



## STAFF REPORT ACTION REQUIRED

### Climate Change, Clean Air and Sustainable Energy Action Plan: Moving from Framework to Action

<b>Date:</b>	June 13, 2007
<b>To:</b>	Executive Committee
<b>From:</b>	Richard Butts, Deputy City Manager Joseph P. Pennachetti, Deputy City Manager and Chief Financial Officer
<b>Wards:</b>	All Wards
<b>Reference Number:</b>	P:\2007\Internal Services\F&RE\ec07055F&RE - AFS#3268 and P:\2007\Cluster B\PPFA\TEO\EX07006

#### SUMMARY

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Climate change is the single biggest challenge facing our planet. Both the cause of this phenomenon – primarily the burning of fossil fuels - and its impact on the environment and on human health have been well-established by the scientific community. It is now up to governments and citizens to rise to the challenge of climate change while there is still time to do so.

Cities are well positioned to lead the way in meeting this challenge. The City of Toronto has a long history of leadership on the issue of climate change. The Better Buildings Partnership has leveraged over \$80 million in energy retrofits in buildings; the City's Energy Retrofit Program has carried out \$30 million worth of energy-related projects in City facilities. The Toronto Atmospheric Fund, the installation of wind, solar, hydrogen and tri-generation facilities at Exhibition Place, Enwave's Deep Lake Water Cooling system and policies such as the Toronto Green Development Standard are just a few other examples of ways in which City Council has been in the forefront of the movement to reduce greenhouse gas emissions.

This report brings together two ongoing City initiatives, (i) the Climate Change and Clean Air Action Plan and (ii) Toronto's Sustainable Energy Plan. Both plans were led and co-ordinated by City Staff and informed by extensive consultation with the public, environmental organizations, industry, labour and academic experts.

The Climate Change and Clean Air Action Plan outlines a series of recommendations that build upon existing programs and policies which will engage the community in taking the steps required to significantly reduce our release of greenhouse gases to the atmosphere and make substantive positive changes to our local air quality.

Toronto's Sustainable Energy Plan recommends the creation of funding programs that encourage energy efficiency and renewable energy initiatives. These funding programs will in turn support the implementation of recommendations in the Climate Change and Clean Air Action Plan.

There are a number of other initiatives, such as the development of a Sustainable Transportation Implementation Strategy, the proposed Green Economic Sector Development Strategy, the Water Efficiency Plan and the 70% Solid Waste Diversion plan that all have an important role to play in meeting the City's climate change and air quality targets. City staff and the community will continue to work together to integrate these initiatives to ensure Toronto's climate change goals are met.

Recommendations coming from the Climate Change and Clean Air Action Plan are discussed in detail in **Attachment #A**: "Change is in the Air: Moving from Framework to Action" – Staff Background Report for the Climate Change and Clean Air Action Plan, Phase I. Recommendations coming from Toronto's Sustainable Energy Plan are discussed in detail in **Attachment #B**: "Energy Efficiency and Beyond" – Staff Background Report on Toronto's Sustainable Energy Plan.

## **RECOMMENDATIONS**

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**The Deputy City Manager, Cluster B and Deputy City Manager and Chief Financial Officer recommend that:**

### **RE: GREENHOUSE GAS AND SMOG EMISSION REDUCTION TARGETS**

1. City Council adopt the following:
  - a. reduction targets for greenhouse gas emissions from the 1990 levels of approximately 22 million tonnes per year for the Toronto urban area:
    - (i) 6% by 2012 (the "Kyoto target");
    - (ii) 30% by 2020; and
    - (iii) 80% by 2050; and
  - b. a 20% reduction target for locally generated smog causing pollutants from 2004 levels by 2012 for the Toronto urban area;

## **RE: PROGRAM FUNDING**

2. City Council establish the financial resources required to support the actions necessary to achieve these emission reduction targets and that City Council:
  - a. endorse the creation of a \$42 million Toronto Energy Conservation Fund, to provide support for energy conservation initiatives in City facilities and buildings in the Municipal, University/College, School and Hospital (MUSH) sector and not-for-profit sector in Toronto, with implementation to commence in 2008;
  - b. endorse the creation of a \$20 million Toronto Green Energy Fund to provide support for renewable energy installations in Toronto, with implementation to commence in 2008;
  - c. endorse \$9 million for the continued implementation of Deep Lake Water Cooling at City Hall, Police Headquarters and Union Station;
  - d. endorse \$13 million for the continued implementation of energy efficiency and sustainability upgrades at City Hall and Nathan Phillips Square for the first phase of a sustainability showcase;
  - e. direct the Chief Corporate Officer to develop a plan to achieve the City's target of obtaining 25 percent of the City's electricity needs from green energy sources over a four year phase-in period starting in 2008;
  - f. direct the Deputy City Manager and Chief Financial Officer and Deputy City Manager to report back in relation to the initiatives included in Recommendation 2, as well as other initiatives for which the funding is yet to be determined, for consideration, as applicable, with the 2008-2012 capital budget and 2008 operating budget processes on the following:
    - i cash flow requirements for the recommended capital program;
    - ii status of the other partnership initiatives and available funding;
    - iii establishment of appropriate revolving reserve funds;
    - iv framework for lifecycle costing, energy cost savings and criteria for payback of any loans;
    - v proposed list of individual capital projects to be included in the 2008 Capital Budget and 2008-2012 Capital Plan; and
    - vi operating budget impacts

3. City Council endorse an additional \$1 million for Tree Planting and Green Roof Initiatives to be funded from the Water Stabilization Reserve, in order to enhance retainment of rainwater and thereby reduce surface run-off and assist in the achievement of the climate change and clean air targets;

**RE: NEIGHBOURHOOD ACTIONS FOR A GREEN TORONTO**

4. City Council help residents and building owners live more environmentally friendly lifestyles and that City Council:
  - a. direct the Director, Toronto Environment Office to establish in 2007 the Live Green Toronto program, to support residents' groups, Business Improvement Areas and other neighbourhood agencies and community groups to green their own neighbourhoods through a range of programs, such as:
    - home energy retrofits;
    - green power generation, including rooftop solar and ground source heat pumps;
    - allotment/food gardens in parks and homes;
    - water conservation programs available through Toronto Water;
    - tree inventory and planting campaigns;
    - soft/green surface program;
    - identification of green roof projects;
    - promoting an efficient appliance purchase drive;
    - promoting incandescent free streets;
    - downspout disconnection drives; and
    - xeriscaping (low water needs ground cover to replace lawns);
  - b. endorse the creation of energy retrofit funding programs to provide support to owners of low-rise residential buildings and other sectors (e.g. small businesses) for energy retrofits, in support of the Live Green Toronto program, subject to a report on program details, including legal implications of allowing other sectors to access the loan fund under the *City of Toronto Act, 2006*, and utilizing expert consultants to be sole-sourced as may be required;
  - c. direct the Deputy City Manager to report in 2007 on the results of the research completed in partnership with E.R.A. Architects, the University of Toronto and the Canadian Mortgage and Housing Corporation of a step-by-step implementation framework to maximize the potential greenhouse gas reductions, community revitalization, social justice and economic development benefits of the renewal of Toronto's concrete high-rise residential building stock;

- d. direct the Deputy City Manager and Chief Corporate Officer to convene a meeting in 2007 with representatives of the Federal and Provincial governments, Toronto Hydro, Enbridge, Enwave, private industry and environmental organizations to discuss the creation of a City-delivered, “one window” program for access to energy and other environmental programs, including the potential development of a one-stop website, and related policy issues;
- e. direct the Chief Building Official on behalf of City Council to immediately seek the required authority from the Province of Ontario that will allow the City in 2007 to:
  - i.) require in new construction in Toronto the energy efficiency requirements of the Ontario Building Code which do not come into effect until 2012; and
  - ii) develop a more aggressive package of code changes to require sustainable design in new construction by 2010;
- f. direct the Chief Planner in consultation with Chief Building Official to update the Toronto Green Development Standard to reflect the changes in recommendation 4 (d) and, to address elements not covered by the Ontario Building Code, use the authority under the *City of Toronto Act, 2006* to require sustainable design and zoning with conditions, once the Regulations related to these new powers are issued and associated amendments to the City’s Official Plan are enacted;
- g. direct the Chief Building Official in consultation with the Chief Planner to bring forward new standards to require and regulate green roofs in the City, as a means of making this component of the Green Development Standard mandatory;
- h. direct the Executive Director of Municipal Licensing and Standards to integrate into any rating systems developed for rental residential units an environmental performance rating based on compliance or non-compliance with the City’s Green Development Standard;
- i. direct the Chief Corporate Officer, in consultation with the Chief Building Official and the Chief Planner to develop a voluntary Energy Performance Labelling system for low-rise residential buildings, in conjunction with Natural Resources Canada and other partners and coordinated with the Green Development Standard labelling system currently under development;
- j. direct the Executive Director of Municipal Licensing and Standards, in consultation with the Medical Officer of Health to report back in 2008 on a plan to potentially ban the use of two stroke engines in powering home and garden equipment by 2010;

**RE: ENVIRONMENTALLY FRIENDLY PUBLIC INSTITUTIONS,  
INDUSTRIES AND COMMERCIAL OPERATIONS**

5. City Council recognize the important role the industrial, commercial and institutional sectors play in the city's local economy, the fact that over one-third of the greenhouse gas emissions come from these sectors and the directions of the City's Green Economic Development Strategy and that City Council:
  - a. establish an Eco-Roofs Program, that sets a minimum target of 10% of the total industrial, commercial and institutional roofspace located in Toronto made more environmentally friendly by 2020, and that integrates:
    - (i) the City's successful Green Roof Incentive program;
    - (ii) incentives and programs to help with the installation of renewable energy systems (e.g. solar); and
    - (iii) programs to encourage the installation of alternative roofing technologies that help address the urban heat island issue;
  - b. direct the General Manager of Economic Development, Culture and Tourism to develop a business plan for a model green-industry business park;
  - c. establish in 2007 an Enviro-Business Working Group, with appropriate partners, for small businesses to create a comprehensive environmental efficiency and improvement program that offers comprehensive pollution prevention and water / energy efficiency support;
  - d. establish in 2007 an Enviro-Food Working Group to develop and implement actions to promote local food production, review City procurement policies, increase community gardens and identify ways to remove barriers to the expansion of local markets that sell locally produced food; and;

**RE: PLANNING FOR A SUSTAINABLE ENERGY FUTURE**

6. City Council direct the Chief Corporate Officer in consultation with the Chief Planner to report to the Executive Committee in 2007 on a process for developing an integrated approach for community energy planning based on community energy zones;

## **RE: TORONTO, BECOMING THE RENEWABLE ENERGY CAPITAL OF CANADA**

7. City Council support the development of renewable energy systems that will put Toronto on par by 2020 with the cities around the world currently leading the way in generating energy from local renewable energy systems (e.g., Germany's target for 2020 is 27% of energy coming from renewable sources and California's target is 25% by 2017) and as a world leader by 2050 and that City Council:
  - a. direct Deputy City Manager and Chief Corporate Officer to issue in 2007 a request for an expression of interest to the renewable energy business sector in order to identify potential approaches to develop renewable energy systems (e.g., solar, wind, geothermal and biogas) for approximately 1,500 City buildings and landfill sites;
  - b. direct the Chief Corporate Officer in collaboration with the Toronto Atmospheric Fund and Toronto Public Health, to develop a pilot program for residential solar hot water heating, and report in 2007 on the resources required to implement this program;
  - c. direct the Chief Corporate Officer to develop a pilot solar heating program for privately owned swimming pools, and report back in early 2008 on the resources required to implement this program;
  - d. direct the Chief Planner to prepare in 2007 a Renewable Energy By-law (Phase I) that will permit renewable energy generation as-of-right on all residential properties, setting appropriate restrictions on height, size and placement of structures;
  - e. direct the Chief Planner, in consultation with the City Solicitor, Chief Building Official and the Renewable Energy Action Plan Working Group to prepare recommendations on how to address the following issues concerning renewable energy generation:
    - i. standards for the placement, orientation, size and form of renewable energy technologies;
    - ii. options to protect access to solar and wind resources from property owners who have installed renewable energy equipment;
    - iii. permissive regulations for district-based energy distribution between multiple properties; and
    - iv. provide guidance with respect to potential issues of conflict around tree protection and installation of renewable energy systems;
  - f. direct the Deputy City Manager to form an interdivisional and inter-agency steering committee to prepare in 2007 an interim report that addresses technical, financial, and service delivery options:

- (i) to expand the existing deep lake water cooling capacity by 20 percent; and
  - (ii) to establish a long-term plan with the goal of doubling the existing capacity of deep lake water cooling;
- g. authorize the Deputy City Manager to take all expedient steps, including a modified procurement process involving consideration of a minimum of three candidates identified by the Director, Toronto Environment Office, in order to hire a consultant to conduct a technical feasibility study on Deep Lake Water Cooling with a budget of approximately \$75,000, inclusive of all charges and taxes (funds in the amount of \$75,000 have been included in the 2007 Operating Budget of the Toronto Environment Office (WT0038-4100) as approved by City Council), on terms and conditions satisfactory to the Deputy City Manager and in a form satisfactory to the City Solicitor;
- h. direct the Deputy City Manager to include in the scope of the steering committee on expanding Deep Lake Water Cooling capacity, the identification of opportunities on an inter-agency basis for the introduction of new renewable energy technologies;

#### **RE: MAKING MORE SUSTAINABLE TRANSPORTATION CHOICES**

- 8. City Council recognize that approximately one-third of the locally generated greenhouse gases and a significant portion of smog causing pollutants come from the operation of motor vehicles and that over one-half of the comments received during the public engagement process expressed a desire to see a more sustainable transportation system, and that City Council:
  - a. direct the initiation of appropriate environmental and engineering studies for the Transit City plan and request the General Manager of the Toronto Transit Commission to submit to Executive Committee in 2007 a schedule for the completion of aforementioned studies and a financial plan including funding sources and revenue tools;
  - b. direct the General Manager of Transportation Services and General Manager of Parks, Forestry and Recreation to report in 2007 on the actions and resources required to complete the infrastructure elements of the Bike Plan by the end of 2012, in particular expanding the existing network of bike lanes and trails from over 300 kilometres to 1,000 kilometres, with a timetable that establishes annual expansion objectives;
  - c. prepare in 2007 a Sustainable Transportation Implementation Strategy, that draws from and is consistent with existing policies and plans (e.g. the Official Plan; the Bike Plan; Transit City Plan; the TTC Ridership Growth Strategy;



and the Walking Strategy) to achieve the greenhouse gas emission and smog emission reduction targets by including:

- i. the articulation of a long-term vision of a sustainable transportation system which achieves the targeted emission levels while meeting the economic needs of the city;
  - ii. the identification and prioritization of short-term transportation projects that will accelerate the achievement of the City's sustainable transportation agenda; and
  - iii. the creation of a Strategic Transportation Planning Group, comprised of the Chief Planner, the General Manager of Transportation Services, the Chief General Manager of the TTC, the President of the Toronto Parking Authority, the Managing Director of GO Transit and the Director of the Toronto Environment Office, to establish priorities and oversee the coordination of the planning, implementation and operation of the City's sustainable transportation system;
- d. direct the Director of the Toronto Environment Office working with the Director of Fleet Services to create in 2007, a Greening Commercial Fleets Enviro-Action Working Group consisting of representatives of the National Association of Fleet Administrators and operators of large fleets in the areas of phone, cable, utilities, retail and courier providers to work together to identify and implement actions that green these fleets and achieve a reduction in emissions city-wide;
- e. direct the Executive Director of Municipal Licensing and Standards to develop a program for shifting all taxis and limousines operating in the City to low emission or hybrid technologies by 2015 or earlier, based on the results of the Green Taxi Pilot;
- f. continue to encourage the Provincial and Federal Governments to develop the policies and programs and to provide the funding necessary to help Toronto achieve a sustainable transportation system that will maintain a high quality of life and result in an 80% reduction in greenhouse gas emissions by 2050. Of particular concern to the City are:
- i. vehicle engine and fuel standards that will reduce emissions;
  - ii. financial incentives to utilize public transit;
  - iii. stable and secure funding for the operation and expansion of public transit systems; and
  - iv. management of urban growth and development in a manner that creates a high quality of life and encourages people to select alternative modes of transportation;

- g. work with the Province, the Greater Toronto Transportation Authority and GTA municipalities to investigate a road pricing regime for the GTA that will encourage people to utilize alternative modes of transportation and dedicate any funds raised to transit improvements;

**RE: SETTING AN EXAMPLE BY GREENING CITY OPERATIONS**

- 9. City Council build upon its success in reducing greenhouse gas emissions from City operations by over 30% since 1990 and that City Council:
  - a. direct the General Manager of Transportation Services to include in the 2008 Capital Budget submission an allocation (estimated at \$7 million) to move the entire street sweeper fleet to new technology, based upon the success of the Clean Roads to Clean Air program, where new street sweepers have been shown to collect over 90% of the particulate matter found on roads and improve street level air quality by as much as 20%;
  - b. authorize the Chief Corporate Officer to negotiate with Toronto Hydro Energy Services Inc. on a sole source basis to undertake the sustainability upgrades at City Hall (exclusive of the Deep Lake Water Cooling and the green roof), and report back as part of the 2008 capital budget process;
  - c. authorize appropriate staff to negotiate a long-term agreement of up to 20 years with Enwave Energy Corporation in order to provide Deep Lake Water Cooling to City Hall, Police Headquarters and Union Station;
  - d. direct the phase out the use of incandescent light bulbs wherever possible by the end of 2008, in all City Divisions, Agencies, Boards and Commissions as part of their ongoing maintenance program and that the Executive Director of Facilities and Real Estate ensure that City facilities have a program for the environmentally appropriate disposal of old lights and fixtures;
  - e. complete in 2007, Phase II of the Green Fleet Transition Plan, which will build upon the successful Phase I plan that resulted in an estimated 23% reduction in greenhouse gas emissions from the City's almost 4,000 vehicles;
  - f. direct the Executive Fleet Steering Committee to develop by mid-2008 a consolidated Green Fleet Plan for the TTC, Emergency Medical Services, Toronto Fire, Toronto Police and other Agencies, Boards, and Commissions for fleets not included in the Phase I Green Fleet Transition Plan and include in that plan actions to eliminate unnecessary idling of City vehicles through the City's Anti-Idling Campaign;
  - g. reduce single occupancy motor vehicle home to work trips made by City employees by ensuring adequate resources are in place to support the Smart Commute program for the Toronto Public Service;

- h. direct the Acting General Manager of Solid Waste Management to report in 2007 on:
  - (i) opportunities for the introduction of additional landfill gas collection systems at closed landfills;
  - (ii) plans to collect and utilize landfill gas at the recently acquired Green Lane Landfill site; and
  - (iii) plans to utilize digester gas from the City's anaerobic digestion facilities that process organic materials collected through the Green Bin program;
- i. direct the General Manager of Parks, Forestry and Recreation and the General Manager of Transportation Services to report back on a proposal to phase out the use of equipment powered by two stroke engines (for example leaf blowers and lawn mowers) by 2009, by continuing to develop and establish landscaping and maintenance techniques that eliminate the need for equipment powered by small engines and shifting to the use of equipment powered by alternative technologies;
- j. direct the Director of Purchasing and Materials Management, in consultation with appropriate City divisions, to review the City's Environmental Purchasing Policy, and report back to the Executive Committee in 2007 on any recommended changes to the policy;
- k. direct that all future contracts that require a proponent to provide and make extensive use of heavy and light duty vehicles, contain components that outline fuel efficiency and green fleet requirements for those vehicles and that direction is provided concerning no idling;
- l. direct the Executive Director of Facilities and Real Estate and the General Manager of Economic Development, Culture and Tourism, with support of the Director of Purchasing and Materials Management, to organize a "Green Vendors Fair" (consistent with recommendations in the City's Green Economic Sector Development Strategy), for providers of products and services that improve the energy performance of buildings in all major building sectors, and such event be open to all City Divisions and Agencies, Boards, Commissions and Corporations and to others by invitation;

## **RE: DOUBLE THE TREE CANOPY**

10. City Council confirm its commitment to double the tree canopy from 17% to 34% and that City Council:
  - a. establish the **Tree Planting and Partnership Program**, in partnership with community organizations, schools, business improvement areas and volunteers, in order to expand resources for the planting, maintenance and care of trees;
  - b. direct the General Manager of Parks, Forestry and Recreation to submit in 2007 a report to the Parks and Environment Committee that addresses:
    - i. steps that will be taken to increase tree plantings in the short-term;
    - ii. strategic planning steps to achieve the goal of doubling the tree canopy by 2050;
    - iii. the requirements for data collection and management and modelling;
    - iv. projected operating and capital budget requirements; and
    - v. engagement of stakeholders through a Urban Forest Tree Canopy Steering Committee;

## **RE: PARTNERSHIPS FOR CHANGE**

11. City Council continue to build the partnerships necessary with businesses, industries, research institutions, community groups, resident associations, neighbouring municipalities, other orders of government and international organizations in order to foster mutually beneficial improvements in air quality and climate change and that City Council:
  - a. direct the Director of the Toronto Environment Office in partnership with other appropriate City Divisions to invite interested stakeholders to join and participate in the following Enviro-Action Working Groups: (including the ones suggested in earlier recommendations) Commercial Fleets; Small Business; Good Neighbours Food Procurement; Trees and Greenspace; and Climate Change Adaptation -- in addition to working groups that already exist (e.g. Greening Health Care, Renewable Energy Working Group) and in other relevant sectors, such as social housing and sustainable transportation;
  - b. direct the Executive Director of Facilities and Real Estate to approach Toronto's universities, colleges and other interested organizations, to discuss forming research partnerships on energy-related issues of mutual interest, and report back on the progress of this initiative in early 2008;
  - c. direct the City Manager and Deputy City Manager to continue to develop and enhance partnerships with:

- the Greater Toronto Area Clean Air Council;
- the Greater Toronto Transit Authority;
- the Provincial and Federal Governments;
- the Clinton Climate Change Initiative;
- the C40 Large Cities Climate Initiative;
- the International Council for Local Environmental Initiatives;
- the Federation of Canadian Municipalities; and
- other bodies, non-governmental organizations and organizations with a focus on addressing climate change and air quality;

**RE: PUBLIC AWARENESS AND KNOWLEDGE**

12. City Council acknowledge that the greatest reductions in emissions will occur from changes in how people move about the city and how they operate their homes and businesses and people need to understand why, what and how to change, and that City Council:
  - a. direct the Deputy City Manager to organize a charette, to develop in 2008 a three year climate change and air quality marketing campaign which integrates and utilizes existing programs and interactive web-based programs;

**RE: PREPARING FOR CLIMATE CHANGE**

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;
    - ii. includes the actions steps required to develop a climate change adaptation strategy including project budget costs;
    - iii. ensures the strategy will incorporate the response mechanisms required to meet identified environmental changes including health related impacts, such as the heat alert response program;
    - iv. identifies the requirements for data collection and management and modelling; and
    - v. incorporates stakeholders input;
  - b. authorize the Deputy City Manager to retain the Clean Air Partnership to provide assistance and technical expertise in the development of the City's

adaptation strategy, on a sole source basis to a maximum of \$40,000 inclusive of all charges and taxes (funds in the amount of \$40,000 have been included in the 2007 Operating Budget of the Toronto Environment Office (WT0038-4100) as approved by City Council), on terms and conditions satisfactory to the Deputy City Manager and in a form satisfactory to the City Solicitor;

#### **RE: REGULAR MONITORING AND REPORTING**

14. City Council will ensure there is ongoing monitoring and evaluation of our progress and reporting on that progress to the community and that City Council:
  - a. direct the Director of the Toronto Environment Office to continue to coordinate the City's actions to measure, monitor and model greenhouse gases and smog causing emissions to ensure efforts are focused on those that have the greatest effect on human health and the natural environment;
  - b. request energy utility companies in Toronto to provide data to the City, in a manner respectful of customer confidentiality requirements, to assist staff in monitoring the City's progress in meeting its targets;
  - c. direct the Medical Officer of Health to expand the use of the federal Air Quality Benefits Assessment Tool to evaluate health and economic benefits that are associated with policy options that result in lower levels of air pollution in Toronto;
  - d. request the Board of Health to develop a proposed reporting program for the use and release of toxic air contaminants and to explore reporting of greenhouse gas emissions;
  - e. direct the Chief Corporate Officer to report on progress in moving the City to a state of energy sustainability, and update Toronto's Sustainable Energy Plan annually, subject to the terms of the *Energy Conservation Leadership Act, 2006*; and
  - f. direct the Deputy City Manager, Cluster B, to report on air quality and greenhouse gas emissions, outcomes of policies, programs and activities in connection with the Climate Change and Clean Air Action Plan and recommend changes and new actions as part of regular annual reporting on the state of Toronto's natural environment and outcomes of policies, programs and activities.

## Financial Impact

### Toronto's Sustainable Energy Plan

The financial impact information outlined in this section relates to the results of the Sustainable Energy Plan and reflects the Program Funding outlined in Recommendation 2 .

#### Existing Programs

There are two existing channels for sustainable energy efficiency investments. The Energy Retrofit Program (ERP) was approved by Council in 2004, to carry out energy retrofits in City facilities. \$35.0 million has been already committed and is being implemented through various energy retrofit projects. The Better Buildings Partnership Loan Repayment Reserve Fund (BBP-LRRF) is a revolving fund of \$8 million, through which funds are lent to not-for-profit sector organizations for energy retrofit projects at 0% interest. Since its inception in 1996, BBP-LRRF funding has leveraged investments in projects totalling \$80.0 million in value.

#### Recommended Programs

It is currently estimated that the programs identified in Recommendation 2 will require funding of up to \$84.0 million. The recommended program will help to achieve the City's short-term electricity saving commitments of 90 megawatts by 2010 and to deliver on the recommendations of the Toronto Sustainable Energy Plan and the Climate Change and the Clean Air Plan and consists of the following initiatives:

<u>Sustainable Energy Plan Programs</u>	Estimated Costs (\$ million)
Toronto Energy Conservation Program	\$42.0
City of Toronto Green Fund - Renewable Energy	\$20.0
Energy Efficiency at City Hall	\$13.0
Deep Lake Water Cooling at City Hall, Police Headquarters and Union Station	\$9.0
Green Power Purchase	to be determined

The above initiatives are not included in the 2007 Approved Capital Budget and 2008-2011 Capital Plan. They will be funded in partnership with other orders of government and other partners in the energy efficiency and climate change sectors, such as the Ontario Power Authority (OPA), Toronto Atmospheric Fund (TAF), Toronto Hydro Energy Services (THESI), the Clinton Foundation and other institutions as appropriate. For example, the Ontario Power Authority provides an energy efficiency incentive of \$400/kw or 5 cents/kwh saved, up to 40% of the project value for all eligible energy retrofit projects in the City, other MUSH and high rise residential buildings. Similarly, incentives are also available to support renewable energy installations in Toronto.

In 2006, Council established a "Strategic Infrastructure Partnership Reserve Fund Account" to fund the City's major tax-supported strategic infrastructure projects in partnership with other orders of government and major strategic tax-supported environmental capital projects conditional on external funding partners. It is anticipated this reserve fund account will be used, in conjunction with the funding from other partnership sources, to fund the above- recommended initiatives. Appropriate revolving loan funds will be established to facilitate the implementation of this capital program and provide for continuous funding support of the energy efficiency initiatives.

Given the complexity of potential funding partnerships, it is recommended that the Deputy City Manager and Chief Financial Officer report back with a simple funding structure for the Toronto Sustainable Energy Plan. In addition, a proposed funding structure will be developed in concert with the funding requirements for the Climate Change and Clean Air Action Plan.

A mechanism will be developed to ensure that future energy savings in City buildings will be used to fund further energy efficiency related initiatives and/or other strategic infrastructure priorities, similar to the existing Energy Retrofit Program. Under the current framework, energy cost savings realized through implementation of the retrofit work are redirected to pay back the debt required to fund the project.

The Deputy City Manager and Chief Financial Officer will report back in time for consideration with the 2008-2012 capital budget process and the 2008 operating budget process on the following:

- a) Cash flow requirements for the recommended capital program
- b) Status of the other partnership initiatives and available funding
- c) Establishment of appropriate revolving reserve fund(s)
- d) Framework for lifecycle costing, utilization of energy cost savings and criteria for payback
- e) Proposed list of individual capital projects to be included in the 2008 Capital Budget and 2008-2012 Capital Plan
- f) Operating budget impact to be included in the 2008 Operating Budget

Thus, it must be emphasized that the City will maximize other partnership sources of funding and utilize the Strategic Infrastructure Partnership Reserve Fund for the City portion in order to mitigate any debt financing related to Climate Change and Energy Initiatives.

### **Climate Change and Clean Air Action Plan**

In order to advance the Climate Change and Clean Air Action Plan the following is recommended:

- a) additional funding of \$1.0 million for tree planting and green roof initiatives will be provided from the Water Stabilization Reserve Fund – Recommendation (3);



- b) funding of up to \$7.0 million should be provided to move the entire street sweeper fleet to new technology by reallocation of the funds within the Transportation Services Capital Budget and included in the 2008 Capital Budget Submission – Recommendation (9 a); and
- c) funding of \$115,000 will be used to retain the services of the Clean Air Partnership (up to \$40,000) to provide assistance and technical expertise in the development of the City’s climate change adaptation strategy, as well as a consultant to provide a technical feasibility study in connection with the Deep Lake Water Cooling expansion (\$75,000) – Recommendations (13 b) and (7g) respectively. The funding is included in the Council approved 2007 Operating Budget of the Toronto Environment Office, Policy, Planning, Finance & Administration.

The Climate Change and Clean Air Action Plan includes a number of other initiatives which need to be further developed and analyzed in terms of their potential financial impact and funding requirements. Although it is anticipated that some of these initiatives will be funded in partnership with other orders of government and other partners in the energy efficiency and climate change sectors, a specific implementation framework and financing structures have yet to be developed. Issues such as sources of funding for individual initiatives, establishment and use of revolving funds, criteria and policies for selection of individual projects, capital and operating budget requirements will be addressed in a separate report from the Deputy City Manager and Chief Financial Officer as per Recommendation 2.

## **DECISION HISTORY**

### **The Climate Change and Clean Air Action Plan**

On February 20, 2007 the City’s Parks and Environment Committee held a special meeting to hear presentations and discuss with experts on air quality and climate change what are the key issues and how the City can address these issues. Working with the suggestions that arose from that discussion, the Deputy City Manager, Cluster B, directed the Toronto Environment Office to prepare “*Change is in the Air: Toronto’s Commitment to an Environmentally Sustainable Future. A Framework for Public Review and Engagement*” (<http://www.toronto.ca/changeisintheair/index.htm>).

A subsequent report titled “Framework for a Climate Change and Clean Air Action Plan”, dated March 22, 2007, was presented to the Executive Committee at its meeting of March 26, 2007. That report contains a comprehensive record of the planning steps leading to the development of the Climate Change and Clean Air Action Plan.

The Executive Committee requested the Deputy City Manager, Cluster B, to proceed with public engagement on the framework for a Climate Change and Clean Air Action Plan and, report back to the Executive Committee in time for the July 2007 session of City Council. This report is submitted in response to that request from Executive Committee.

The Executive Committee also forwarded a copy of the Deputy City Manager's March 22, 2007 report to the Parks and Environment Committee for consultation with interested stakeholders and the hearing of deputations, with a request that the Deputy City Manager report thereon to the Executive Committee. This report also responds that request and carries a report on the input received through the public engagement process.

The Executive Committee also carried motions from several Councillors and requested the Deputy City Manager, Cluster B, for consideration and a report thereon to the Executive Committee. This report also responds to the motions from Councillors in Attachment A 2.

### **Toronto's Sustainable Energy Plan**

At its meeting of January 31, February 1 and 2, 2006, Council instructed the Deputy City Manager and Chief Financial Officer to report to the February 20, 2006 meeting of the Roundtable on the Environment on a draft terms of reference for a comprehensive Energy Plan for Toronto. [http://www.toronto.ca/legdocs/2006/agendas/council/cc060131/nomj\(38\).pdf](http://www.toronto.ca/legdocs/2006/agendas/council/cc060131/nomj(38).pdf)

At its meeting of June 27, 28 and 29, 2006, Council approved the development of a plan that would move the city from its current unsustainable level of energy use to a sustainable one by the year 2031.

<http://www.toronto.ca/legdocs/2006/agendas/council/cc060627/pof5rpt/cl020.pdf>

A report approving the budget for the Energy Plan was approved by Council at its meeting of September 25, 26 and 27, 2006.

<http://www.toronto.ca/legdocs/2006/agendas/council/cc060925/pof7rpt/cl011.pdf>

An update report on the progress of the Energy Plan was adopted by Council at its meeting of April 23 and 24, 2007.

<http://www.toronto.ca/legdocs/mmis/2007/ex/bgrd/backgroundfile-2001.pdf>

## **COMMENTS**

Detailed discussions about the recommendations contained in this report are presented in the following documents, which are attached:

1. Attachment #A - "Change is in the Air: Moving from Framework to Action" – Staff Background Report for the Climate Change and Clean Air Action Plan, Phase I, and;

2. Attachment #B - “Energy Efficiency and Beyond” – Staff Background Report on Toronto’s Sustainable Energy Plan

These two reports provide detailed discussions about the issues of concern, how the community was engaged and the rationale for the recommendations.

While the recommendations that come from Toronto’s Sustainable Energy Plan and the Climate Change and Clean Air Action Plan are important, they build upon a solid foundation of a large number of significant existing initiatives being led by City Divisions, Agencies, Boards, Commissions and Corporations and the community. A few examples include:

- working towards a goal of diverting 70% of the solid waste from landfills, which will result in an estimated greenhouse gas reduction equivalent to removing 100,000 cars from the road (<http://www.toronto.ca/garbage/seventy/index.htm>);
- working towards increased water efficiency and thereby reducing the approximately 550 million kWh used every year to treat water and achieving an ongoing annual reduction in greenhouse gases of 14,000 tonnes after 2011 (<http://www.toronto.ca/watereff/index.htm>); and
- Testing and implementing new streetlight technologies by Toronto Hydro, which have the potential to reduce energy consumption for street lighting by 20 to 30 percent.

## **The Next Steps**

The recommendations presented in this report are a starting point for working towards the stated targets. In combination with the actions and activities that were already occurring in the community, they create a foundation but on their own they will not achieve the stated targets for reduced emissions.

In early 2008, the Deputy City Manager, Cluster B and the Deputy City Manager and Chief Financial Officer will bring forth a Phase II Climate Change and Clean Air Action Plan and associated Energy Plan actions outlining additional recommendations for action. Those recommendations will be developed through the research and policy work of staff in all relevant City Divisions and Agencies, Boards, Commissions and Corporations and by actively engaging the community in the discussion and development process.

## **CONTACT**

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Richard Butts  
Deputy City Manager

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Joseph P. Pennachetti  
Deputy City Manager and  
Chief Financial Officer

## **ATTACHMENTS**

Attachment #A 1 - “Change is in the Air: Moving from Framework to Action” – Staff Background Report for the Climate Change and Clean Air Action Plan, Phase I.

Attachment #A 2– Response to Motions made by Councillors in Connection to the Climate Change and Clean Air Plan and the City’s Environmental Plan.

Attachment #A 3– Report on Civic Engagement Discussions, Phase I for the Climate Change and Clean Air Action Plan: April 29 to June 5, 2007.

Attachment #B 1 - “Energy Efficiency and Beyond” – Staff Background Report on Toronto’s Sustainable Energy Plan

Attachment #B 2– Consultants’ Background Report on the Energy Plan for Toronto – PricewaterhouseCoopers, June, 2007

Attachment #B 3 – Report on Consultations for Toronto’s Sustainable Energy Plan

Attachment #B 4 – Leading by Example: Blueprint for an energy-efficient City Hall– Toronto Hydro Energy Services, June 8, 2007