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CLIMATE CHANGE WORKSHOP FEEDBACK

The Planning and Economic Development Committee recommends the adoption of the recommendation contained in the following report dated April 29, 2008, from the Commissioner of Planning and Development Services:

1. RECOMMENDATION

1. The Regional Clerk circulate this report to the Lake Simcoe Region Conservation Authority, Toronto and Region Conservation Authority and Local Municipalities for information.

2. PURPOSE

The purpose of this staff report is to inform Regional Council of the results and feedback from York Region's *Climate Change Workshop* held on April 25, 2008 at the Earth Rangers Centre in Vaughan.

The next steps will assist the Region moving forward on a Climate Change adaptation actions under the Region's *Sustainability Strategy*.

3. BACKGROUND

The York Region Sustainability Strategy recommended a Regional Climate Change Workshop

In November 2007, Regional Council adopted the *York Region Sustainability Strategy "Towards a Sustainability Region"*. Council established itself as a leader in sustainability by taking this first important step. The Strategy recommends the Region host a Climate Change Workshop to promote awareness of climate change, as well as explore mitigation, adaptation and response strategies.

Why Municipalities need to consider Climate Change

Municipal governments and our partners have an important role to play in addressing climate change.

Municipalities are responsible, either solely, or in partnership, for providing and managing the systems our communities depend on. Built systems like roads, bridges, power, water and waste management. Human systems like medical and social welfare services. And finally, we are responsible for managing and protecting our natural systems like groundwater, streams, forests and other natural heritage features.

These are all essential and, at the same time, vulnerable systems we depend on for quality of life and economic prosperity. It is important to coordinate and collaborate on these issues and share best practices with our partner area municipalities, conservation authorities, school boards, utilities, emergency responders, and others.

What is York Region doing now?

York Region has built a foundation for sustainability over the past 13 years with its two strategic documents, *Vision 2026* and the *Regional Official Plan*. The Region has had a number of successes such as the Greening Strategy, the Human Services Planning Coalition, Viva Rapid Transit, State of the Environment Reports (2000 and 2005) and more recently, the Tom Taylor Place, an energy efficient and affordable housing project.

The Region's Sustainability Strategy, approved by Regional Council in November of 2007, is meant to further inform and improve policies, programs and operations around the three sustainability pillars of economy, environment and community.

The Strategy includes over 100 short-term actions and is based on increased awareness and partnerships to make more sustainable decisions, including reducing greenhouse gas emissions.

The Region has a number of successes addressing sustainability and climate change with initiatives that include:

- Coordinated approach to the Regional Official Plan and Infrastructure Master Plans Update
- Water for Tomorrow Program
- Public Transit and Rapid Transit Initiatives (YRT/VIVA)
- The Greening Strategy and Land Securement Initiatives
- The State of the Environment Report 2005
- Energy and Environmental Management Systems (EEMS)
- Energy Efficient Affordable Housing Project: Tom Taylor Place
- Minimum LEED Silver Standard for Regional Facilities
- Corporate Clean Air Task Force
- A variety of purchasing and operation decisions (i.e. LED traffic lights, new carpet procurement etc.)
- Employee Trip Reduction Program
- OPTimize Works
- Regional Emergency Operations Centre

- Pedestrian and Cycling Master Plan.

More specifically, York Region also has a number of Climate Change adaptation initiatives underway, including:

- Emergency Measures Simulations, e.g. “Operation on the Move - Spring Thaw”
- Smog alert response activities including air quality education, awareness and Air Quality Health index
- West Nile Virus control program
- Storm frequency impact on wastewater
- Street trees that are more resilient to changing weather conditions.
- Monitor and keep current with management of invasive plant and insect species.

4. ANALYSIS AND OPTIONS

The Climate Change Workshop was held at the Earth Rangers Centre in Vaughan on April 25, 2008.

A Draft *Climate Change Discussion Paper* was prepared and distributed prior to the workshop in order to foster and inform discussion for workshop participants. The *Climate Change Discussion Paper* report was provided at the January 16, 2008 Planning and Economic Development Committee agenda in its unpublished format and distributed to all Council members in its published format on April 24, 2008.

The Workshop explored potential impacts of Climate Change on our:

- Water and Wastewater Systems
- Transportation Systems
- Energy Systems
- Health Care Systems
- Emergency Response Capabilities.

The complete agenda of the workshop, including presentations, break out session notes, and workshop evaluation summary can be found on the Region’s Growth Management web site by scrolling down to the Climate Change section at the following link:

<http://www.york.ca/Departments/Planning+and+Development/Growth+Management/Growth+Management+Staff+Reports.htm#bookmark10>

The Workshop was aimed at staff from the Region and a broad cross section of Partner Agencies

The Workshop brought together staff from departments across the Region, as well as staff of a broad cross section of our partner local municipalities, the Toronto and Region Conservation Authority, the Lake Simcoe Conservation Authority, the York Region District School Board, the York Region Separate School Board, Enbridge, York Region

EMS and local emergency responders to explore Climate Change issues, implications for York Region, and action we can take to better adapt.

Summary of Presentations

The Workshop began with presentations by four speakers on the context of Climate Change, its implications and ideas for adaptability for York Region.

The key messages from the presentations were:

What York Region is doing: *York Region's Sustainability Strategy* – John Waller, York Region

- York Region's *Sustainability Strategy* provides a framework for making better decisions that integrate economy, environment and communities.
- Over 100 of the Strategy's action items are underway.
- Some of the Region's key accomplishments relating to Climate Change include Water for Tomorrow, our Corporate Energy Program and our Transit Initiatives.
- The Region is also undertaking a number of adaptation initiatives including Emergency Measures, Smog Alert Responses, the West Nile Virus control program and street tree planting.

Understanding Climate Change Risks in Ontario and Actions to be Taken – Joan Klaassen, Environment Canada

- Ontario is getting warmer, wetter with extreme trends in rain and snow.
- Most natural disasters have been flood events which are increasing in frequency and intensity.
- Many of the storms the Region has experienced are in excess of infrastructure design capacity, by way of example, southern Ontario has experienced at least three storms in 5 years that have exceeded the 1 in 100 year infrastructure storm designs.
- While there is an increase in rainfall events, long dry summers have brought drought.
- We cannot use past weather patterns to design for future infrastructure because Climate Change has and will continue to result in unpredictable weather patterns.
- All of these factors will impact our quality and quantity of water supplies.
- Shifting temperature zones bringing warmer winters and summers will have implications for vector borne diseases like West Nile, increased heat and pollution related illnesses in humans, and impacts on natural ecosystems.

Adapting to Climate Change: the Financial Impacts: Robert Tremblay, Insurance Bureau of Canada

- The Insurance Bureau of Canada and the Institute for Catastrophic Loss consider Climate Change to be the greatest societal change in this century.
- The frequency and intensity of weather related losses are expected to increase.
- The dramatic increase in weather related natural disasters in Canada and Ontario, along with aging infrastructure, adds to vulnerability of our communities.

- Infrastructure failure was the trigger for all most recent natural disasters, for example, during the August 19, 2005 storm, sewer and surface water systems failed representing \$500 million in sewer back up claims alone.
- Provincial legislation has to be updated to allow municipalities to build infrastructure to a higher standard and allow for addressing older infrastructure, for example, the existing bridge code dates to the 1970's.
- Increased population density represents a higher risk of vulnerability and decreased resiliency. York Region needs to determine if additional growth required under the Province's Growth Plan is sustainable or resilient.
- Political leaders need to decide what level of risk is acceptable.

Adapting Infrastructure to Address Impacts of Climate Change – Darrel Danyluk, Chair Public Infrastructure Vulnerability, Engineers of Canada

- Critical infrastructure has considerable impact on the well-being and operation of society, e.g. electrical power.
- Small increases in weather and climate extremes result in large increases in damage and destruction of infrastructure.
- Building resilience into our systems will help us to adapt by increasing our ability to deal with current climate and reduce the risks and costs of future climate change impacts.
- Adaptation of infrastructure is not necessarily a complex problem, but its magnitude is significant as there is a substantial existing infrastructure deficit requiring large sums of money to address.
- However, the cost of simple design improvements in infrastructure that is more adaptable to Climate Change is minor compared to risks.
- There are also adaptation and resiliency approaches that can help municipalities deal with an inadequate infrastructure system, for example, looking at overland flow for potential flooding and designing buildings with foundations to avoid basement flooding.

PARTICIPANT FEEDBACK: WHAT WAS HEARD

Break out Sessions

The break-out session addressed the key impacts and potential adaptation responses to Climate Change. Attendees were asked three questions:

1. What are some of the key impacts of climate change in York Region?
2. What should the potential adaptation responses to these issues be?
3. Finally, what are the top 5 adaptation priorities to address?

Attendees listed the following adaptation priorities:

- Multi-Stakeholder Education and Awareness
- New Community Design, Infrastructure and Engineering Standards
- Improved Monitoring and Maintenance of Infrastructure

- Regional Level Energy Plans
- Increased and Innovative Water Conservation in Communities
- Undertake Vulnerability and Risk Assessment
- Establish and encourage partnerships to identify and fund adaptation opportunities.

Other suggestions included, adaptation of agricultural practices, full cost accounting of infrastructure and municipal services, and a sustainability tax to help fund sustainability initiatives.

Participants Felt the Workshop was helpful in expanding their understanding of Climate Change

A total of 51 people attended the workshop. Attendees were asked to complete an evaluation form. Ninety-six percent (96%) felt that the workshop discussion was helpful in expanding their understanding of the challenges and opportunity of Climate Change in York Region.

There was as a considerable amount of consensus around the need for more discussion around Climate Change adaptation partnerships and actions.

NEXT STEPS

Future dialogue and action items

In November 2007, Regional Council adopted the *York Region Sustainability Strategy "Towards a Sustainability Region"*. The Strategy contains a number of action items on Climate Change including that the Region host a Climate Change Workshop to promote awareness of climate change, as well as explore mitigation, adaptation and response strategies.

Indicators relating to Climate Change will be included in the *Towards a Sustainable Region* indicators report under the *Sustainability Strategy* to be developed later in 2008.

In addition, staff will continue to monitor research on Climate Change adaptation in other jurisdictions and develop initiatives accordingly.

Collaboration with all Regional stakeholders and partners is fundamental to the concept of sustainability and adaptation to Climate Change. The dialogue on Climate Change and adaptation actions the Region can take will continue in future consultations with our stakeholders under the *Sustainability Strategy*.

Workshop participants agreed that there was a need for more dialogue with an expanded list of partners and stakeholders. Regional staff will continue the dialogue on Climate

Change actions to be taken in existing Regional initiatives as well as with our partner agencies.

The Climate Change Discussion Paper has been circulated to participants and interested parties and is now available on the Region's web site as well. All presentations and relevant materials were provided to the participants at the workshop. Information presented in this staff report on what was heard at the workshop will be circulated to participants as well.

The Region of York has a number of Climate Change adaption initiatives that are already underway including:

- Updating the hazard identification and risk assessment (HIRA) to plan and develop risk mitigation strategies and priorities for emergency management programs such as prevention, mitigation, preparedness, response and recovery measures in York Region.
- Operation on the Move - Spring Thaw to exercise the Region's response to a flooding emergency.
- Current Public Health programs such as West Nile virus surveillance and control.
- Smog alert response activities including air quality education and awareness.
- Waste water model revised infiltration rates to anticipate future intense storms.
- Storm water harvesting will be examined in new development to mitigate storm water surges.
- Utilization of street tree species that are more resilient.
- Monitor and keep current with management of invasive plant and insect species.

5. FINANCIAL IMPLICATIONS

The Climate Change Workshop and next steps are being undertaken within the existing staff complement and budget allocation for the Planning and Development Services Department.

6. LOCAL MUNICIPAL IMPACT

Area municipalities are already engaged in a number of progressive Climate Change initiatives. Staff from each area municipality was invited to attend the Climate Change Workshop and were circulated a copy of the Draft Discussion Paper for review and comment. Each area municipality will be consulted and involved in future consultation on Climate Change under the Sustainability Strategy.

Collaboration with all Regional stakeholders and partners is fundamental to the concept of sustainability and adaptation to Climate Change.

7. CONCLUSION

The Region of York has put a progressive and comprehensive *Sustainability Strategy* in place and the Region currently has a number of adaptation initiatives underway.

The Strategy called for a Climate Change Workshop to better understand the impacts of Climate Change on York Region and adaptation strategies. In other words, how can York Region become more resilient to Climate Change?

Workshop participants listed the top adaptation priorities for the Region as:

- Multi-Stakeholder Education and Awareness
- New Community Design, Infrastructure and Engineering Standards
- Improved Monitoring and Maintenance of Infrastructure
- Regional Level Energy Plans
- Increased and Innovative Water Conservation in Communities
- Undertaking Vulnerability and Risk Assessments
- Establish and encourage partnerships to identify and fund adaptation opportunities.

The Climate Change Discussion Paper has been circulated to participants and interested parties and is now available on the Region's web site as well. All presentations and relevant materials were provided to the participants at the workshop. Information presented in this staff report on what was heard at the workshop will be circulated to participants as well.

The discussion with our partners including our area municipalities, utilities, conservation authorities, school boards, emergency responders and regional staff has helped raise awareness of Climate Change impacts and adaptation priorities. This dialogue will continue and help to develop specific actions under the Sustainability Strategy.

Indicators relating to Climate Change will be included in the *Towards a Sustainable Region* indicators report under the *Sustainability Strategy* to be developed later in 2008.

Initiatives the Region will be undertaking over the next year to better adapt to Climate Change include: new Emergency Measures standards for risk assessment, air quality and West Nile awareness programs, waste water modeling that anticipates more intense storms and more resilient street trees.

In addition, staff will continue to monitor research on Climate Change adaptation in other jurisdictions and develop initiatives accordingly.

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The Senior Management Group has reviewed this report.