

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016

Item 8, Report No. 24, of the Committee of the Whole, which was adopted without amendment by the Council of the City of Vaughan on June 7, 2016.

8

CITY OF VAUGHAN MUNICIPAL ENERGY PLAN (MEP)

FILE 22.30

The Committee of the Whole recommends approval of the recommendation contained in the following report of the Deputy City Manager, Planning & Growth Management and the Director of Policy Planning & Environmental Sustainability, dated May 31, 2016:

Recommendation

The Deputy City Manager, Planning & Growth Management and the Director of Policy Planning & Environmental Sustainability recommend:

1. That the City of Vaughan's Municipal Energy Plan, forming Attachment 1 to this report, be approved;
2. That the Municipal Energy Plan be submitted to the Ministry of Energy no later than July 21, 2016 in accordance with the terms of the funding Agreement between the City and the Province; and
3. That the Municipal Energy Plan be forwarded to the Regional Municipality of York.

Contribution to Sustainability

The Municipal Energy Plan, building on the Council-approved Community Climate Action Plan, is consistent with the following priorities previously set by Council in *Green Directions Vaughan*, the Community Sustainability and Environmental Master Plan:

- Goal 1, Objective 1.2: To reduce greenhouse gas emissions through actions such as working with the community to implement the local action plan and undertaking energy conservation initiatives.
- Goal 2, Objective 2.3: To create a City with sustainable built form by considering recommendations outlined in the local action plan to integrate smart energy planning in new developments and retrofit opportunities.

Economic Impact

An Agreement between the City and the Province of Ontario, under the Municipal Energy Plan Program, has been in effect since July 21, 2014. The purpose of the Agreement is to bring the City's Community Climate Action Plan (CCAP) into the Municipal Energy Plan (MEP) framework through a three stage work plan. The Province is providing \$54,840 to the City to undertake the project, which must be completed by July 21, 2016 under the terms of the Agreement. The City has submitted five milestone reports documenting progress in accordance with the payment schedule. Submission of the MEP to the Ministry of Energy will comprise the sixth milestone report and trigger the final remittance of \$6,432.50. The City of Vaughan was one of the first of eight municipalities to receive funding to develop a MEP and will also be one of the first jurisdictions to make the transition from an existing Community Climate Action Plan into a Municipal Energy Plan.

The Ministry of Energy recently introduced a new funding stream to enhance existing energy plans that will be available to municipalities that have already developed a complete or partial

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016

Item 8, CW Report No. 24 – Page 2

Municipal Energy Plan, Climate Action Plan, or other energy plan. This funding is for enhancing an existing energy plan which could include updating utility or building data and/or creating new implementation plans or maps. Staff will be evaluating this program for future funding opportunities to ensure that the MEP remains relevant as energy resources, needs, and targets change.

Communications Plan

During the development of the MEP, the City of Vaughan engaged in an outreach program with stakeholders at a number of levels to discuss the background and processes involved in developing the MEP. The City of Vaughan presented at the Clean Air Council's Clean Air Summit, as well as at several Clean Air Partnership regional meetings (the Clean Air Partnership is a collaborative network of 27 member municipalities from across the GTHA). The City also presented at the Ontario Energy Community of Practice symposium held at the Vaughan City Hall in 2014.

A Stakeholder Advisory Group (SAG) was established, including 35 organizations from a variety of sectors representing energy users and distributors, land use planning, design, development and construction, and transportation. A total of five SAG meetings were held throughout 2014-2016 to discuss goals, analysis, actions, targets, integration, and implementation aspects of the Plan.

The Policy Planning & Environmental Sustainability department will work closely with Corporate Communications on a news release announcing the approval of the Municipal Energy Plan and its key aspects, and the timing and content of any broader messaging for the community. The Environmental Sustainability section of the City of Vaughan's website will highlight the MEP and share community engagement opportunities. Additionally, progress achieved will be shared with the MEP Stakeholder Advisory Group and the City of Vaughan's strategic partners such as the Clean Air Partnership and Smart Commute. This is consistent with Goal 5 of Green Directions Vaughan "To be leaders in advocacy and education on sustainability issues" where "Vaughan is committed to sharing its successes with the community".

Working with the Office of Corporate Initiatives and Intergovernmental Relations, the MEP will be shared with Federal MPs and Provincial MPPs to ensure awareness of Vaughan's climate change initiatives as part of City of Vaughan and Region of York in efforts to garner infrastructure funding to support retrofitting and resiliency initiatives aligned with Federal and Provincial priorities.

Purpose

The purpose of this report is to seek Council approval of the draft Municipal Energy Plan, which incorporates final comments from the Stakeholder Advisory Group on the draft MEP that was presented to the Committee of the Whole (Working Session) on March 7, 2016; and to obtain direction to submit the MEP to the Ministry of Energy by July 21, 2016 in accordance with the terms of the funding Agreement between the City and the Province.

Background - Analysis and Options

Executive Summary

- The Community Climate Action Plan was approved by Council in 2014. It articulates a plan to reduce greenhouse gas emissions at the community scale and meets the City's responsibility as part of the Partners for Climate Protection. Funding for the Community Climate Action Plan was provided in part by a grant of \$23,000 from the Federation of Canadian Municipalities' *Green Municipal Fund*.

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016

Item 8, CW Report No. 24 – Page 3

- The Municipal Energy Plan builds on the Community Climate Action Plan and aligns it with the municipal energy planning framework of the Province. The Vaughan Municipal Energy Plan provides additional data analysis of energy consumption and greenhouse gas emissions to allow for a greater focus on key initiatives that can be undertaken by the City.
- The Municipal Energy Plan is framed as a living document to provide a platform for specific City and community partner actions to reduce greenhouse gas emissions and guide the City to be climate-resilient and take advantage of the future low-carbon economy.

The Vaughan Community Climate Action Plan, 2014

As recommended in *Green Directions Vaughan*, Objective 1.2, the City of Vaughan aims to promote the reduction of greenhouse gas emissions in the City of Vaughan through actions such as working with the community to develop a Greenhouse Gas Emission Community Climate Action Plan (CCAP) and an associated emission reduction target.

Staff undertook the preparation of a CCAP, which was approved by Council in early 2014. The CCAP was developed through a collaborative and stakeholder driven process that included a 40 member steering committee, a community forum, an on-line idea sharing platform, a community tweet-up and face to face community outreach at a community centre. The CCAP established a mission for climate change mitigation and identified specific actions and additional opportunities to reduce greenhouse gas (GHG) emissions at home, at work and as we move. It set a target for reducing community GHG emissions by 20% per capita below the 2006 baseline year by 2026. The CCAP is a commitment of the City's membership in the Partners for Climate Protection (PCP) program.

Transitioning the Community Climate Action Plan to a Municipal Energy Plan

The MEP takes advantage of the existing CCAP and Provincial funding support

In August 2013, the Ministry of Energy announced the availability of funding to support the development of Municipal Energy Plans. A Municipal Energy Plan (MEP) is a comprehensive long term plan that seeks to improve energy efficiency, reduce energy consumption and GHG emissions developed within the context of the built environment, land use planning, growth planning and the generation and transmission of energy. This presented the City with an opportunity to build on the CCAP to better understand local energy needs and consumption patterns from a geographical perspective and to incorporate the CCAP into the Municipal Energy Planning framework. The City of Vaughan successfully secured funding from the Ministry of Energy in 2014 and proceeded to retain LURA Consulting to leverage the results of CCAP into a new MEP.

The MEP Stakeholder Advisory Group (SAG) was established and sought the participation of the former CCAP Stakeholder Steering Committee to advise on the development of the MEP. The MEP SAG included 35 stakeholders from a variety of sectors representing energy users and distributors, land use planning, design, development and construction, as well as transportation. A total of five SAG meetings were held throughout 2014-2016 to discuss goals, analysis, actions, targets, integration, and implementation aspects of the Plan.

The MEP provides improved clarity and greater direction in addressing the challenges faced by the City

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016

Item 8, CW Report No. 24 – Page 4

The MEP provides further analyses, which complement the efforts of the CCAP. The MEP presents Vaughan's energy consumption data from 2013, including electricity and natural gas consumption, while taking into account energy use by sector. This analysis was able to produce residential energy maps to spatially illustrate energy consumption patterns. The MEP provides GHG forecasts to 2031 and examines the implications of a business-as-usual approach for energy planning and consumption in Vaughan. Additionally, the MEP includes an economic analysis based on the approach developed by the City of London, Ontario, to illustrate the proportion of money spent on energy that stays within the City or is transferred to other parts of Canada or internationally.

The MEP incorporates the previously approved actions and opportunities, which relate to 'At Home' (Residential), 'At Work' (Industrial, Commercial, and Institutional), and 'On the Move' (Transportation), that were identified in the CCAP to achieve reductions in energy use and GHG emissions. However, the MEP introduces two new areas of focus, including 'For the Economy' and 'In Conversation'. 'For the Economy' will strive to stimulate economic development in the form of new businesses that focus on the energy sector and 'In Conversation' will aim to ensure that education, awareness, and behavior change programs instill a culture of conservation in the broader community. The MEP identifies 9 "actions" with quantifiable estimates of GHG emission reductions. An additional 9 "opportunities" are identified, which require further investigation to quantify potential GHG emissions reductions.

The MEP will function best as a living document

The transition in Vaughan to a more service based/light industrial employment base and the Province's phase-out of coal power plants resulted in a per capita GHG emission reduction in 2013 that is lower than the target initially forecast in the CCAP for 2026. The actions identified in the CCAP remain relevant for Vaughan to contribute to meeting global climate change mitigation targets and have only been slightly revised through the MEP. With a refined emission forecast identified in the MEP, Vaughan is able to set a target for a 22% per capita reduction in GHG emissions, from the 2013 baseline, by 2031 through the implementation of the updated actions and opportunities. This will account for a further reduction of GHG emissions from 5 tonnes CO₂e per capita in 2013 to an estimated 4 tonnes CO₂e per capita in 2031, which is a dramatic reduction from the assessment of 6.8 tonnes CO₂e per capita in 2006.

It is anticipated that the GHG reductions will produce multiple quantifiable and qualitative economic, social and environmental benefits. As GHG emission reductions are often achieved through actions supporting energy efficiency and conservation, efforts in this area will provide energy cost savings to residents as well as to the commercial, institutional and industrial sectors as energy efficient technologies are applied and overall energy usage is reduced.

It is recommended that the MEP be flexible to adapt to the Vaughan community as it changes. The MEP will remain a "living document" that will consider changes such as population growth, new communities and industries, as well as a shifting federal and provincial policy context as energy planning in Ontario continues to make significant progress towards clean, reliable energy solutions. As such periodic updates will be necessary.

Next Steps

Targeted implementation of actions provided in the MEP, in an evolving provincial/federal policy context will be a key to the Plan's success

Many of the 9 "actions" for climate change mitigation in the MEP reflect ongoing efforts by the City and its partners. For example, actions related to the City's Transportation Master Plan provide engineering based actions that can be reinforced in the upcoming municipal

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016

Item 8, CW Report No. 24 – Page 5

comprehensive review of the Vaughan Official Plan (VOP 2010). These actions can also be recognized in the upcoming revision of *Green Directions Vaughan* as part of a broader framework of solutions.

Provincial changes to codes and standards and the efforts of the Local Distribution Companies (PowerStream and Enbridge) through Conservation Demand Management (CDM) programs account for much of the estimated GHG emissions reductions identified in the Vaughan MEP. The City will identify the key areas for the City's contribution to climate change mitigation by comprehensively investigating select "actions" and "opportunities" identified in the MEP. The following initiatives, in particular, are important to explore to reasonably estimate potential for reductions in both GHG emissions and peak energy demand:

- Deep residential energy retrofit using tools such as Local Improvement Charges;
- Reaching out to Vaughan businesses and directing them to an environmental leaders network such as the ClimateWise Business Network, Partners in Project Green and utility CDM programs;
- Feasibility for combined heat and power (CHP) specified in new community centres and as a retrofit in select institutional buildings to create resiliency hubs;
- Identifying municipal tools to contribute to the provincial and utility programs to further improve the conditions for uptake of solar photovoltaic and solar energy storage in the residential and employment sectors; and
- Identifying the appropriate municipal role in ongoing energy efficiency improvements for new construction.

The City will continue to liaise with PowerStream, Enbridge, the IESO and other partners to improve the quantification of potential GHG emissions reductions. This will not only improve the tracking of actual GHG emissions reductions and forecasting of climate mitigation actions, but will also assist the City to focus the City's contribution to this global effort.

Relationship to Term of Council Service Excellence Strategy Map (2014 – 2018)

This report is consistent with the Term of Council priority of continuing to cultivate an environmentally sustainable city as demonstrated by the previously approved CCAP. The MEP builds on the goals identified in the CCAP to work towards energy security, supporting local economic development, fostering a culture of social responsibility and sustainability, and identifying actions to reduce the community's energy consumption and GHG emissions.

Regional Implications

The York Region Official Plan (ROP 2010) requires the development Community Energy Plans at the following geographic scales:

- A municipal-wide Community Energy Plan (ROP 2010 policies 4.1.14 and 5.2.13);
- For each Regional Centre (ROP 2010 policy 5.2.24); and
- For each New Community Area (ROP 2010 policy 5.6.10).

The Municipal Energy Plan is intended to conform with the Regional Official Plan policies requiring the preparation of the municipal-wide energy plan.

By identifying impactful and cost effective actions to reduce greenhouse gas emissions throughout the community, Vaughan will demonstrate regional leadership in working to combat climate change and reducing energy consumption. The initiatives identified in the MEP have the potential to contribute to the economic, social and environmental sustainability of the region.

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016

Item 8, CW Report No. 24 – Page 6

Conclusion

The MEP replaces the CCAP by incorporating and building on the actions and opportunities that were previously identified in the Council-approved CCAP to reduce energy consumption and achieve GHG reduction targets. The draft MEP establishes a refined target for a 22% per capita reduction in GHG emissions from the 2013 baseline by 2031, which will result in a total GHG reduction of 459,939 tonnes/year.

The implementation of the identified actions and opportunities will require the efforts of many members of the Vaughan community. To be effective, the MEP must be embraced by the broader community and widely implemented. Therefore, the City of Vaughan will continue to liaise with the SAG to establish an implementation framework and monitor progress. By committing to working with the community to reduce energy and greenhouse gas emissions, the City of Vaughan will be able to demonstrate leadership as a strong environmental steward, working at a community level to combat climate change.

Vaughan's Municipal Energy Plan provides a platform for more advanced opportunities and transformational targets in the future. The policy context is shifting as energy planning in Ontario continues to make significant progress towards climate-resilient communities to power a low-carbon economy. Through the development of the Long-Term Energy Plan (LTEP), the Ontario government has committed to a "Conservation First" policy and an efficient, low energy intensive future. The Independent Electricity System Operator (IESO) continues to engage with stakeholders on the York Region Integrated Regional Resource Plan to examine energy generation, transmission, distribution and conservation options from a regional perspective. The Municipal Energy Plan will help set Vaughan in the direction of a smart energy future. Therefore, as the City's strategy for the reduction of greenhouse gas emissions, it is recommended that the MEP be recognized in the update of *Green Directions Vaughan* as the platform to define specific actions to guide the City's transition to a climate-resilient, low-carbon future.

It is recommended that this Municipal Energy Plan be approved and that the Municipal Energy Plan be forwarded to the Ministry of Energy by July 21, 2016 in accordance with the terms of the funding Agreement between the City and the Province.

Attachments

1. Vaughan Municipal Energy Plan

Report prepared by:

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(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)