

DATE: JANUARY 14, 2016
TO: MAYOR AND MEMBERS OF COUNCIL
FROM: JOHN MACKENZIE, DEPUTY CITY MANAGER
PLANNING AND GROWTH MANAGEMENT
SUBJECT: COMMUNICATION

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Council - January 19/16	

**ITEM #5, REPORT #1 – FINANCE, ADMINISTRATION AND AUDIT
COMMITTEE – JANUARY 11, 2016**

**2016 RENEWAL OF EMBEDDED ENERGY MANAGER POSITION
FOR CITY FACILITIES AND ASSETS**

In response to the inquiry at the Finance, Administration and Audit Committee about the work of the Embedded Energy Manager, we are pleased to provide the following information.

In 2009, Ontario Regulation 397/11 directed all public agencies in Ontario to prepare, publicly report, and implement energy conservation and demand management plans. The City's "Energy Conservation and Demand Management Plan, 2014" was approved by Council on June 24, 2014 in accordance with O. Reg. 397/11. It is the guiding document to implement energy efficiency projects to reduce corporate energy use, reduce GHG emissions, and realize operating cost savings. Projects outlined in the "Energy Conservation and Demand Management Plan, 2014", when implemented, can provide a 10% savings in the annual \$6M energy cost paid by the City.

The Sustainability Coordinator - Energy, in the office of Environmental Sustainability, fulfilled the role of the Embedded Energy Manager (EEM) in 2015. This was the first year for the EEM in the City. In previous years, a Roving Energy Manager operated with the City of Vaughan, the Town of Richmond Hill and Canada's Wonderland. A dedicated EEM has been critical to implementing the City's "Energy Conservation and Demand Management Plan, 2014" and to improving the participation level of the City in the Energy Manager program of the Electricity System Operator (IESO) in advancing energy retrofit projects and realizing incentive financing.

The following work was achieved in 2015.

Energy Use Reporting in Accordance with Ontario Regulation 397/11

Ontario Regulation 397/11 mandates annual reporting of energy consumption and greenhouse gas emissions from City facilities starting on July 1, 2013. Energy conservation and demand management reports are revised every five years.

- The EEM is responsible for compiling the data for submission to the Province in accordance with O. Reg. 397/11. Until electricity and natural gas data is more readily available from utilities, this is a lengthy process, involving compiling information from utility bills for all City facilities for the July 1, 2015 submission date.

Advancing Energy Conservation Projects under the "Energy Conservation and Demand Management Plan, 2014"

Through 2015, the EEM documented projects underway or under investigation for quarterly reporting to PowerStream and the IESO. Quarterly reporting follows the IESO Energy Manager program requirements and the funding agreement with PowerStream and has been critical to implementing the

“Energy Conservation and Demand Management Plan, 2014”. The following milestones are a direct result of the efforts of the EEM in 2015:

- Documented 2.5 GWh of savings from projects either underway or under investigation;
- Documented 20 additional applications (projects) in 2015 for energy and GHG emissions reductions, whereas 10 applications were documented in the previous 3 years using a Roving Energy Manager; and
- Identified \$100,000 in incentives, essentially a rebate to the City, from a variety of applications submitted in the required quarterly reports to PowerStream and the IESO (for example, a \$50,000 LED light retrofit project receives \$13,000 in incentive financing).

City of Vaughan Municipal Energy Plan

In 2013, the Ministry of Energy (MOE) announced that it would be supporting local energy planning in Ontario by launching the Municipal Energy Plan (MEP) program. In early 2014, the City of Vaughan approved its first Community Climate Action Plan (CCAP) focused on the reduction of community GHG emissions. The newly released Municipal Energy Plan program presented the City with an opportunity to delve further into understanding local energy needs and consumption patterns from a geographical perspective and presented an opportunity to align the CCAP within the MEP framework. Vaughan was one of the first eight municipalities to receive funding from the MOE to develop a Municipal Energy Plan:

- Through existing contacts with utilities and Provincial staff, the EEM was instrumental in obtaining data used by the consulting team in the baseline energy analysis and energy forecasting, which is a key component of the MEP.
- The EEM provided milestone reports to the MOE in accordance with the funding agreement between the City and the Province.

Research & Engagement Initiatives – Encouraging a “Culture of Conservation”

The EEM is also responsible for researching new initiatives focused on reducing energy and improving efficiency in City buildings. Some initiatives investigated in 2015 included:

- Solar glazing opportunities for City Hall to stabilize indoor air temperatures in areas identified as ‘hot spots’;
- Sub-metering policies to ensure efficient operation of corporate building stock;
- Exploring BOMA BEST certification for City Hall by leveraging the attributes and technologies already employed to achieve LEED certification (BOMA BEST is a framework that examines energy; water; waste reductions; emissions and effluents; indoor environment; and environmental management systems.); and
- Identified recommendations to incorporate climate change and energy efficiency regulations into the Municipal Act Review in consultation with the Clean Air Partnership.

Furthermore, the EEM consulted with various departments at the City of Vaughan to ensure smart energy planning and energy conservation efforts were integrated into project planning. For example, the EEM consulted with Policy Planning to influence Community Energy Plans for Blocks 27 and 41. The EEM is available to consult with and advise staff on energy conservation opportunities and support implementation of various initiatives across the organization.

The EEM played a key role in engaging City of Vaughan staff in energy conservation efforts. The EEM utilized the existing ‘Caught Greenhanded’ campaign delivered by the Environmental Sustainability Team to focus on ways staff can reduce their energy consumption and receive recognition. The EEM, with support from the Internal Advisory Team for Environmental Sustainability, conducted a desk drop of the Caught Greenhanded door hangers at City Hall, the JOC, and all of the community centres to engage staff in energy conscious behaviours. The EEM developed the Building Operators Challenge, a friendly competition expected to roll out in 2016, to challenge building operators of City facilities to reduce their electricity and natural gas consumption.

The year 2015 put in place a foundation for continuing improvement in energy performance. This will be particularly important given the Province's expected release of its Climate Change Plan later this year.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'John Mackenzie', with a stylized, sweeping flourish at the end.

JOHN MACKENZIE
Deputy City Manager
Planning and Growth Management

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Attachment

n/a

Copy To: Steve Kanellakos, City Manager
Jeffrey A. Abrams, City Clerk
Roy McQuillin, Director of Policy Planning and Environmental Sustainability
Tony Iacobelli, Manager of Environmental Sustainability