



STAFF REPORT ACTION REQUIRED

Climate Change Risk Assessment Process and Tool

Date:	August 3, 2010
To:	Executive Committee
From:	Lawson Oates, Director Toronto Environment Office
Wards:	All
Reference Number:	P:\2010\Cluster B\TEO\EC10005

SUMMARY

The **Climate Change, Clean Air and Sustainable Energy Action Plan** (the “Climate Change Action Plan”) adopted by City Council in July 2007, specified the development of a **Climate Change Adaptation Strategy**, which was subsequently adopted by City Council in July 2008. One of its key components is the development of a process to identify and prioritize risks and identify, assess and implement adaptation actions that will reduce the City’s vulnerability to changing weather patterns including more frequent and severe extreme weather events generated by climate change.

To fulfill this vulnerability component of the Climate Change Adaptation Strategy, the Toronto Environment Office has developed “Toronto’s Climate Change Risk Assessment Process and Tool (”the Risk Assessment Tool”) with significant international benchmarking and stakeholder engagement. The Risk Assessment Tool is a computerized software program that helps service and infrastructure providers prioritize high risk climate change impacts and identify the need for adaptation actions to reduce the severity of those impacts and therefore reduce risk.

The engagement process has resulted in a strong stakeholder interest in gaining access to this Risk Assessment Tool to help strengthen their ability to respond to climate change. This Staff Report identifies the merits of sharing the Risk Assessment Tool with interested government Ministries, academic institutions and not-for-profits within the Province of Ontario and recommends that City Council permit the Director of the Toronto Environment Office, in conjunction with the Deputy City Manager and Chief Financial Officer, to licence, with consideration to cost recovery, to other interested parties.

RECOMMENDATIONS

The Director of the Toronto Environment Office recommends that:

1. City Council authorize the Director of the Toronto Environment Office to negotiate and execute license agreements for sharing the Climate Change Risk Assessment Process and Tool, at no cost, with interested government Ministries, academic institutions and not-for-profits within the Province of Ontario identified in Attachment 1 or those residing in Ontario meeting the criteria identified in Attachment 1, at his discretion, on terms outlined in Attachment 2 and otherwise on terms and conditions satisfactory to the Director of the Toronto Environment Office and in a form satisfactory to the City Solicitor;
2. City Council authorize the Director of the Toronto Environment Office, in conjunction with the Deputy City Manager and Chief Financial Officer, to negotiate and execute license agreements, including cost recovery considerations which may be offset by in-kind resources, in order to provide the Climate Change Risk Assessment Process and Tool to parties outside of Ontario identified in Attachment 1 or those outside of Ontario meeting the criteria identified in Attachment 1 or for-profit parties, at his discretion, on terms outlined in Attachment 2, and otherwise on terms and conditions satisfactory to the Director of the Toronto Environment Office, and the Deputy City Manager and Chief Financial Officer, and in a form satisfactory to the City Solicitor; and
3. The Director of the Toronto Environment Office report back to Executive Committee and City Council on the sharing of the Climate Change Risk Assessment Process and Tool within two years.

Implementation Points

The Risk Assessment Tool will be shared only with organizations that sign a license agreement. The primary purpose of this agreement is to ensure that the City, its staff and consultants that have helped develop the Risk Assessment Tool are protected from liability. The terms to be included in this License agreement are generally described in Attachment 2, Outline of Key Terms of License Agreement.

Financial Impact

License agreements with parties outside of Ontario identified in Attachment 1, parties outside of Ontario that meet the criteria identified in Attachment 1 and for-profit parties will include cost recovery considerations which may be offset by in-kind resources.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting of July 16 to 19, 2007 City Council unanimously adopted the recommendations of the **Climate Change, Clean Air and Sustainable Energy Action Plan** (<http://www.toronto.ca/legdocs/mmis/2007/cc/decisions/2007-07-16-cc11-dd.pdf>), including:

"13. City Council recognize that climate change is occurring and will have significant effects on City operations and various vulnerable populations and that City Council:

a. direct the Director of the Toronto Environment Office, in consultation with the Medical Officer of Health, to complete in 2007 a process that engages all relevant City Divisions and Agency, Boards, Commissions and Corporations and community partners in order to prepare a report to the Executive Committee that:

i. identifies the components of a climate change adaptation strategy for City operations and the community;....."

At its meeting of July 15,16,17, 2008, City Council unanimously adopted the recommendations of the **Climate Change Adaptation Strategy**. <http://www.toronto.ca/legdocs/mmis/2008/cc/decisions/2008-07-15-cc23-dd.pdf>. One of the key recommendations of that report was that:

"6. the Director of the Toronto Environment Office establish a process for the development of a longer-term, comprehensive adaptation strategy, that: identifies key vulnerabilities to climate change of the City, including financial vulnerability; prioritizes risks; identifies, assesses and implements adaptation actions that will reduce vulnerability; and takes advantage of opportunities presented by a changing climate;"

COMMENTS

The City's Climate Change (CC) Adaptation Strategy (adopted by Council in 2008) incorporates the development of a long-term, comprehensive adaptation strategy that identifies key vulnerabilities to climate change of the City. This work has resulted in the development of the Risk Assessment Tool, by the Toronto Environment Office, with consulting assistance from Deloitte & Touche LLP. The work is very close to completion.

The project includes a variety of activities, including:

- evaluation of the status of Toronto's risk management;
- development of a draft environmental risk management policy;

- benchmarking of other international cities' activities on climate change risk assessment;
- various workshop and training sessions; and
- two pilot climate change risk assessments (i.e., Transportation Services and Shelter, Support and Housing Administration).

The most important benefit of the Risk Assessment Tool is that service and infrastructure providers will be better able to prioritize high risk climate change related scenarios and then take action to more closely consider the need to reduce the impact of severe weather on infrastructure and key services. This will help avoid significant costs and service disruptions that could harm citizens, businesses or the natural environment in Toronto.

The development of the Risk Assessment Tool has benefited from significant stakeholder engagement, which reflects the growing importance of the need to adapt to climate change. There have been more than ten organizations that have asked for access to the Risk Assessment Tool. These groups have expressed considerable urgency in receiving these items. Please see Attachment 1 – Organizations Requesting the Process and Tool and Principles for Inclusion.

The development of the Risk Assessment Tool has included engagement and input from key stakeholders such as the Province of Ontario and other leading cities. As a result, these stakeholders have become aware of the value of the Risk Assessment Tool, and they have asked Staff if it would be possible to obtain it for their own purposes.

The Province of Ontario is actively pursuing a climate change adaptation initiative known as the "Ontario Regional Adaptation Collaborative". This multi-year initiative is valued at over \$7 million dollars and involves Federal and Provincial funding of projects, some of which are of direct benefit to the City of Toronto. Provincial staff have recognized that the City's Risk Assessment Tool would benefit their work and have requested that the City share it with the Province. (See Attachment 3 – Ontario Ministry of Environment's Request to Share the Climate Change Risk Assessment Process and Tool). In anticipation of the City's collaboration, the Province has reserved funds within the Ontario Regional Adaptation Collaborative budget to modify the Risk Assessment Tool for general use by municipalities across Ontario.

In response to these requests City staff (including Legal Services staff) has developed an outline of key terms for a license agreement for the Risk Assessment Tool, in order to provide a basic framework for any agreements to allow its use by others to protect the City from any risks associated with sharing the Risk Assessment Tool.

Sharing the Risk Assessment Tool is a way for the City to provide practical leadership and assistance to other municipalities, other orders of government and the not-for-profit sector, in addressing the very complex problem of identifying and prioritizing adaptive actions required to reduce the negative impacts of climate change.

The following provides reasons in support of sharing the Risk Assessment Tool:

- 1) **There is a need for authoritative guidance on climate risk assessment:** The need for risk based management of climate change impacts was confirmed through an in-depth study by the Canadian Standards Association (CSA), with sponsorship by Natural Resources Canada and Toronto and Region Conservation (TRCA) and supported by the Regional Municipality of Peel and York University. The extensive study resulted in a climate change risk management scoping paper, "Mainstreaming the Risk-Based Management of Climate Change Impacts in Canada", May 2010. The paper's findings (Chapter 3) together with its discussion and analysis (Chapter 4) confirmed that a core requirement for effective risk management is a climate change risk assessment process.
- 2) **The Risk Assessment Tool could contribute to climate change risk management around the world:** Based on the results of benchmarking done as part of the consulting contract to develop the Risk Assessment Tool, it will be one the most advanced of its kind in the world.
- 3) **Stakeholders are anxious to see results:** TEO staff have pursued active engagement and input of many significant stakeholders (e.g. Chicago, New York, Ministry of Environment, etc.) in developing the Risk Assessment Tool. These stakeholders are interested in access to the Risk Assessment Tool in the spirit of collaboration and information and resource sharing.
- 4) **Collaboration with the Province:** The Province of Ontario, through the Ministry of Environment and the Ministry of Municipal Affairs and Housing, has expressed its strong interest in gaining access to the Risk Assessment tool in order to provide this public resource to other municipalities through the work of the Ontario Regional Adaptation Collaborative.
- 5) **Toronto can demonstrate leadership:** Sharing the Process and Tool is a form of practical assistance and demonstrates a leadership position for the City in addressing a very pressing and complex problem through the sharing of a public resource.
- 6) **Sharing will help strengthen the Risk Assessment Tool:** Staff will be requesting users to share their findings on improvements or enhancements to the Tool.

At this time, the City Staff are not recommending cost recovery or payment for sharing the Risk Assessment Tool with interested government Ministries, academic institutions and not-for-profits within the Province of Ontario. The reasons for this decision include:

- It is the intention of the Province to simplify the Risk Assessment Tool and make it freely available to municipalities in Ontario. Some of the City's ABCCD's may want to use the simplified tool;
- Finding ways to become more resilient/adapting to Climate Change is a collaborative process in which the Province has provided the City with research funds in the past as well as access to related information and reports;

- The Risk Assessment Tool can be the City's contribution to the field of Climate Change Adaptation research;
- The City will benefit from helping other municipalities surrounding Toronto become more prepared for extreme weather events associated with Climate Change (with whom we share a watershed); and
- We will gain more knowledge about the functionality of the Risk Assessment Tool through the experience of other users.

CONCLUSION

With input from stakeholders such as the Province of Ontario and other municipalities, the Toronto Environment Office is completing the development of a computerized software program (known as the “Risk Assessment Tool”) to assist service and infrastructure providers with an ability to identify increased risk from climate change impacts and respond to them.

Reflecting the need for collaborative local, regional, national and international action on climate change including the need and ability to respond to climate change through adaptation measures, this report is seeking Council’s authority for the Director of the Toronto Environment Office to share the Risk Assessment Tool with interested Ontario based government Ministries, academic institutions and not-for-profits and permit the Director of the Toronto Environment Office, in conjunction with the Deputy City Manager and Chief Financial Officer, to provide the tool with consideration to cost recovery which may be offset by in-kind resources, to other interested parties through a licensing agreement protocol.

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ATTACHMENTS

- Attachment 1: Organizations Requesting the Process and Tool and Principles for Inclusion
- Attachment 2: Outline of Key Terms of License Agreement
- Attachment 3: Ontario Ministry of Environment's Request to Share the Climate Change Risk Assessment Process and Tool

Attachment 1

Organizations Requesting the Risk Assessment Tool and Principles for Inclusion

1. *The following are stakeholder organizations that have expressed interest, verbally or in writing, in having access to Risk Assessment Tool.*

Provincial Government Ministries

Ontario Ministry of Environment
Ontario Ministry of Municipal Affairs and Housing

Federal Departments

Natural Resources Canada, to develop a case study profile of best practices.

Other Cities/ Municipal Governments

City of Chicago
New York City
GTA Collaborative Group on Climate Change which has membership including
 Peel Region
 York Region
 Halton Region
 Durham Region
 Toronto & Region Conservation Authority

Non Government Organizations

Clean Air Partnership
Urban Leaders Initiative on Climate Change Adaptation (representing 11 US cities)
Canadian Standards Association, to contribute knowledge to forming standardized guidance on climate adaptation.

Academic Institutions

Dr. Ian Burton, University of Toronto, Professor Emeritus preeminent adaptation research, for inclusion in an international research proposal, "Cities at Risk".

Dr. Blair Feltmate, University of Waterloo, Director Sustainability Practice, for inclusion in the "Climate Change Adaptation Project: Canada", sponsored by the Intact Foundation.

2. *The following are principles¹ for selection of organizations that may be granted licenses to access and use the Tool:*

- a. The organization is a municipal, provincial, state, or federal government or related entity; a not-for-profit organization; or an academic institution.

¹ Note: Not all of these principles must be met in order for the Director of the Toronto Environment Office to select an organization.

- b. The organization has been involved in addressing climate change and its impacts.
- c. The organization is prepared to assist the City by providing the results of its use of the Risk Assessment Tool, allowing use of any adapted Risk Assessment Tool, or providing something of benefit to the City and its climate change objectives.
- d. The organization has a cooperative relationship with the City or may in the future.
- e. The organization's use of the Risk Assessment Tool may advance government's or others' ability to assess or respond to climate change risks.

**Attachment 2:
Outline of Key Terms of License Agreement**

1. The Licensee will acknowledge that the City owns the propriety rights in the Risk Assessment Tool.
2. The license will be granted on a non-exclusive basis.
3. The Licensee's purposes for wanting the license will be identified in the agreement.
4. The Licensee will indemnify the City, its staff and consultants, against any losses or claims arising, generally, out of the Licensee's use or reliance on the Risk Assessment Tool or any modification of the Risk Assessment Tool.
5. The City will not be liable for any special, incidental, consequential, punitive or exemplary damages arising out of the license or the use of the Process or Tool, even if the City has been advised of the possibility of such damages.
6. The City makes no representations or warranties of any kind concerning the Risk Assessment Tool, including any warranties re fitness for a particular purpose or absence of errors, and specifically excludes any warranties.
7. The Licensee will be allowed to modify the Risk Assessment Tool as it wishes. The City may require that the Licensee share any improvements to the Process or Tool with the City. Rights to information gained as a result of the use of the Risk Assessment Tool may be required, depending on the purposes for which the Process and/or Tool are being used, and any other relevant factors.
8. Licensee will have no right to sub-license and shall not assign the license, whether voluntarily or by operation of law, without the prior written approval of the Director of the Toronto Environment Office; any assignee or subcontractor will be required to agree to indemnify the City or enter into a separate agreement with the City.
9. Licensee must attribute and acknowledge the work in the manner specified by the City and shall not suggest in any way that the City endorses the Licensee or its use of the Risk Assessment Tool unless the City specifically agrees to such representations.
10. The Licensee is prohibited from using the Risk Assessment Tool for commercial purposes and, for greater certainty, shall not benefit monetarily from its acquisition or use of the Risk Assessment Tool (exceptions for research grants or similar indirect benefits may apply).
11. Appropriate confidentiality and information disclosure provisions will be included, depending on the specific circumstances.
12. Dispute resolution provisions, which may include a requirement for arbitration.
13. Default and termination provisions.
14. Other commercially reasonable terms and conditions.

**Attachment 3:
Ontario Ministry of Environment's Request to
Share the Climate Change Risk Assessment Process and Tool**