth in a compact, efficient form. All three Provincial documents support sustainable community policies in the draft Regional Official Plan.

While the Planning Act and the Provincial Policy Statement both support sustainable community development features, the Ontario Building Code is an obstacle to implementing these initiatives. The Ontario Building Code is the minimum requirement for building construction, and builders cannot be forced to build to a higher standard. As of December 31, 2011, the Building Code will require new houses to meet standards that are substantially in accordance with EnerGuide 80 (currently Energy Star) and also require that new non-residential and larger residential buildings meet standards of energy efficiency that are 25% higher than the Model National Energy Code for Buildings. While a number of building code changes related to energy efficiency are being phased

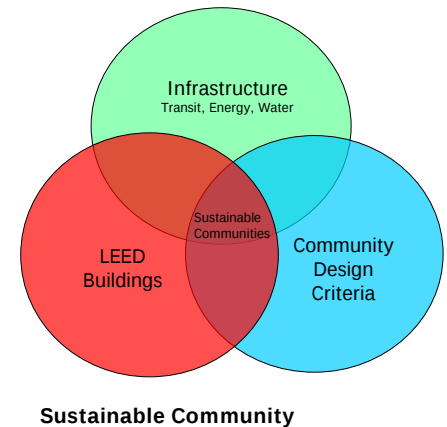
in, many green building standards remain beyond current or anticipated Ontario Building Code requirements.

4. ANALYSIS AND OPTIONS

Green buildings are important elements of York Region communities

Green buildings are key components in achieving healthy and sustainable communities. Green building rating systems, including LEED certified buildings have higher energy savings and water efficiency, reduced CO₂ emissions, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Planning policies have traditionally covered matters relating to land use and development at the municipal, neighbourhood and site scale, and can now, under the Planning Act, address issues relating to the exterior design of a building. Planning policies have not typically addressed the performance or the interior elements of a building; these issues are addressed by the Ontario Building Code.



Building sustainable communities means that we must address both land use and the built form. There is a critical interface between community development and the built form wherein the built form plays a major role in supporting the sustainability vision for a community, by providing housing that contributes positively to a sustainable community by being more energy and water efficient, supporting local industry by buying materials locally, and providing healthier indoor environments.

The Residential Sector accounts for roughly 40% of all energy use in Ontario. Green buildings contribute to the reduction of energy consumption, water use, and create a healthier living or working environment. It is estimated that 17% of the greenhouse gas emissions in Canada are generated from the energy consumed in the home, which in Ontario primarily comes from burning fossil fuels, and are a contributing factor to global warming.

A comprehensive summary of the benefits of green buildings is included in *Attachment 1* to this report. Recommendation #2 advocates that the Province increase the minimum standards within the Ontario Building Code now to ensure enhanced building performance.

There are several green building rating systems available in Canada. The following table provides a brief overview of the leading green building rating systems and the areas that they address.

	Regional Interests								Third Party Verification
	Community Design	Energy Efficiency	Water Efficiency and Conservation	Waste Management	Indoor Air Quality	Natural Heritage Protection	Transit Supportive	Stormwater Management	
ENERGY STAR®		✓							✓
GreenHouse™		✓	✓	✓	✓				✓
Boma BEST		✓	✓	✓	✓				✓
R-2000		✓	✓		✓				✓
Green Globes	✓	✓	✓	✓	✓	✓		✓	✓
LEED® Homes	✓	✓	✓	✓	✓	✓	✓	✓	✓
LEED® NC	✓	✓	✓	✓	✓	✓	✓	✓	✓

The draft policies of the Regional Official Plan use the LEED (Leadership in Energy and Environmental Design) rating system as a standard. LEED is used, as it is the most comprehensive of all of the other building rating systems reviewed; it addresses not only the features of the building, but also the building site, and the larger community.

The LEED rating systems are developed and reviewed by team of industry experts and building professionals. The programs are administered and buildings are certified by the Canada Green Building Council (CaGBC), which is a not for profit organization. LEED has very high brand recognition and has been widely used and applied in Canada.

One of the key benefits to the LEED system is that it is tied to a rigorous third party verification process and has stringent reporting and certification requirements to ensure that each of the requirements of the program are being met.

In addition to the advantages of the LEED system, there are several disadvantages. Registration and certification of a building can be costly and time consuming, and the LEED system is a brand, and the Region would have no control over any modifications to the rating system.

Green Building policies in the Draft Regional Official Plan

To address the connection between the sustainable communities and buildings, the draft Regional Official Plan requires that communities be planned in a holistic manner, addressing everything from water management and energy use to open space, housing

and mobility systems and the built form. This policy approach ensures that the communities of York Region prioritize people, sustainability and liveability.

A summary of the green building policies in the draft Regional Official Plan are as follows:

- Within the new community areas (new communities of the whitebelt in Markham, Vaughan and East Gwillimbury), Regional Centres and Regional Corridors all new development, with the exception of industrial development must be built to the following requirements:
- LEED Silver (or equivalent alternative), prior to and including 2015
- LEED Gold (or equivalent alternative), 2016 up to and including 2021
- LEED Platinum (or equivalent alternative), post-2021
- Elsewhere within the Region, all new development, with the exception of industrial development, and ground-related residential (defined as 3 storeys or less) must also meet the above standards. Ground-related residential will be required to be built to an Energy Star level.
- New industrial development is encouraged to be built to the highest standard.
- Existing housing is encouraged to be retrofitted to Energy Star.

The green building policies of the draft Regional Official Plan are subject to the applicable LEED standard or “equivalent alternative”. Staff are in the process of exploring the development of York Region’s own “equivalent alternative” to the LEED rating system.

The building and land development industry does not support policies mandating a LEED standard

The building and land development industry (represented by BILD – Building Industry and Land Development Association) have indicated that they do not support mandatory green buildings policies which are tied to a third party system such as the LEED program. While BILD has expressed their support for Regional initiatives promoting sustainability, specifically energy and water conservation, they advocate that green building criteria should apply on a voluntary basis and that any policies for green buildings be supported by a complementary incentive program. In addition, the industry would like the flexibility to select a green building rating system rather than mandating a particular system (i.e., LEED).

A letter dated April 7, 2009 from BILD states:

“BILD is committed to promoting sustainable development and green building (new and renovation) and to housing affordability and choice, which is an objective that impacts our philosophical approach to sustainable development and green building.

However, we have significant concerns with the Region's proposal to include LEED Criteria as part of a Regional Official Plan amendment and we continue to advocate that the LEED apply on a voluntary basis."

Regional staff are working with the development industry and the local municipalities to explore "alternative equivalent" standards

Staff are examining ways to elevate the standards of community design and building performance to ensure an increased standard across the Region together with the development community. The development of an "equivalent alternative" system to the draft green building requirements may assist in doing so while ensuring that enhanced building performance is implemented across York Region.

An "equivalent alternative" standard could take the form of a checklist of minimum standards that would be applied Region-wide and more specificity could occur at the local municipal level.

Some of the elements of a Regional "equivalent alternative" system could include the following:

Category	Objectives
Complete Community Design	Compact development, wide range of housing types, sizes and affordability options
	Urban heat island mitigation, community design for solar orientation
	Mix of employment and residential uses, live-work and community resources and amenities
	Development phasing and sequencing
	High quality urban design
Sustainable Transportation	Walkable communities, fine grain grid street pattern, priority on pedestrian movement and accessibility
	Transit accessibility and service
	Integrated pedestrian and cycling network and facilities
	Parking and transportation demand management
Open Spaces	Natural heritage system and feature protection and enhancement
	Context sensitive infrastructure design, net gains to natural heritage system

	Provide natural heritage trails
	Open space, parks in proximity to all residents
Energy Conservation, Efficiency and Renewable Technologies	Maximize building energy efficiency
	Use renewable energy systems, on-site renewables, district heating and cooling
	Orientation to maximize passive solar gains and design for future solar installations
Water Conservation Efficiency and Management	Maximize building water efficiency- low potable water consumption
	Provide water efficient, drought resistant landscaping
	Capture rain water for reuse for outdoor irrigation
	Provide innovative solutions to stormwater management to maximize water quality, and infiltration and minimize runoff
	Municipal inflow and infiltration reduction programs
Resource Management	Divert construction waste from landfill
	Provide facilities necessary for three stream waste separation and collection
	Efficient use of resources
	Use environmentally preferable products
	Use locally sourced products to support Regional economy
Health	Improve indoor air quality through the use of high efficiency HVAC systems, low or no VOC products, adhesives and finishes
Education	Building/owner operator Training
	Conservation Education and Awareness

Many other jurisdictions are using checklists or green development review systems. Markham currently uses a checklist for development in Markham Centre and is in the process of developing a sustainable development guideline, the City of Toronto has a Green Development Standard checklist, Pickering has a Sustainable Development Guideline, Oakville has a Sustainable Development Checklist and User Guide for North Oakville, and the Town of East Gwillimbury has a Sustainable Development Evaluation System checklist under development.

The policies in the draft Regional Official Plan will be refined to reflect any alternative standards developed in consultation with the local municipalities and the development industry. Regardless of the how it is achieved, it is essential that the Region continues to

pursue enhanced energy and water efficiency in high density and ground related developments.

York Region, Local Municipalities, and the development industry are already leading the way in green buildings

York Region and many of the local municipalities are currently leading the way in green building policies and developments. In part, the policies in the draft Regional Official Plan were created to ensure a consistent application of these approaches across the Region.

In addition to a number of municipal initiatives, several private sector companies have adopted green building practices, and have shown commitment to building sustainable communities and developments. While BILD's policy is to support voluntary green building initiatives, Minto, Tridel, Smart Centres, Reid's Heritage Homes, and Metrus are among those who have been building LEED or more energy efficient building products. More than 40 production home builders in York Region are building Energy Star homes prior to Ontario Building Code phase-in of these standards in 2012. These include Monarch, Heathwood Homes, Empire, Aspen Ridge Homes, Townwood Homes, Brookfield Homes, Empire, Minto, Tribute and Mattamy.

The following are some highlights on green building implementation throughout the Region, and Attachment 1 includes a more comprehensive summary of the sustainable community and green building policies.

- York Region, East Gwillimbury, Markham, Richmond Hill and Newmarket all have policies on green municipal buildings, most of which are tied to a LEED Silver standard. Georgina, King Township and Vaughan are all investigating adopting similar policies. Vaughan's new Civic Centre has been designed to LEED Gold standards, and Whitchurch-Stouffville is currently constructing an Arena and Firehall to very high energy efficiency and green building standards.
- Several local municipalities use sustainable or green development checklists, most notable is the Markham Centre Performance Measures. As a component of their official plan reviews, East Gwillimbury, Richmond Hill and Vaughan are developing sustainable development evaluations or checklists.
- There are green buildings located in or proposed in each of the local municipalities. Vaughan is a hub of green buildings including the Powerstream Corporate Head Office (LEED Gold), Earth Rangers (LEED Gold), Toronto and Region Conservation's Restoration Services Centre (LEED Platinum), and the Archetype Sustainable homes (LEED Gold) and is the home of the World Green Building Council.

Building green makes good business sense

There are several studies, which demonstrate that constructing green buildings makes good business sense. In general terms, the economic benefits of building green include:

- Lower energy, waste disposal and water costs
- Reduction in operating and maintenance costs
- Creation and expansion of markets for green product and services
- Improved health and lower health care costs
- Increased property values and increased sales

In, 2008 Enerquality Corporation conducted an Energy Efficiency /Green Building Study. The results of this survey indicated the following:

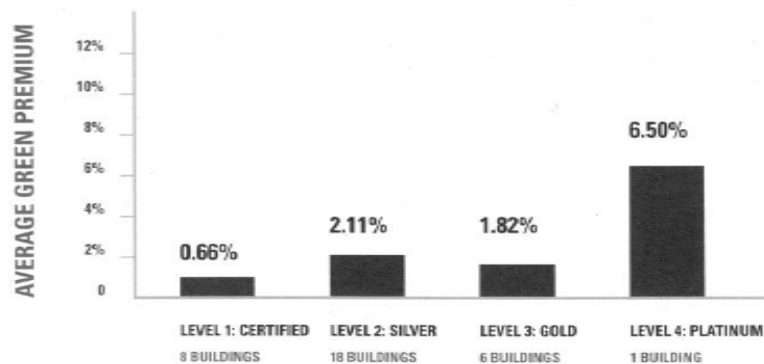
- On average, buyers are willing to pay an additional \$10,000 for energy efficient homes
- 61% of buyers indicated that a certification label was important in proving the energy efficiency of the home
- Third Party certification results in reduced customer service calls and complaints
- Real estate industry experts currently estimate that energy efficiency building sell at a 5 to 15% premium when compared to conventionally built homes

The Costs of Building to LEED standards varies from 1-6%

A review of the literature shows that there is no one-size-fits-all answer to how much a green or LEED building costs. Research shows that reasonable levels of sustainable design can be incorporated into most building types at little or no additional cost.

While there is no formula to calculate the direct capital costs premium associated with green buildings or LEED with certainty, a study from the US General Services Administration concludes that a building certified to basic LEED certification can range from 0-1%, Silver varies from 0-4%, and Gold varies from 1.5-6%. The issue of costs often relate to who pays the potential increased capital costs, and who benefits from the increase energy, water, and soft savings. The incremental capital costs described above are borne by the developer, while the benefits accrue to a long-term owner occupant.

It is important to understand the impact of green building policies on housing affordability. Policies will be carefully constructed to ensure the impact on the cost of housing is kept to a minimum. Public education is also important so that purchasers know that increased housing purchase costs would at least be partially offset by decreased operation costs.



Average capital cost premiums for LEED buildings (Source: CaGBC Municipal Green Building Toolkit)

Studies also show that as the experience of the builder increases, costs associated with building green are reduced. A portion of the upfront costs are associated with re-tooling business practices, education and training, which are often incorporated into the costs associated with a particular project, even though they are not costs directly associated with green buildings themselves.

York Region's Incentive Programs assists developers and builders in green building construction

The draft Regional Official Plan includes policy to support the development of incentive programs complementary to the green building standards included in the Plan together with the local municipalities.

The Sustainable Development through LEED program provides additional servicing allocation as an incentive to encourage more sustainable high density development within Regional Centres and Corridors. The program allows high density residential development proposals to qualify for water and wastewater Servicing Allocation Credits equivalent to servicing allocation for 20%, 35% or 40% of the total residential units. The Town of Markham, has required LEED Silver certification for all medium and high density residential developments, and has made participation in the incentive program to be mandatory.

The proposed Sustainable Home Incentive Program, allows developers of grade-related residential which are eligible for certification under the LEED for Homes program to qualify for a bonus in the amount of water and wastewater servicing allocation. Regional Council endorsed the principles of the Sustainable Home Incentive Program in April 2009, and the implementation process is being considered by Planning and Economic Development Committee in September 2009.

The incentive programs assist in increasing the capacity of the industry and the local municipalities in constructing LEED certified buildings, re-tooling their practices and business models. In doing so, they will have the expertise and experience they need for the draft Regional Official Plan policies. A more fulsome suite of incentive programs, both at the Regional level, and the local levels are proposed and recommended.

Incentives can Help Motivate Developers to Build Green

Municipalities can provide incentives and technical support to ease the transition to building green. There are several examples of incentive programs which are effective at this including:

- The Toronto Better Buildings Partnership – New Construction encourages and assists developers to design and build condos to exceed the minimum energy performance requirements of the Ontario Building Code.
- Green Loans such as those provided by the Toronto Atmospheric Fund to fund green technologies. The green loan pays for the green technologies, and the loan is paid back with the savings in operations. The loans are typically paid within 7 years, at which time the operational savings go to the building owners.
- The Development Charges rebate program at the Town of Caledon provides development charge discounts for new green commercial and industrial buildings. Discounts range from 5-25% depending on the green technology utilized or the level of LEED certification achieved.
- The City of Portland's Feebate program collects development fees for conventional construction, a reduction is provided for moderate green improvements and fees are significantly discounted or waived for high performance green building projects.

There are several other incentive possibilities which can be explored to assist the development community in the transition to green building requirements. These can include density bonusing, expedited processing of development applications and the use of local community improvement plans and associated financial tools.

Relationship to Vision 2026

This staff report addresses several goal areas in Vision 2026, including "Enhanced Environment, Heritage and Culture", "Responding to the Needs of Our Residents", "Managed and Balanced Growth", "Infrastructure for a Growing Region" and "Engaged Communities and a Responsive Region".

5. FINANCIAL IMPLICATIONS

The LEED policy development and associated research was undertaken within the 2009 Planning and Development services budget allocations as was work on the draft Region of York Official Plan – June 2009.

6. LOCAL MUNICIPAL IMPACT

Local municipalities have been an integral component of the Region's Growth Management program and will be the key implementers for new communities. Ultimately, the local municipalities are responsible for the implementation of any green building program or policies as the issuers of building permits.

Regional staff have consulted with local municipal staff on the draft criteria for building new communities in York Region and on the draft Regional Official Plan. A number of the local municipalities in York Region, particularly Markham and East Gwillimbury, which will be experiencing a significant amount of growth, have emerging policies which are moving in the direction of the policies in the draft Regional Official Plan, including the proposed green building standards.

Regional staff will continue to consult with all of the local municipalities on the green building policies, and the development of any Regional "equivalent alternative" checklist.

7. CONCLUSION

York Region is committed to a sustainable approach to the growth. Fundamental to this approach are the policies in the draft Regional Official Plan which contain progressive policies to mandate green buildings to a LEED or "equivalent alternative" standard across the Region. The building and land development industry does not support a mandatory approach to green buildings, but support the sustainability vision of the Region.

Provincial legislation and regulation including the Planning Act, the Provincial Policy Statement, Places to Grow and the Ontario Building Code establish minimum standards for growth and planning and provide the basis for regional and local municipal innovation and leadership in sustainable community development including green buildings. While Provincial Policy supports sustainable community development and green buildings, however the Ontario Building Code is an obstacle to implementing these initiatives and has failed to address green building design including energy, water use and materials in an integrated manner. As the minimum standard for building construction and builders cannot be mandated to go beyond the minimum code standards.

Green buildings are a key component of a sustainable community. There is a need to focus on both higher density and ground related residential buildings as well as commercial, industrial and institutional buildings. The Residential Sector accounts for roughly 40% of all energy use in Ontario. Green buildings contribute to the reduction of energy consumption, water use, and create a healthier living or working environment. Building sustainable communities means that we must address both land use and the built form. There is a critical interface between community development and the built form.

wherein the built form plays a role in supporting the sustainability vision for a community, by providing housing that contributes positively to a sustainable community by being more energy and water efficient, supporting local industry by buying materials locally, and providing healthier indoor environments.

York Region, the local municipalities and the development community are already leading the way in green building initiatives. The costs associated to constructing to green building standards can be recovered through savings in operating costs, making green buildings more affordable. Consumers are demanding greener building products and are increasingly willing to pay the up-front costs of efficient buildings to achieve long term operating savings. Policies and implementation will be carefully undertaken to minimize the effect on affordability, increase understanding of the benefits and to carefully monitor the impact.

Staff are working with the development industry and the local municipalities in the development of an “equivalent alternative” standard that is aligned with the sustainability objectives of the Region. An “equivalent alternative” standard would be administered at the Regional and/or local level. The policies in the Regional Official Plan will be modified to reflect any alternative standards developed in consultation with the local municipalities and the development industry.

The implementation of the green building policies in the draft Regional Official Plan will require some transition from the status quo. There will be a learning curve for the building and development industry and the local municipalities. Incentives at the beginning of the policy period will be critical to ensure successful implementation of the policies and build experience and capacity in the industry. York Region’s two incentive programs, in addition to others which can be explored with the local municipalities will be critical to ensuring the success of the policies.

For more information on this report, please contact John Waller, Director of Long Range and Strategic Planning at (905)830-4444 Ext. 1525.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report).

A Primer on Green Buildings and the Draft Regional Official Plan

1. Green Buildings are important components of Healthy and Sustainable Communities

Green buildings are key components in achieving healthy and sustainable communities. Green buildings, including LEED certified buildings have higher energy savings and water efficiency, reduced CO2 emissions, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Planning policies have traditionally covered matters relating to land use and development at the municipal, neighbourhood and site scale, and can now, under the Planning Act, address issues relating to the exterior design of a building. Planning policies have not typically addressed the performance or the interior elements of a building; these issues are addressed by the Ontario Building Code.

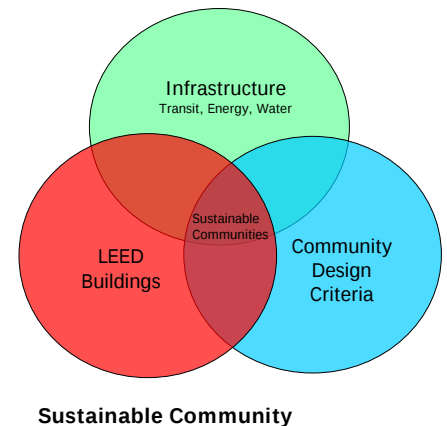
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As of December 31, 2011, the Ontario Building Code will be updated to require that new houses to meet standards that are substantially in accordance with EnerGuide 80 (currently Energy Star) and also require that new non-residential and larger residential buildings meet standards that are substantially in accordance with energy efficiency levels that are 25% higher than the Model National Energy Code for Buildings. While the new code will elevate the energy performance of new buildings, it is not as holistic an approach to buildings as a LEED system is, and is intended to be a minimum standard. While the new Building Code which comes into effect in 2012 will elevate the energy performance of new buildings, it does not address building efficiencies and health as well as many green building rating systems.

2. What's happening currently in York Region, Local Municipalities, and the development industry are leading the way in Green Buildings?

York Region and the local municipalities have been progressing toward a more sustainable approach to development York Region and many of the local municipalities are currently leading the way in green building policies and developments. In part, the draft Regional Official Plan were created to ensure a consistent application of these practices across the Region.



The volume of the programs and strategies that are happening throughout York Region, the local municipalities and within the development community demonstrates the progression of sustainable community and green building acceptance and understanding. In the local municipalities, building departments and planners are building the capacity they need to be able to deal with green building or LEED systems; they are becoming familiar with the requirements and the standards. The development community is responding to the market shifts which are demanding more sustainable building products, and is also building capacity, adjusting business models, connecting to the resources and materials they need.

In addition to a number of municipal initiatives, several private sector companies have adopted green building practices, and have shown commitment to building sustainable communities and developments. While BILD's policy is to support voluntary green building initiatives, Minto, Tridel, Smart Centres, Reid's Heritage Homes, and Metrus are among those who have been building LEED or more energy efficient building products. More than 40 production home builders in York Region are building Energy Star houses prior to Ontario Building Code phase-in of these standards in 2012. These include Monarch, Heathwood Homes, Empire, Aspen Ridge Homes, Townwood Homes, Brookfield Homes, Empire, Minto, Tribute and Mattamy.

The following table provides an overview of the green building implementation throughout the Region.

York Region

In 2006, Regional Council approved a minimum sustainable design and construction standard for most new Regional buildings of LEED Silver. The following is a list of Regional projects since the LEED Silver standard has been adopted:

Vaughan Fire / EMS Station #7-9	LEED Gold awarded
Tom Taylor Place	LEED Silver target
Stouffville Zone 2 Pumping Station	LEED Certified target
Vaughan Community Environmental Centre	LEED Silver target
Police Investigative / Support Services	LEED Silver target
Bus Maintenance Facility	LEED Silver target
Central Services Centre	LEED Silver target

Aurora

Official Plan amendment 60 enables the Town of Aurora to take advantage of the increased power in the Planning Act, through Bill 51, which permits municipalities with supporting Official Plan policies, to control, through site plan, matters relating to the exterior design of a building including the character, scale, appearance, and design features of a building, including sustainable design. To this end, Official Plan Amendment 60 proposes to require that all new industrial, commercial, institutional, mixed-use and residential buildings make best efforts to build to a minimum LEED Silver standard. If the standard cannot be met, a checklist must be submitted demonstrating how best efforts to meet the LEED Silver standard and how best efforts have been made to achieve sustainable design.

East Gwillimbury

In 2006, the Town of East Gwillimbury released a policy requiring that all new Town facilities, and new commercial, industrial, institutional, and high-rise residential buildings or major renovations be constructed to LEED Silver standards, and that all new residential development requiring a subdivision or site plan be required to meet Energy Star certification. Currently, Lowes has been constructed under the LEED policy, and approximately 700 Energy Star homes. Minto Homes has also built 5 LEED Silver certified homes in the Harvest Hills Development.

The Town is currently reviewing and updating their Official Plan and in doing so, are undertaking a number of innovative and strategic initiatives related to energy and green buildings including:

Undertaking a Community Energy Plan for the entire Town, and investigating the feasibility and administrative requirements for establishing a series of district energy facilities; and,

Sustainable Development Evaluation System; which is a tool which integrates the sustainable community design policies into a comprehensive checklist. Each application will be reviewed and evaluated against the checklist.

Georgina

The Town of Georgina is currently considering a LEED certification policy whereby all new municipal buildings would have to meet LEED certification standards.

The Crates Landing project in Georgina is pursuing a LEED Gold certification featuring geo-thermal power to heat and cool the community.

King

The Township of King does not currently have a formal policy for green municipal buildings, but are currently investigating the development of a policy and are looking into incorporating green features into the new Schomberg Community Centre. King Township's Environmental Advisory Committee has assembled a reference document for various green programs that developers use, and the Township is using subdivision draft plan approvals as a vehicle to get more energy efficient features into residential developments. There is currently a proposal for a LEED certified building in King City.

Markham

The Town of Markham has a number of initiatives which advance sustainable community development and green buildings. In 2004, the Markham Centre Performance Measures were established to implement a vision of sustainability and smart growth in Markham Centre. The majority of Markham Centre developers are now seeking LEED Silver accreditation.

The Markham District Energy facility serves Markham Centre and consists of high efficiency natural gas boilers, chillers, and a natural gas cogeneration facility with waste heat recovery technology.

Markham has adopted a minimum LEED Silver target for all new municipal buildings and additions/ renovations to municipal buildings. The Cathedral Fire Station and the East Markham Community Centre are targeted to receive LEED Silver certification with options for possible Gold certification to be considered. Recent additions and renovations to municipal buildings have incorporated a broad range of sustainability measures, from green roofs to solar hot water heating.

The Town is in the process of preparing Sustainable Development Standards and Guidelines. In advance of the final standards being released, the following interim requirements are in place:

- Encourage builders to apply Energy Star standards for low density housing.
- Require LEED® Silver as the minimum standard for all new medium and high density residential developments.
- Institutional, commercial and industrial developers are encouraged to apply site development and building construction techniques that reduce heat island effect, minimize storm water run-off, increase infiltration, include rain

water harvesting, grey water re-use, cool roofs and green roofs, permeable paving, landscaping, energy efficiency and general water conservation and lead to more energy efficient and environmentally sensitive developments.

Newmarket

In the Town of Newmarket, Rodeo Homes is currently building 34 EcoLogic Homes which are all designed to meet the LEED Platinum Standard. In addition, Rodeo Homes is a participant in the Canada Green Building Council's LEED for Homes Case Study Program. The 34 bungalows and two-storeys, built by Rodeo Fine Homes, will use 50 per cent less municipal water (since rain water will help irrigate gardens and flush toilets), will have 67 per cent less water going down the drain and 60 per cent less construction waste, greenhouse-gas emissions and energy consumption compared to conventionally built homes.

The Town has also committed to designing and constructing major renovations to be 25% more efficient than the Model National Energy Code for Buildings and assess the feasibility of meeting LEED Silver certification for all new construction. In partnership with York Region, the Town of Newmarket has built Tom Taylor Place, an affordable housing project which has been constructed to LEED Silver standards. The Town has also required commitment from developers to build Energy Star or equivalent energy efficient housing is mandatory prior to granting servicing allocation

Richmond Hill

The Town is in the process of updating their Official Plan, and examining ways to incorporate sustainable community features within new development. The Town has a policy that all new municipal buildings must be built to LEED Silver standards, and the proposed Oak Ridges Moraine Community Centre is targeting LEED Silver certification. Richmond Hill has other green buildings located within the Town, including the Tridel Renaissance building (LEED Gold target).

Vaughan

The City of Vaughan, as a part of their Official Plan review, is currently working on a Sustainable Development Evaluation process. This evaluation will be used to measure the sustainability performance of development applications.

Currently, Vaughan requires that all residential units be built to Energy Star specifications. In 2006, Vaughan piloted a project with local developers and builders to construct 1000+ Energy Star qualified homes.

While Vaughan is in the process of developing a green building policy for municipal buildings, the new Vaughan Civic Centre, which is currently under construction, has been designed to LEED Gold standards, and the Vaughan Fire & Rescue Station No. 7-9 & York Region EMS Paramedic Response Station has been certified as LEED Gold.

Vaughan also has a number of LEED certified buildings within its jurisdiction, including Powerstream Corporate Head Office (LEED Gold), Earth Rangers (LEED Gold), Toronto and Region Conservation's Restoration Services Centre (LEED Platinum), and the Archetype Sustainable homes (LEED Gold) located at the Kortright Centre. The two semi-detached homes serve as models of the next generation of green homes by showcasing sustainable technologies, materials and practices, and promoting a holistic approach to home and community building. Vaughan is also home to the headquarters of the World Green Building Council, which is the union of green building councils from around the world.

Whitchurch-Stouffville

The Town of Whitchurch-Stouffville is developing experience in green buildings. While the Town does not have a formal policy on green buildings, there are currently

two municipal buildings (Arena and Firehall) which are being constructed to very high levels of energy efficiency and contain numerous green features. The Town's commitment to building green municipal buildings will also be implemented through their newest Operations Centre project, currently under design.

3. What does York Region want to achieve?

York Region wants to ensure that the new communities of the Region, and the existing urbanizing areas are complete communities which will be designed to be sustainable by incorporating green building technologies, and renewable and alternative energy options, and over time will evolve into zero carbon and zero waste communities. Standards will help to create well-designed communities that have integrated greenspace, pedestrian and transit networks, and that offer a variety of housing, transportation, human services, and employment options.

The following table includes some of the objectives that the Region is looking to achieve.

Category	Objectives
Complete Community Design	compact development, wide range of housing types, sizes and affordability options
	urban heat island mitigation, community design for solar orientation
	mix of employment and residential uses, live-work and community resources and amenities
	development phasing and sequencing
	high quality urban design
Sustainable Transportation	walkable communities, fine grain grid street pattern, priority on pedestrian movement and accessibility
	transit accessibility and service
	integrated pedestrian and cycling network and facilities
	parking and transportation demand management
Open Spaces	natural heritage system and feature protection and enhancement
	Context sensitive infrastructure design, net gains to natural heritage system
	Provide natural heritage trails
	open space, parks in proximity to all residents
Energy Conservation, Efficiency and Renewable Technologies	maximize building energy efficiency
	use renewable energy systems, on-site renewables, district heating and cooling
	orientation to maximize passive solar gains and design for future solar installations
Water Conservation Efficiency and Management	Maximize building water efficiency- low potable water consumption
	Provide water efficient, drought resistant landscaping
	capture rain water for reuse for outdoor irrigation

	Provide innovative solutions to stormwater management to maximize water quality, and infiltration and minimize runoff
	municipal inflow and infiltration reduction programs
Resource Management	Divert construction waste from landfill
	Provide facilities necessary for three stream waste separation and collection
	Efficient use of resources
	Use environmentally preferably products
	Use locally sourced products to support Regional economy
Health	improve indoor air quality through the use of high efficiency HVAC systems, low or no VOC products, adhesives and finishes
Education	building/owner operator Training
	conservation Education and Awareness

4. What are some of the existing green building standards available in Canada?

There are several green building rating systems in Canada. Some of the most common green building rating systems, and the matters they addressed are detailed below.

	Regional Interests								Third Party Verification
	Community Design	Energy Efficiency	Water Efficiency and Conservation	Waste Management	Indoor Air Quality	Natural Heritage Protection	Transit Supportive	Stormwater Management	
ENERGY STAR®		✓							✓
GreenHouse™		✓	✓	✓	✓				✓
Boma BESt		✓	✓	✓	✓				✓
R-2000		✓	✓		✓				✓
Green Globes	✓	✓	✓	✓	✓	✓		✓	✓
LEED® Homes	✓	✓	✓	✓	✓	✓	✓	✓	✓
LEED® NC	✓	✓	✓	✓	✓	✓	✓	✓	✓

The draft policies of the Regional Official Plan use the LEED rating system as a standard. LEED is used, as it is the most comprehensive of all of the other building rating systems reviewed; it addresses not only the features of the building, but also the building site, and the larger community.

The LEED rating systems are developed and reviewed by team of industry experts and building professionals. The programs are administered and buildings are certified by the Canada Green Building Council (CaGBC), which is a not for profit organization. LEED has very high brand recognition and has been widely used and applied in Canada.

One of the key benefits to the LEED system is that it is tied to a rigorous third party verification process and has stringent reporting and certification requirements to ensure that each of the requirements of the program are being met.

5. What are the green building policies proposed in the draft Regional Official Plan?

To address the connection between the sustainable communities and buildings, the draft Regional Official Plan requires that communities be planned in a holistic manner, addressing everything from water management and energy use to open space, housing and mobility systems and the built form. This policy approach ensures that the communities of York Region prioritize people, sustainability and liveability.

The following table summarizes the green building policies throughout the draft Regional Official Plan.

ROP Section	Pg.	Draft Policy	Applies to
5.6.12, 5.4.9, 5.2.17	57, 50, 44	That all new residential, mixed-use, commercial, major office, and institutional <i>development</i> shall be built to a minimum: a. LEED® Silver, prior to and including 2015;	New Communities, Regional Centres and Corridors,

		b. LEED® Gold, 2016 up to and including 2021; and, c. LEED® Platinum, post-2021. Based on the applicable LEED® rating system or alternative equivalent.	Urban Areas and Towns and Villages
5.2.18	45	To work with local municipalities and the development industry to achieve the highest possible standard in energy and water efficiency in new industrial <i>development</i> .	Entire Region
5.2.19	45	To require that all new ground-related residential units be constructed to a minimum ENERGY STAR® standard or equivalent alternative prior to 2012. Post 2012, this policy shall be reviewed to incorporate LEED® standards for ground-related residential.	Existing Urban Area
5.2.20	45	To encourage retrofitting the existing ground-related residential building supply within the Urban Area to an ENERGY STAR® standard at minimum or equivalent alternative.	Urban Area
5.2.16	44	To encourage that existing <i>development</i> be retrofitted to attain the highest standard in energy efficiency and to incorporate <i>renewable energy systems</i> and <i>alternative energy systems</i> where appropriate.	Entire Region
7.5.17	97	To develop incentive programs complementary to the LEED® development standards included in this Plan together with local municipalities. These programs may include water and wastewater servicing allocation credits, density bonusing, expedited processing of development approvals or the use of local municipal community improvement plans and associated financial tools.	Entire Region
7.5.18	97	To review the LEED® and alternative equivalent green building standards in this Plan as building standards evolve.	Entire Region

6. What is meant by “equivalent alternatives”

The green building policies in the draft Regional Official Plan are based on LEED standards or an “equivalent alternative”. An equivalent alternative to a LEED standard could be:

- A similar third party verified green building standard
- A checklist of requirements, tied to particular performance standards developed at the Regional or Local Municipal level.

Staff are in the process of exploring the development of York Region’s own “equivalent alternative” to the LEED rating system. This equivalent alternative could take the form of a checklist of minimum standards that would be applied Region-wide and more specificity could occur at the local level. The elements of a Regional checklist could include items identified in section 3 above.

7. What is LEED?

The Leadership in Energy and Environmental Design Green Building Rating System (LEED®) is a third-party certification program and an internationally accepted benchmark for the design, construction and operation of high performance green buildings. It provides building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance.

LEED is administered by the Canada Green Building Council (CaGBC) which is a national non-profit coalition of public and private building industry leaders interested in transforming the building industry. They are affiliated with US Green Building Council and the license holder for LEED® in Canada.

LEED® promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health:

- sustainable site development
- water efficiency
- energy efficiency
- materials selection
- indoor environmental quality

Certification is based on the total point score achieved, following an independent review and an audit of selected Credits. There are four levels of certification: certified, silver, gold and platinum.

The LEED® rating system is adapted to the Canadian market through an inclusive process that engages stakeholders and experts representing the various sectors of the Canadian industry. A rapidly-growing number of governments and private sector organizations are adopting LEED® certification in their policies, programming and operations.

Compared to conventional buildings, green buildings, such as LEED certified buildings, take advantage of natural processes to generate less waste, less pollution, and reduce their overall environmental footprint. Green development has a triple-bottom line that creates the environmental, economic and social benefits of:

- increased profitability and/or return on investment
- improved indoor air quality
- lower operating costs
- Enhanced Corporate Image increased marketability and positive brand reputation
- Enhanced Bldg. Re-sale Value
- Healthier and happier occupants
- Reduced Operations and Maintenance Costs for Builder
- Builder's Social Responsibility
- Reduced Liability (for rental properties)

The CaGBC promotes buildings that are environmentally responsible, profitable, and healthy places to live, work and play by engaging a national coalition of industry leaders to accelerate the mainstream adoption of green building principles, policies, practices, standards and tools.



There are several LEED® Canada rating systems as follows:

 LEED					
GREEN BUILDING RATING SYSTEM					
LEED NC New Construction	LEED CI Commercial Interiors	LEED EB Existing Buildings	LEED C&S Core & Shell	LEED H Homes	LEED ND Neighbourhood Development
Applies to new construction and major renovations of commercial and institutional buildings. It also applies to retail, mid- and high-rise multi-unit residential, manufacturing plants, and other types of buildings.	Applicable to improvement to new or existing office space.	Existing building operations and maintenance	Applies to buildings where less than 50% of the building area will be fit-up to LEED Canada NC requirements prior to certification.	Design and construction of high-performance green homes.	Guides and assesses sustainable community development. Currently in pilot phase.
Certified: 26 points Silver: 33 points Gold: 39 points Platinum: 52 points Total available: 70 points	Certified: 21 points Silver: 27 points Gold: 32 points Platinum: 42 points Total available: 57 points	Certified: 40 points Silver: 50 points Gold: 60 points Platinum: 80 points Total available: 110 points	Certified: 26 points Silver: 33 points Gold: 39 points Platinum: 52 points Total available: 70 points	Certified 45-59 Silver 60-74 Gold 75-89 Platinum 90-136 Total available points 136	Certified 40-49 points Silver 50-59 points Gold 60-79 points Platinum 80-106 points

Momentum is building in the industry, in 2004, there were 5 buildings registered with the Canada Green Building Council for LEED certification, and in 2009, there are currently 1158 buildings registered.

8. What are the benefits of a LEED building?

LEED certified buildings have higher energy savings and water efficiency, reduced CO₂ emissions, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts. Like the secondary plan criteria for the new communities of York Region, LEED is a holistic approach to building design and construction. The following is a summary of the benefits of LEED certified buildings by LEED point category.

Sustainable Sites: The Sustainable Sites category discourages development on previously undeveloped land; minimizes a building's impact on ecosystems and waterways; encourages regionally appropriate landscaping; rewards smart transportation choices; controls stormwater runoff; and reduces erosion, light pollution, heat island effect and construction-related pollution.

Water Efficiency: Buildings are major users of our potable water supply. The goal of the Water Efficiency credit category is to encourage smarter use of water, inside and out. Water reduction is typically achieved through more efficient appliances, fixtures and fittings inside and water-wise landscaping outside.

Energy & Atmosphere: The Energy & Atmosphere category encourages a wide variety of energy strategies: commissioning; energy use monitoring; efficient design and construction; efficient appliances, systems and lighting; the use of renewable and clean sources of energy, generated on-site or off-site; and other innovative strategies.

Materials & Resources: During both the construction and operations phases, buildings generate a lot of waste and use a lot of materials and resources. This credit category encourages the selection of sustainably grown, harvested, produced and transported products and materials. It promotes the reduction of waste as well as reuse and recycling, and it takes into account the reduction of waste at a product's source.

Indoor Environmental Quality: The Indoor Environmental Quality credit category promotes strategies that can improve indoor air as well as providing access to natural daylight and views and improving acoustics.

Locations & Linkages: The LEED for Homes rating system recognizes that much of a home's impact on the environment comes from where it is located and how it fits into its community. The Locations & Linkages credits encourage homes being built away from environmentally sensitive places rewards homes that are built near already-existing infrastructure, community resources and transit, and it encourages access to open space for walking, physical activity and time spent outdoors.

Awareness & Education

The LEED for Homes rating system acknowledges that a green home is only truly green if the people who live in it use the green features to maximum effect. The Awareness & Education credits encourage home builders and real estate professionals to provide homeowners, tenants and building managers with the education and tools they need to understand what makes their home green and how to make the most of those features.

Innovation in Design

The Innovation in Design credit category provides bonus points for projects that use new and innovative technologies and strategies to improve a building's performance well beyond what is required by other LEED credits or in green building considerations that are not specifically addressed elsewhere in LEED. This credit category also rewards projects for including a LEED Accredited Professional on the team to ensure a holistic, integrated approach to the design and construction phase.

9. Is LEED a Canadian standard?

The Canadian rating system is an adaptation of the US Green Building Council's (USGBC) LEED® Green Building Rating System, tailored specifically for Canadian climates, construction practices and regulations. The rating system is adapted to the Canadian market through an inclusive process that engages stakeholders and experts representing the various sectors of the Canadian industry.

The Canada Green Building Council was founded as a result of British Columbia's involvement in the Cascadia Region Green Building Council, a chapter of the US Green Building Council. LEED-New Construction was then adapted for use in Canada and tailored specifically for Canadian climates, construction practices and regulations; it was launched as LEED Canada-NC 1.0 in December 2004.

Subsequently, other LEED rating systems have been developed for Canada: LEED Canada-CI (Commercial Interiors) was launched in September 2006, LEED Canada for Homes was launched in 2009, and application guides for Multi-Unit Residential Buildings (MURB) and Core and Shell (CS) are now available; LEED Canada for Existing Buildings (EB) is slated for release in the summer of 2009.

In addition, an updated LEED Canada-NC rating system (LEED Canada 2009), expected to be released in late 2009, will incorporate “regional priority” credits. Projects will be able to choose a limited number of specific credits that have an increased importance in the region for extra point value.

10. How are LEED buildings certified?

LEED Buildings are certified by the Canada Green Building Council. Certification distinguishes building projects that have demonstrated a commitment to sustainability by meeting the highest performance standards.

Once a project is registered with the CaGBC, the project team begins to prepare documentation and calculations to satisfy the prerequisite and credit submittal requirements. It is helpful to have a LEED Accredited Professional as the project contact and team member responsible for coordinating the LEED process. Documentation should be compiled electronically.

To earn LEED certification, the applicant project must satisfy all of the prerequisites and a minimum number of points to attain a LEED rating level.

Third party attestation provides a lot of reassurance to the developer, municipality, and the occupant that the building is achieving and demonstrating sustainability.

The reasons for certifying include:

- Gain recognition for green building efforts
- Validate achievement through third party review
- Qualify for a growing array of government incentives certification process,

LEED, is a quality control system that instils a rigour to the design and construction process. While most building owners begin a project with a desire to do their part for their environment, the conservative nature of the design and construction industry limits innovation and produces conventional building designs, materials, and construction techniques. This happens when substitutions of techniques and materials are made based on what is easily obtained or familiar, and not based on what is best for the environment. When designers and constructors know that their work will be reviewed by third party auditors, they are more likely to deliver the building that the owners want.

11. How much does it cost to certify a LEED building?

The costs of registration and certification depend on the type of building and LEED rating system.

LEED for Homes current pricing for registration and certification are as follows:

	Single-family housing		Multi-family housing	
	Registration	Certification	Registration	Certification
Member	\$215	\$255	\$700	\$900 up to 10,000sf \$0.045/additional sf
Non Member	\$260	\$305	\$900	\$1200 up to 10,000sf \$0.055/additional sf

Single family price is per unit (house). Multi-family price is per building. Volume pricing is available for projects of 10 or more single family units.

LEED New Construction for a 10000 square metre building fees are as follows:

	Registration	Certification
Member	\$1,640.63	\$7,035.00
Non Member	\$2,559.38	\$10,473.75

12. How is LEED for Homes different than the other LEED rating systems?

LEED Canada for Homes was designed to be different than the other LEED programs, specifically to be easier to register and certify and be more widely accepted by the building industry. The system was developed to be more straight forward with on-site verification and minimal documentation requirements. Unlike the other LEED systems, LEED for Homes does not require a LEED Accredited Profession to be on the integrated design team which allows the builder to become self-qualified.

Rather than the certification process described above, LEED homes are rated by *LEED Canada for Homes* Providers – local organizations with demonstrated experience and expertise in their region's market. Registration with the CaGBC can take up to 6 month delay before certification is issued, in the LEED for Homes program certification can occur within 5 days to 2 weeks.

A *LEED Canada for Homes* Provider has three primary roles:

- Providing green home rating support services to builders;
- Training, coordinating and overseeing LEED qualified inspectors (Green Raters) and builder support staff; and
- Marketing LEED to builders.

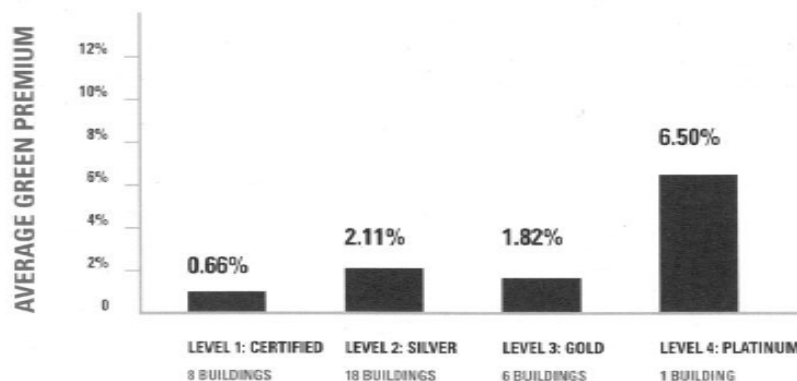
There are currently 7 *LEED Canada for Homes* providers. Local providers include BEC Construction in Pickering and EnerQuality Corporation in North York, who has extensive experience in green home construction and certification through their current role in administering the EnergyStar program. CaGBC selects providers that demonstrate outstanding abilities and have a proven record of supporting builders in the construction of high-performance, sustainable homes. These providers are responsible for selecting suitable *LEED Canada for Homes* projects and administering a team of Green Raters, who together with the providers verify that homes in the program are built to meet the requirements of the rating system.

13. Are LEED buildings more expensive than buildings constructed to the Ontario Building Code?

In general, an experienced green builder can deliver a green building for a cost premium of 0 to 3% over conventional construction costs. Most of this increased cost is due to increased architectural and engineering design time necessary to integrate green building practices into projects. Experience has shown that the largest cost-saving strategy is the early integration of sustainable goals and design practices.

There is a significant volume of research on the costs and benefits associated with LEED certified buildings. A review of the literature shows that there is no one-size-fits-all answer to how much a LEED building costs. It is clear from the substantial weight of evidence in the marketplace that reasonable levels of sustainable design can be incorporated into most building types at little or no additional cost. Sustainable materials and systems are becoming more affordable, sustainable design elements are becoming widely accepted in the mainstream of project design, and building owners and tenants are beginning to demand and value those features. It is important to note, however, that some sustainable features can cost more than others, and each must be valued independently to ensure that they are cost and environmentally effective.

While there is no formula to calculate the direct capital costs premium associated with LEED with certainty, a widely quoted study from the US General Services Administration concludes that there is no correlation between LEED certification level and costs as a range of strategies can be used to earn the same LEED credit and the costs of some credits can vary based on building type, size, and location. According to this study, a building certified to basic certification can range from 0-1%, Silver varies from 0-4%, and Gold varies from 1.5-6%.



Average capital cost premiums for LEED buildings (Source: CaGBC Municipal Green Building Toolkit)

The issue of costs often relate to who pays the potential increased capital costs, and who benefits from the increase energy, water, and soft savings. The incremental capital costs described (-1% to +6%) are borne by the developer, while the benefits (energy cost savings – 20% to 60%; water cost savings – 10% to 30%; workforce productivity gains – 5% to 16%) accrue to a long-term owner occupant.

Studies show that as the experience of the builder increases, costs associated with LEED are reduced. A significant portion of the upfront costs are associated with re-tooling business practices, education and training, which are often incorporated into

the costs associated with a particular project, even though they are not costs directly associated with green buildings themselves.

In 2008, Enerquality Corporation conducted an Energy Efficiency/Green Building Study that indicated that Canadian buyers are willing to pay a \$10,000 premium for energy efficient homes. Consumers are realizing that the monthly savings in utility costs offset the increased mortgage costs for energy efficient homes. There is also increasing evidence that energy efficient buildings and homes have an increased resale value of 5 to 15% higher than conventional buildings.

14. Are there incentive programs to assist in building green buildings?

Municipalities can provide incentives and technical support to the developer to ease the transition to building green. There are several examples of incentive programs which are effective at this.

York Region currently has 2 incentive programs for green buildings. The **Sustainable Development Through LEED** program provides additional servicing allocation as an incentive to encourage more sustainable high density development within Regional Centres and Corridors. The program allows high density residential development proposals to qualify for water and wastewater Servicing Allocation Credits equivalent to servicing allocation for 20%, 35% or 40% of the total residential units. The Town of Markham, has required LEED Silver certification for all medium and high density residential developments, and has made participation in the incentive program to be mandatory.

The **Sustainable Home Incentive Program**, allows developers of grade-related residential which are eligible for certification under the LEED for Homes program to qualify for a reduction in the amount of water and wastewater servicing allocation. Regional Council endorsed the principles of the Sustainable Home Incentive Program in April 2009, and the implementation process is being considered by Planning and Economic Development Committee in September 2009.

The Toronto Better Buildings Partnership – New Construction encourages and assists developers to design and build condos to exceed the minimum energy performance requirements of the Ontario Building Code.

Green Loans such as those provided by the **Toronto Atmospheric Fund** to fund green technologies. The green loan involves three steps: 1. The builder specifies and installs energy efficient upgrades on equipment, windows, and other features 2. The lender finances the developer's incremental capital costs for these items. The loan advance occurs after the condo building has been substantially completed and the energy performance measures have been verified by a third party. 3. The Condominium Corporation pays the money back to the lender with funds that were saved on operational costs. In general, the green loan will be paid back in seven years, after which time, all the operating cost savings will go directly to the residents and condominium owners.

The **Green Development Program** at the Town of Caledon is a Development Charges rebate program provides development charge discounts for new green commercial and industrial buildings. Discounts range from 5-25% depending on the green technology utilized or the level of LEED certification achieved. For example a LEED Silver building would qualify for 22.5% discount on development charges, and

the installation of a solar hot water system or solar photovoltaic system would qualify for a 5% reduction.

The **City of Portland's Feebate** program collects development fees for conventional construction, a reduction is provided for moderate green improvements and fees are waived for buildings which exceed the minimum building code requirements (at established levels) and a reward is paid to projects which significantly improve energy performance beyond the building code.

The Town of Brampton, The City of Hamilton, and the City of Kingston all have financial incentive programs within their **Community Improvement Plans** for LEED certified buildings.

The Kingston CIP for example, provides grants to cover:

- the base plan review by a certified LEED consultant;
- the preparation of new working drawings at a LEED standard; and,
- the submission and administration costs associated with both the constructed element testing and the certification proof used to determine the LEED designation.

Hamilton's LEEDING the Way Community Improvement Plan contains a LEED Grant Program which provides an economic catalyst for sustainable building and sustainable land development. The purpose of the grant program is for the City to share the incremental construction cost, consultation, and energy modelling and certification fees with the applicant to achieve LEED certification. Grants are calculated on the basis of the rating of official certification under the LEED rating system by the CaGBC.

There are several other incentive possibilities which can be explored to assist the development community in the transition to green building requirements. These can include density bonusing, expedited processing of development applications and the use of local community improvement plans and associated financial tools.

15. What else can York Region do to support the green building policies in the draft Regional Official Plan?

There may be a larger role that York Region should play in supporting the development of sustainable new communities, and in particular, in advancing the implementation of green buildings. This role may include some of the items listed below:

Leadership: Demonstrate leadership and commitment to sustainable community initiatives by piloting some of the criteria for new communities in Regional projects.

Education / Knowledge Base: Develop Regional staff capacity to assist local municipalities and development community, and encourage local municipalities to develop the internal capacity of planners, building department staff particularly plan reviewers, and building inspectors to facilitate the implementation of the LEED or equivalent building requirements.

Advocacy: Be an advocate for legislative and regulatory changes which would enable the development of more sustainable communities in the *Planning Act* and Ontario Building Code.

Partnerships: Engage key partners in assisting in the implementation of the Regional Official Plan. Partnerships with the Canadian Green Building Council

(CAGBC) could be created for training, education, and advancement of LEED standards, with local utilities providers to create local community energy plans and green energy projects, and other private/public partnerships for projects.

Evaluation and Recognition: The development and implementation of a sustainability evaluation and/or decision making tool would assist in being able to quantify the benefits of sustainable community features. Recognition of excellence and innovation can also be a key driver in ensuring the successful implementation of Regional Official Plan, and assist in fostering healthy competition and innovation in the private and public sectors.