

ENVIRONMENT COMMITTEE SEPTEMBER 19, 2007

SUSTAINABLE DEVELOPMENT THROUGH LEED

Councillor Shefman recommends:

1. That the attached report, entitled "Sustainable Development through LEED", adopted by York Regional Council at its meeting of June 21, 2007 (Attachment 1), be received;
2. That staff review the subject report with a view to developing a similar strategy promoting sustainable development through LEED for the City of Vaughan; and
3. That staff provide a report to the Environment Committee outlining such strategy that includes energy conservation, water conservation, waste management and other environmental aspects of development.

Economic Impact

N/A

Communication Plan

The development of such strategy will include consultation with the Region of York and key stakeholders.

Purpose

To develop a strategy for the City of Vaughan that promotes sustainable development through LEED.

Background - Analysis and Options

The City of Vaughan has recently undertaken initiatives to support sustainable development through new requirements for municipal buildings, new residential development and private buildings, such as the New City Hall, Powerstream building and proposed ENERGY STAR development in Block 39.

It is appropriate for the Environment Committee to take the lead in developing a framework that supports long-term sustainable development that is complementary to the policy being developed by the Region of York.

Relationship to Vaughan Vision 2007

- A-2 Promote community safety, health and wellness
- A-3 Safeguard our environment
- A-5 Plan and manage growth

Regional Implications

To be determined

Conclusion

Promoting sustainable development through LEED has a number of benefits including conservation of energy and water, waste management, creating healthier work, learning and

living environments. It is recommended that staff review the Region of York's report on the subject matter and develop a complementary strategy for the City of Vaughan, for the Environment Committee's review.

Attachments

Attachment 1 Report of the Region of York, entitled "Sustainable Development through LEED"

Respectfully submitted,

Alan Shefman
Councillor, Ward 5



Clause No. 8 in Report No. 6 of the Planning and Economic Development Committee was adopted, as amended, by the Council of The Regional Municipality of York at its meeting on June 21, 2007.

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SUSTAINABLE DEVELOPMENT THROUGH LEED™

(Regional Council at its meeting on June 21, 2007 amended the following Clause so that the recommendations read as follows:

1. *The Region of York adopt a policy to provide a 20-35% increase in servicing allocation for development proposals meeting the following criteria:*
 - i. *Significant water conservation is achieved,*
 - ii. *Location is served by Viva rapid transit or other major YRT, GO and TTC operated or proposed transit routes,*
 - iii. *Site is within a Regional Centre or Regional Corridor, or Local Centre,*
 - iv. *Building meets Regional TOD guidelines including supporting an overall, long-term density target of 2.5 Floor Space Index,*
 - v. *Three stream waste reduction is incorporated into the building, and*
 - vi. *A minimum LEED™ Silver certification is achieved.*
2. *This report be circulated to the local municipalities.*
3. *Planning and Economic Development staff be directed to proceed with an implementation strategy in consultation with the local municipalities.)*

The Planning and Economic Development Committee recommends the adoption of the recommendations contained in the following report dated June 7, 2007, from the Commissioner of Corporate Services, the Commissioner of Planning and Development Services and the General Manager, Water and Wastewater Branch:

1. RECOMMENDATIONS

It is recommended that:

1. Staff be directed to consult with local municipalities, UDI/GTHBA and other stakeholders on a policy that would provide a 20-35% increase in servicing allocation for development proposals meeting the following criteria:
 - i. Significant water conservation is achieved,

- ii. Location is served by Viva rapid transit or other major YRT, GO and TTC operated transit routes,
 - iii. Site is within a Regional Centre or Regional Corridor, or Local Centre,
 - iv. Building meets Regional TOD guidelines including supporting an overall, long-term density target of 2.5 Floor Space Index,
 - v. Three stream waste reduction is incorporated into the building, and
 - vi. A minimum LEED™ Silver certification is achieved.
2. Staff also consider the implications of allowing a Development Charge rebate following a post-construction water use audit.
 3. This report be circulated to the local municipalities.
 4. Staff report back to the Planning and Economic Development Committee in the fall of 2007 with a recommended policy and implementation strategy.

2. PURPOSE

The purpose of this report is to set out the principles to guide the formulation of a Regional policy regarding Sustainable Development through LEED™ and to provide the basis for consultation with the local municipalities and the development industry. The primary goals to be achieved through a new policy are to:

- Provide an incentive for high density residential development in Regional Centres and Corridors.
- Promote more energy efficient green buildings.

An implementation strategy will accompany these policies that allows for “servicing allocation” savings to be directed back to sustainable development meeting certain criteria such as LEED™ certification and Regional sustainability objectives.

3. BACKGROUND

3.1 Sustainable Development

In March 2007, Regional Council endorsed the York Region Preliminary Draft Sustainability Strategy, “Towards a Sustainable Region”. The purpose of the strategy is to provide a long-term framework for making smarter decisions about all municipal responsibilities that better integrate the economy, environment and community.



In this context, sustainable development is not just about energy conservation, it is about “development that meets the needs of the present without compromising the ability of future generations to meet their own.” (United Nations Brundtland Commission).

Sustainability involves integrating the three values of *sustainable natural environment, economic vitality and social equity (also the themes of the Regional Official Plan)* into all Regional decision-making processes. This is often referred to as the triple bottom line.

The Region is currently working towards finalizing the Sustainability Strategy which is based on eight key principles including "Identifying specific short-term achievable actions that contribute towards a sustainable legacy". The implementation of a sustainable building and LEED™ policy is one such achievable action. As well, this initiative also speaks to the action item in Theme Area 1 "Corporate Culture of Sustainability" that states: "consider the possibility of development charge credits and/or bonusing service allocation for development that attains LEED™ certification"...

Promoting sustainable buildings through LEED™ provides a number of benefits including:

- Using key resources like energy, water, materials, and land much more efficiently.
- Creating healthier work, learning, and living environments.
- More natural light & cleaner air.
- Contributing to improved health, comfort and productivity.
- Long term cost savings.

Some of these benefits can have a direct impact on the delivery of Regional services including transit usage, water and wastewater conveyance and treatment, and solid waste management. All of these benefits promote healthy communities and are in keeping with the Regional Vision and policy framework for building strong communities.

3.2 What is LEED™

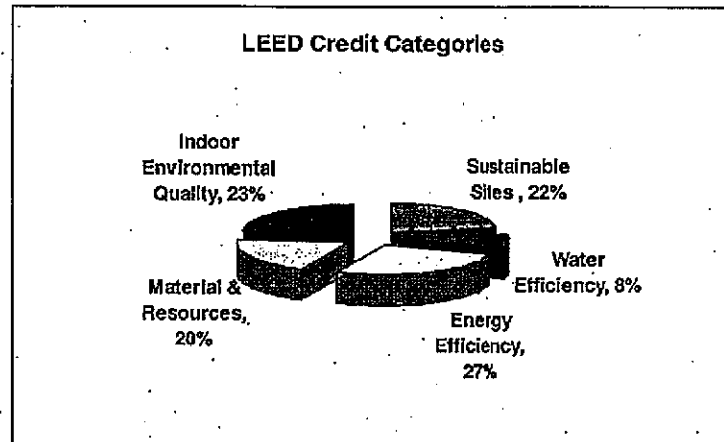
LEED™ is an acronym for Leadership in Energy & Environmental Design. It is the most recognized and accepted rating system in Canada. It is a voluntary, consensus-based, market-driven building rating system. It evaluates environmental performance from a "whole building" perspective over a building's life-cycle, providing a definitive standard for what constitutes a "green building". It was developed by the U.S. Green Building Council (USGBC) in the mid 90's and has been licensed to Canada Green Building Council (CaGBC), a national not-for-profit corporation, for implementation in Canada. The Canadian version of LEED™ provides a comprehensive list of guidelines to improve the environmental and energy performance of buildings using proven principles, technology and materials that are aligned with Canadian standards and conditions.

LEED™ Canada for new construction and major renovations contains prerequisites and credits in five categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Material and Resources and Indoor Environmental Quality. An additional category, Innovation and Design Process, addresses expertise in green design and construction, as well as design measures not covered under the above categories.

Points are earned by fulfilling the requirements laid out in each credit. The total number of points awarded in all credits and categories determines an overall rating of Platinum, Gold, Silver or Certified for a project.

The project ratings are certified by CaGBC, following an independent review and audit of documentation submitted by the design and construction team. A total of 70 points are available within four categories of certification:

- LEED™ Platinum – 52 to 70 points
- LEED™ Gold – 39 to 51 points
- LEED™ Silver – 33 to 38 points
- LEED™ Certified – 26 to 32 points



3.3 LEED™ and the Public Sector

A number of public sector entities have adopted a minimum LEED™ standard for their facilities.

- York Region, Greater Vancouver Regional District, Toronto Region Conservation Authority, Toronto Waterfront Revitalization Corporation, Region of Waterloo, City of Ottawa and Calgary
- School Boards: Markham, Barrie, Toronto, Vancouver, Victoria, Brampton
- Universities: Toronto, Queens, McMaster
- Public Works and Government Services Canada

The private sector interest towards LEED™ implementation is gaining momentum and some high rise projects in Greater Toronto Area from developers like Tridel, MintoUrban, Shane Bhaghai and Remington group are pursuing LEED certification.

3.4 Regional and Local Initiatives

York Region adopted a minimum sustainable design and construction standard of LEED™ Silver for new Regional facilities over 500 m² (5382 ft²) gross floor area in April 2006. The Region also adopted implementation of sustainable design principles for retrofit and renovation projects on an individual business case assessment basis. By choosing to design and construct our own buildings to meet at a minimum the LEED™ Silver standard, the Region has demonstrated leadership to the community.

Many of the local municipalities are undertaking initiatives to support more sustainable development through new requirements for municipal buildings as well requirements for new communities and private buildings. A Regional policy promoting more sustainable building construction would complement many of these initiatives. Some of the local

municipal initiatives are highlighted in the *Attachment 1*. This is not an exhaustive list of initiatives, but provides a sample of some of the work going on.

3.5 Regional Policy Framework

The promotion of sustainable high density buildings in key locations in the Region can serve to further implement key initiatives including the “Centres and Corridors Strategy” based on the overarching Sustainability Strategy and Vision 2026 under the “Towards a Sustainable Region” umbrella.

The Regional Centres and Corridors Strategy promotes high density, pedestrian friendly, transit oriented development served by rapid transit. Providing for more of these types of residential units in Centres and Corridors through “servicing allocation” savings is a positive step as it serves to:

- Implement the Official Plan policies supporting well designed, high density development served by rapid transit.
- Increase ridership on Viva and YRT.
- Make more efficient use of existing and planned infrastructure.

Vision 2026 Towards a Sustainable Region also provides the basis of the ongoing work encompassed in the “Planning for Tomorrow” growth management work and the development of a “Sustainability Strategy”. Public engagement and consultation has been ongoing through 2006 and 2007, reaffirming that growth needs to be more sustainable with new communities developed differently. Some stakeholders and residents have suggested the Region go further and set targets for things like greenhouse gas reductions and water conservation. The Region is currently consulting with our partners, stakeholders and Corporate department to develop such targets.

4. ANALYSIS AND OPTIONS

The LEED™ program provides an opportunity to promote sustainable development with a focus on the Regional Vision 2026 and service delivery. LEED™ criteria have different weight with some criteria being optional and some mandatory. The Region has an opportunity to set certain LEED™ criteria as mandatory which directly impact regional service delivery in exchange for the use of “servicing allocation” savings.

The Region has a direct responsibility for providing water and wastewater treatment and trunk conveyance, transit services, and solid waste management. In order to make “servicing allocation” savings available, the first requirement is the water conservation criteria of LEED™ need to be met even though it is only 8% of the total LEED™ score. Therefore, in order to fully address the Regional services, it is proposed that a sustainable building through LEED™ policy be based on the following principles:

- Significant water conservation is achieved.
- Location is served by Viva transit or other major YRT route.
- Site is within a Regional Centre or Corridor, or Local Centre.

- Building meets Regional TOD guidelines including supporting an overall, long-term density target of 2.5 Floor Space Index.
- Three stream waste reduction is incorporated into the building.
- Additional servicing allocation of 20-35% if the above principles are achieved.

The additional benefit of energy conservation will be achieved through the implementation of this kind of policy which serves to implement the vision "Towards a Sustainable Region."

4.1 Water Conservation

Water conservation is a critical part of sustainable development. Through the *Water for Tomorrow* program, it has been demonstrated that water efficiency and conservation is an effective component of York Region's long-term water supply strategy. The cost of the selected water use efficiency measures represent the cheapest "source" of water supply for York Region by helping to defer the need for major capital expenditures on new water and wastewater infrastructure.

A comprehensive water efficiency and conservation program demonstrates to the public and to government regulators that York Region is taking a responsible approach to water supply by making the best use of existing resources.

Water use reduction in sustainable developments will be based on the use of water efficient measures such as:

- Water efficient clothes washers.
- Water efficient dishwashers.
- Low flow showerheads & faucets.
- High efficiency toilets.
- Limited or no outdoor water use.
- Individual water meters for each condo unit.

Limiting or restricting outdoor water use can significantly help reduce the high water demands of the summer period and help alleviate outdoor water restrictions and bans.

All single family homes in York Region have been equipped with water meters for the last ten years. Individual metering has been proven to be a very effective means to reduce excessive water usage. Individual meters in each apartment unit will build on this success by making each resident responsible for the amount of water they consume.

4.2 Supporting Transit

High density residential buildings located in designated Regional Centres and Regional Corridors and local Centres will serve to support transit use. The Region has adopted a set of Transit Orientated Development (TOD) guidelines to outline key components of building and site design that further encourage transit usage. The TOD guidelines include six themes: pedestrians, parking, land use, built form, connections and implementation.

4.3 Waste Diversion

York Region and the local municipalities have adopted a joint waste management strategy that promotes sustainable development through increased waste diversion. Increased participation in the blue box program pushed York Region's diversion rate to 40 % in 2006. Introduction of source separated organics programs in all municipalities by the end of 2007 will further increase the diversion rate and demonstrates the region's commitment to continuous improvement in waste diversion. Ongoing innovative developments in energy from waste and waste pelletization mean that York will no longer have to rely on American landfills for disposal of residual waste in the near future.

Waste diversion efforts to be included in sustainable developments will include:

- Waste diversion plans required for new condominium buildings.
- Mandatory blue box recycling.
- Organics programs for multi-residential buildings.

4.4 Energy Conservation

The prerequisite in LEED™ Canada for new construction and major renovations contains minimum level of energy performance for buildings. A minimum 25% reduction in annual energy consumption relative to Model National Energy Code for Buildings (MNECB) or 18% reduction in annual energy cost relative to ASHRAE/IESNA standards 90.1-1999 is needed to achieve LEED™ certification. As of December 31, 2011, the Ontario Building Code will require large residential buildings to achieve minimum 25% energy reduction than MNECB. The incentive for large residential buildings will encourage energy efficiency, reduce emissions and develop industry experience to comply with minimum code requirements in 2012.

4.5 Implementation Strategy

A draft implementation strategy, based upon the principles of water conservation, supporting transit, waste diversion, and energy conservation, is intended to be refined through consultation with the local municipalities and development industry. The elements to be considered in this implementation strategy include:

- 20% to 35% Servicing allocation bonus to high density developments that meet requirements of all sustainability objectives.
- Set a base line on current Ontario Building Code requirements.
- Pilot program for 5 years to determine real savings achieved.
- Potential for audit post construction to ensure proposed objectives have been incorporated and Development Charge Credits.
- Monitor water usage throughout program to determine savings.
- Review and update program objectives after 5 years as required.
- Implementation securities be set.
- Condominium Agreements be used to help ensure long term compliance.

The details of the implementation strategy will need to be finalized through the consultation process.

4.6 Development Charges

As a further incentive, staff should explore the idea of issuing a Development Charge refund for projects that demonstrate significant water use savings following a post construction audit.

4.7 Next Steps

The next steps are to meet with the local municipalities, the development community and other stakeholders with the objective of confirming a set of principles and implementation strategy for Council's consideration in the fall of this year.

4.8 Relationship to Vision 2026

Given the concept and holistic nature of the Region's Sustainable Development Initiative, the intent of this staff report is consistent with all goal areas and objectives of Vision 2026. More specifically, Vision 2026 identifies promoting conservation, ensuring clean water & air, creating well-designed and livable communities, taking a strategic approach to growth management and balancing growth with the environment.

5. FINANCIAL IMPLICATIONS

There is a general consensus among building professionals regarding the economic, environmental and social benefits of LEED™ certified buildings. While this proposed policy is intended to apply to private developments, there is a direct cost savings associated with treating less water and wastewater per capital and increasing transit ridership. While not quantified in this report, this proposed policy has a potentially positive financial impact on the Regional delivery of services.

Implications of a Development Charge refund will be explored and reported on with the final recommendations this fall.

6. LOCAL MUNICIPAL IMPACT

The proposed policy has the potential to provide local municipalities the opportunity to approve additional residential intensification in key strategic locations based on servicing allocation savings achieved.

7. CONCLUSION

Implementation of sustainable buildings through the LEED™ program in a way that directly impacts the Regional service delivery of water, wastewater, transit and solid waste management can provide substantial benefits to the Region. Allowing a servicing allocation increase provides a real incentive for developers beyond the inherent benefits of the program. Through consultation with the local municipalities, development industry and other stakeholders, a set of principles and implementation strategy will be finalized to realize the benefits of sustainable development through LEED™.

The Senior Management Group has reviewed this report.

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

Examples of Local Municipal Initiatives

East Gwillimbury

East Gwillimbury recently launched a comprehensive sustainability program called "Thinking Green!" which addresses both town owned facilities, and new private developments. Some of the programs include:

- The requirement for developers of residential developments of ten or more units to construct to ENERGY STAR qualification, and
- All new Town facilities and new industrial, commercial, institutional and high-rise residential buildings to built to LEED level Silver

Vaughan

The City of Vaughan is home to the Toronto and Region Conservation Authority's Kortright Centre for Conservation and is considered Ontario's premier environmental and renewable energy education and demonstration centre. Since 1982, the Kortright Centre has been a centre of excellence in the field of sustainable technology. The sustainable technology education programs are anchored around The Power Trip Trail, a 1.6 kilometre trail which links a variety of demonstrations on renewable energy, energy efficiency, waste water treatment and sustainable building design. The Kortright Centre is also the location of "Sustainable House" and is the future site of the Living City Campus and also home of the "World Green Building Council".

Vaughan Council has also directed that the development of Block 39, just to the east of the Kortright Centre, be constructed to ENERGY STAR qualifications.

Newmarket

The Town of Newmarket Council approved 34 "eco-homes" being developed on Stickwood-Walker Farm property which will use 25 per cent less water than conventional homes and there will be a 60 per cent reduction in green house gas emissions through energy efficiency. Construction of these homes is now underway.

Markham

In the Town of Markham, the Markham Centre Performance Measure Document for Sustainability and Smart Growth is currently being revised to more closely align with LEED standards. The developers are participating in this process. The Town has hired a LEED Accredited Professional from the private sector to facilitate that process. Most of the Markham Centre buildings will connect to the Markham District Energy system which will provide heating and cooling to these buildings in a more environmentally sound manner using "waste energy" from a nearby power generation facility, substantially reducing green house gas emissions.

Richmond Hill

The Town of Richmond Hill is undertaking a Wind Power Study. The wind power project, in combination with the Town's other clean air initiatives (i.e. hybrid fleet

vehicles and clean fuels, retrofiting Town buildings for improved energy efficiency, teleworking, carpooling, and 404-7 Smart Commute), will reduce greenhouse gas emissions and help the Town meet its Kyoto requirements. The project could potentially see up to three wind turbines that could help alleviate stress on the electricity grid by generating enough electricity to power approximately 2,500 households.

All new Town facilities are required to be built to LEED level Silver standards as well.

Georgina

The Town of Georgina implemented waste reduction initiatives including charging for additional bags of garbage resulting in a higher waste diversion rate.

Aurora

The Town of Aurora implemented a water conservation by-law which addresses outside watering.

King

The Township of King has also initiating outdoor water use initiatives.

Whitchurch-Stouffville

The Town of Whitchurch-Stouffville adopted a 2006 Corporate Strategy which includes promoting "Balanced Growth & Community Sustainability" with the goal of achieving balanced land use planning through environment, economic and social considerations.

These are just a few examples of the ongoing work being done at the local municipal level to promote sustainable development.