TORONTO

STAFF REPORT
INFORMATION ONLY

Energy Efficiency Rating and Geo-thermal Policy

Date:	December 15, 2008
To:	Planning and Growth Management Committee
From:	Chief Planner and Executive Director, City Planning
Wards:	All wards
Reference Number:	Pg080074

SUMMARY

This report addresses two recommendations resulting from the November 13, 2008 meeting of Planning and Growth Management Committee related to the Toronto Green Standard. The first section of the report addresses the work underway related to the development of an energy efficiency rating system and label for new condominium developments. The second section of this report addresses the work underway towards the development of a City-wide policy and incentives to support geo-exchange.

The City of Toronto has been working with Natural Resources Canada (NRCan) to develop a national energy label for commercial and institutional buildings. Thirty City buildings are part of a pilot program underway to develop energy efficiency performance benchmarks and data submission requirements for the new label which will come into effect in 2010. While NRCan has stated that large residential condominium buildings are a future priority for a rating and labelling program, they have also indicated that this building type is complex and a label will take some time to develop. In the mean-time, the City's Better Buildings New Construction Program does address projected energy performance of new buildings. It recognizes buildings participating in the program on the City's website but could work towards developing a certificate that could be made available to purchasers of new condominium units.

The Energy Efficiency Office is currently undertaking a process of stakeholder engagement regarding a range of issues dealing with geo-exchange projects. Stakeholders involved include: City staff, building owners and operators, geo-exchange installers and other regulators. The process will identify barriers and opportunities to the installation of geo-exchange, address issues related to installation in public rights-of-ways and the permit approval process and develop a package of financial incentives to encourage geo-exchange infrastructure across the City.

Financial Impact

The report has **no** financial impact beyond what has already been approved in the current year's budget.

DECISION HISTORY

On November 13, 2008, Planning and Growth Management Committee approved the recommendations associated with the Toronto Green Standard Update: Performance Measures for Sustainable Development.
http://www.toronto.ca/legdocs/mmis/2008/pg/bgrd/backgroundfile-16862.pdf
http://www.toronto.ca/legdocs/mmis/2008/pg/decisions/2008-11-13-pg20-dd.pdf

The Committee asked for information to be provided regarding: a possible energy rating system for large residential condominium projects that could easily be understood by potential purchasers and a policy of incentives for geo-thermal projects and how City-owned right-of-ways can be used. Since both of these requests relate to energy matters, they are covered jointly in this report.

ISSUE BACKGROUND

The Cost-Benefit Study of the Toronto Green Standard, conducted by the University of Toronto, Faculty of Architecture, Landscape and Design (al&d) noted the importance of building performance labelling. The trends in green development are towards more quantifiable and verifiable performance. Consumers, manufacturers and regulators need consistent and reliable information about green buildings. There is a growing realization that a major jump in performance levels, at least in market economies, will depend on changes in market demand, and that such change cannot occur until building investors, purchasers of units and tenants have access to a relatively simple method that allows them to identify buildings that perform to a higher standard.

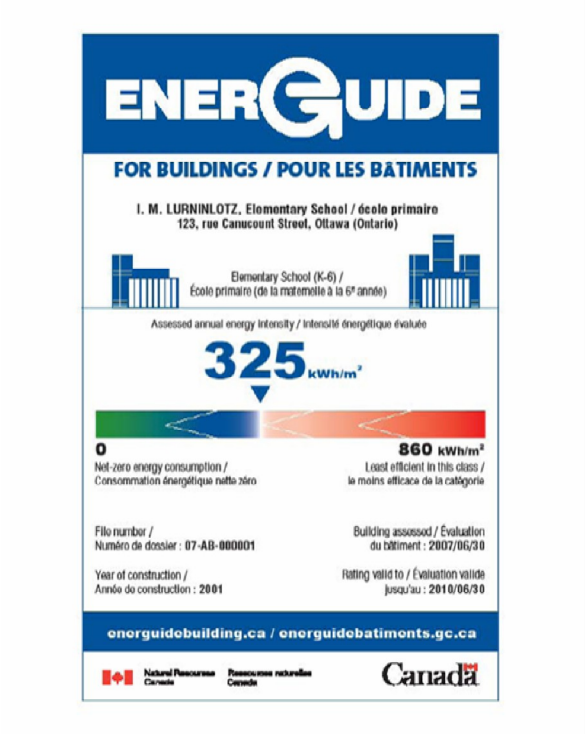
Performance labelling of buildings involves understanding actual environmental performance once a building is built and operational. Examples of successful labels include: Energy Star, the label developed by NRCan that provides information to consumer about the performance of appliances using a rating scale and Energuide for Houses which measures a home's energy efficiency level and rates it on a scale of 0 to 100. A rating of 0 represents a home with major air leakage, no insulation and extremely high energy consumption. A rating of 100 represents a house that is airtight, well insulated and sufficiently ventilated and requires no purchased energy from the grid. For a brand new house, a rating of 80 or higher is considered very energy efficient. The Energuide standard of at least 80 is adopted in Tier 1 of the new Toronto Green Standard (TGS) for low-rise residential housing and at least 85 for Tier 2. Large residential condominium buildings must be designed to be at least 25% more energy efficient over the Model National Energy Code for Buildings for Tier 1 and meet a 40% or better improvement for Tier 2. These targets are consistent with the Better Buildings Partnership - New Construction Program.

LEED is another example of a well-known label administered by the Canada Green Building Council. The label is awarded upon certification of a building to meet a rating of certified, silver, gold or platinum. The label indicates to a consumer that a green building has been constructed to a particular standard and can help both marketing of the building to consumers and help the consumer to make a purchasing decision.

COMMENTS

Energy Efficiency Rating System

Energy labels are a visible part of broader environmental rating systems designed to improve the performance of buildings and to reduce greenhouse gas emissions. Facilities and Real Estate Services division is currently engaged in the NRCan Energy Labelling Pilot Program for buildings involving agencies from across the country. They are submitting information on the energy and water efficiency of a set number of institutional buildings involved in the pilot to set benchmarks on building performance. This information is being used to develop a rating system and label that will indicate a building's performance in comparison to other similar types of buildings. The draft label is shown below.



The goals of the pilot program are to:

- Collect actual energy use data for a set building type
- Provide clear and meaningful information to all audiences
- Minimize the time and cost to clients to collect data
- Provide a rigorous and transparent methodology to gain market acceptance
- Update data and be able to revise the label at regular intervals
- Have a robust, independent quality assurance system
- Be associated with an effective marketing campaign.

The pilot is near the end of the information gathering phase and draft labels will be prepared for the spring of 2009. The City of Toronto has 30 buildings participating. The labels will be placed in easily visible locations in the City facilities. The public perception of the labels will be surveyed and results reported. NRCan expects to develop a full labelling program by early 2010. This program will be available for the provinces to adopt on a voluntary basis.

NRCan is currently focussed on commercial and institutional buildings for the labelling program. In the near term, they indicate that large residential condominiums are too complex a building type due to the ownership structure and the way utilities are billed, to be included in the labelling program. NRCan has indicated that multi-unit residential buildings are a future priority. The Canadian Standards Association has also indicated an interest in building performance labelling.

However, the City of Toronto, Better Buildings Partnership – New Construction (BBP-NC) Program already addresses the design of higher energy performance condominium buildings. There are currently 17 residential condominium projects participating. All of the participating buildings have undertaken an energy use analysis of the building design. This analysis models the energy savings of the design versus the energy use if the building had been designed to meet the Ontario Building Code requirements. Prior to the construction of the building, the analysis of energy use is a projection only. Participating buildings are advertised on the City's website with permission.

The City could investigate the possibility of providing a certificate that states that the building has complied with the BBP-NC program and includes the results of the energy use analysis that has been done for the building design. Buildings going through the Toronto Green Standard would be eligible for the certificate; verification of energy efficiency will be coordinated by the Energy Efficiency Office. This certificate could be made available to potential purchasers for their information. Further investigations with legal services will be needed in order to determine if the City can require the information be made available to purchasers.

The Province of Ontario has initiated a mandatory time-of-sale energy label for low-rise residences starting in 2010. A private member's bill was introduced in 2008, passing through second reading in October 2008, and is now in the provincial committee process to be finalized. City staff will be meeting with officials in January to learn more about their plans, the implications for Toronto and to convey the City's support for building performance labelling. As noted previously, the TGS requires a minimum of Energuide 80 for new low-rise development.

For the homebuyer, the quality assurance provided by a recognized label serves as an incentive to pay the additional cost of improved conservation measures, because these deliver energy savings and thereby a return on investment. Homebuyers may also qualify for special mortgages that consider the lower energy costs, and command a higher re-sale value for their home because of its energy efficiency.

Geo-thermal Policy

There are a number of financial incentives and supports available for projects in the City of Toronto that provide energy efficiency and conservation. Of particular importance to Geo-exchange projects are the Better Buildings Partnership electricity savings incentives which provide up to $400 per peak kilowatt saved and the Green Energy Fund that provides up to $1,000,000 in interest free financing. Several projects that are utilizing geo-exchange are currently participating in these financial support programs.

The Energy Efficiency Office is currently undertaking a process of stakeholder engagement regarding a range of issues dealing with geo-exchange projects. Stakeholders involved include a wide range of City staff, building owners and operators, geo-exchange installers and other regulators. The issues being addressed include:

- Use of the Public Right of Way and City-owned property for geo-exchange installations
- Municipal approval/permitting process for geo-exchange installations
- How the City can promote the implementation of low GHG emission energy sources, such as geo-exchange projects through the provision of information to support decision making, financial incentives and by example on City projects.

The results of this stakeholder engagement will be available early in 2009 and will be included in a detailed report being prepared for the Executive Committee on a Renewable Energy Strategy for the City.

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SIGNATURE

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