

# TORONTO STAFF REPORT

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August 30, 2000

To: Works Committee

From: Barry H. Gutteridge, Commissioner, Works and Emergency Services

Subject: Greenhouse Gas Emissions Reduction Trading  
All Wards

Purpose:

To report back on the feasibility of trading greenhouse gas (GHG) Emission Reduction Credits (ERC) that are attributable to actions taken by the City of Toronto to reduce its corporate GHG emissions.

Financial Implications and Impact Statement:

There are no new financial requirements for the implementation of this report provided that it is carried out using existing staff resources.

Recommendations:

It is recommended that:

- (1) In the absence of federal and/or provincial regulations on GHG emissions trading, the City of Toronto adopt the existing methodologies of the Pilot Emissions Reduction Trading (PERT) project as a guide to documenting and registering ERCs;
- (2) The Commissioner of Works and Emergency Services (WES) in consultation with other effected departments, register and bank ERCs on an ongoing basis in a manner that will strategically position the City's ERCs in the future;
- (3) The Commissioner of Works and Emergency Services in consultation with other effected departments be authorized to execute a demonstration trade not to exceed 5,000 tonnes of CO<sub>2</sub> ERCs for its learning value and not to compromise the City's goal of improving the environment, and that staff be authorized to proceed with such a trade;

- (4) The Commissioner of Works and Emergency Services in consultation with other effected departments develop a Corporate Emissions Management and Trading Policy and report back to Works Committee; and
- (5) The appropriate City officials are granted the authority to give effect thereto.

Background:

City Council at its meeting of April 16, 1998, adopted Clause No. 10 of Report No. 3 of the Works and Utilities Committee, and in so doing authorized the engagement of the International Council for Local Environmental Initiatives (ICLEI) to undertake the design of a Pilot Project for Carbon Emissions Trading.

City Council at its meeting of July 8, 1998, received for information, Clause No. 10 embodied in Report No. 6 of the Works and Utilities Committee, entitled "Strategic Action Plan to Reduce Carbon Dioxide (CO<sub>2</sub>) Emissions in the New City of Toronto".

City Council at its meeting of December 16 and 17, 1998, adopted Clause No. 15 embodied in Report No. 26 of The Strategic Policies and Priorities Committee, entitled "Sustainable Energy, Greenspace/Nature and Water Actions", and in so doing formally committed the new City of Toronto to a CO<sub>2</sub> emission reduction goal of 20 percent relative to 1990 levels by the year 2005.

City Council at its meeting of April 13, 14 and 15, 1999, adopted with amendment Report No. 4 entitled Greenhouse Gas Emissions Reduction Trading from the Commissioner of Works and Emergency Services dated March 11, 1999. The adoption of this report authorized the Commissioner of Works and Emergency Services to begin negotiations with interested buyers of ERCs to determine if a receptive market currently exists.

Comments:

1. Introduction

The United Nations Conference of the Parties of the Framework Convention on Climate Change, at its third meeting held in Kyoto, Japan in 1997, gave final approval to the Kyoto Protocol. This Protocol is significant for the City because it establishes the basis for an international greenhouse gas trading system and a flexible means for nations to meet their CO<sub>2</sub> reduction targets.

The Ontario Medical Association in its Illness Costs of Air Pollution Report (June 2000) estimated that premature deaths attributable to air pollution would be 1,900 this year. The report goes further to state that these deaths represent over \$1 billion in direct costs to Ontario's health-care system. NO<sub>x</sub> and SO<sub>2</sub> are pollutants that have a direct impact on local air quality and have been targeted by the Province in its Strategic Attack on Air Pollution released in January 2000. A component of this strategy is a trading system for NO<sub>x</sub> and SO<sub>2</sub> to be in place for 2001. The Ontario Ministry of the Environment (OMOE) is using the experience of PERT as it develops its trading rules.

PERT has been a pilot project for developing protocols and trading rules for ERC trading in the absence of regulations.

## 2. Conditions regarding Council Authority

As stated in the Background section, City Council at its meeting of April 13, 14 and 15, 1999, adopted with amendment Report No. 4 entitled Greenhouse Gas Emissions Reduction Trading from the Commissioner of Works and Emergency Services dated March 11, 1999. The amendment reads, "the principles proposed by ICLEI in its report to the City and the Toronto Atmospheric Fund (TAF) dated November 24, 1998, be met in order for an emissions trade/sale to be entered into by the City".

The eight principles for emissions trading in the ICLEI report entitled Design of a Carbon Emissions Pilot Trade for Toronto (July 1998) are:

- i. Honour Voluntary Caps
- ii. Rigorously document additionality
- iii. Promote Transparency
- iv. Definition of appropriate measures
- v. Maximize environmental co-benefits
- vi. Ensure municipal compliance
- vii. Community aggregation
- viii. Historical credits are supplemental

## 3. ICLEI Report

The ICLEI report described in 2 (above) has provided the framework for the City's involvement in ERCs to date. This report rated three City projects highly for ERC registration because they meet the criteria of being real, verifiable and ownership was not in dispute. The three projects are:

- a. City-owned buildings
- b. Street and Lane Lighting Retrofit
- c. Landfill Gas

The report also stated that any ERCs should be scrutinized by an organization such as PERT since any potential buyers would be interested in third party verification. To this end, the City joined PERT in 1999 to learn about Emissions trading based on this pilot project. The City is also a member of Canada's Voluntary Challenge Registry (VCR). The VCR maintains a registry of environmental initiatives and ERCs that support the concept of a transparent process.

#### 4. Status Report on Three Candidate Projects

City staff have investigated the ERC potential of these projects based on the ICLEI report. After closer examination, the total number and value of these ERCs should be discounted to reflect ownership and eligibility issues. A description has been provided below:

##### a. City-owned buildings

As a first step, the retrofit of Toronto City Hall (1998) was documented using the PERT guidelines and submitted for review in August 2000. The ERCs from this project are believed to have a higher value because they are based on actual metered electricity savings. After a technical review by a team comprised of members, the ERCs in the amount of 6,310 tonnes (two operating years) will be posted to the PERT registry. Prospective buyers would contact the City and negotiate a price as well as any other terms and conditions. At present, the former Ontario Hydro, now Ontario Power Generation (OPG) has been the largest purchaser of ERCs from PERT members and has been paying approximately \$1/tonne for CO<sub>2</sub> credits.

There are many other City-owned buildings that have been renovated and have reduced emissions that could be eligible for ERC registration.

##### b. Street and Lane Lighting Retrofit

The former City of Toronto completed an extensive retrofit of its street and lane lighting in 1994. Nearly 30,000 lamps and luminaries were replaced with project funding provided by a Toronto Atmospheric Fund (TAF) loan and Ontario Hydro grant. Verification of the energy savings used to calculate ERCs has been more difficult to obtain for this project than the City Hall project because street and lane lighting is not metered. WES staff are working on the calculation of reasonable estimates of the energy savings. The value of these calculated ERCs might be lower relative to credits based on metering data to reflect the risks and uncertainties of this method.

The ownership of these ERCs has been clarified somewhat in that staff from OPG's Emissions Trading Unit have agreed with WES staff to a claim 1/8 of any revenues based on the grant for the project by Ontario Hydro.

##### c. Landfill Gas (LFG)

The methane recovery operations at Toronto's Keele Valley, Brock West and Beare landfills represent the largest single source for ERCs according to the ICLEI report. After closer examination, issues related to eligibility and ownership of the CO<sub>2</sub> ERCs have complicated registration.

PERT recognizes eligible ERCs if they meet the definition of "surplus". An "emission reduction is surplus if it is not otherwise required of a source by current regulations or other obligations eg. a voluntary commitment" (PERT).

Under this definition, Brock West is ineligible for credit creation since a LFG collection system was required as part of the conditions of the Certificate of Approval. Keele Valley was also required to install a LFG collection system under its Certificate of Approval and therefore not eligible to claim ERCs. Of the three landfill site gas recovery operations, Beare Road is the only one eligible for credit creation. At this location, the former Metro installed a LFG system without any legal requirement to do so.

PERT recognizes capital investment for a project, ownership of the asset as well as any contractual agreements to assist members in determining ownership of ERCs. As of this date, the ownership issue of potential ERCs at Beare Road has not been resolved.

## 5. Environmental Concerns of Emissions Trading

Various stakeholders in their review and analysis of emissions trading with respect to GHG and air pollutants such as to NO<sub>x</sub> and SO<sub>2</sub> have identified questions or concerns about the ability of emissions trading to reduce air emissions and improve air quality. These concerns point to the fact that emissions trading cannot necessarily guarantee overall emissions reductions and that emissions could increase if adequate conditions or rules are not applied and enforced. The Ontario Clean Air Alliance (OCAA) in its report entitled Pollution Loopholes (February 2000) has recommended specific caps and rigorous conditions with respect to emissions trading. The Pembina Institute and the David Suzuki Foundation have reviewed emissions trading for GHG as a market-driven solution under the appropriate conditions. Toronto Public Health in a report to the Board of Health dated March 23, 2000 reviewed a provincial proposal for emissions trading for NO<sub>x</sub> and SO<sub>2</sub>. The report indicated that emissions trading can be a useful tool for reducing air emissions if the trading system is properly designed, and if it is connected to health protective air emission caps that will force reductions in total air emissions.

## 6. Current Market Conditions for Emissions Trading

There are two emerging markets for ERCs that are of importance to the City of Toronto. The first is being led by the Provincial Government for NO<sub>x</sub> and SO<sub>2</sub> and is based to some extent on the PERT pilot project. The release of the final draft regulation is imminent and will be circulated to a broad range of stakeholders for comment. The second emerging market is for CO<sub>2</sub> that is being developed at the international and federal levels. PERT acts as a clearing house for its members on all of these pollutants.

Trades are occurring for each of these pollutants even in the absence of regulations. Buyers and sellers are negotiating and completing transactions on speculation that these ERCs will be worth more when regulations are developed. Equally important to speculators is the anticipation that these ERCs will be eligible for use in meeting their pollution reduction targets.

It is reasonable to expect that ERCs from the City of Toronto could be sold in today's speculative market. City staff have been in preliminary discussions with prospective buyers of ERCs attributable to the City of Toronto and have undertaken ongoing research in this area.

## 7. Emissions Trading Eligibility

The following section reviews the City's eligibility to trade any or all of the 6,310 tonnes of ERCS resulting from the City Hall Retrofit project.

The City has not yet achieved its voluntary target of a 20% reduction in CO<sub>2</sub> and therefore does not meet the first principle outlined in the ICLEI report. Under this principle it is unlikely that the City will be able to register any of the ERCs developed from the three candidate projects described in section 4 in the near future. This limits the City's ability to demonstrate measurable results from its candidate projects and influence other emissions trading stakeholders through its participation in PERT and other relevant provincial and federal processes. Staff are therefore recommending that the City proceed with the registration of ERCs at PERT as an interim measure in the absence of current regulation.

ERCs resulting from the City Hall retrofit have been rigorously documented using PERT methods and conventions. Any and all information related to these ERCs will be made available for public scrutiny. The City recognizes that NO<sub>x</sub> and SO<sub>2</sub> are also being reduced as a result of this project but did not claim any of these ERCs in this creation report since Council Authority was specific to CO<sub>2</sub>. The Facilities and Real Estate Department through a performance contract with Tesco Energy continues to monitor and verify the energy savings on a monthly basis. The actions described above meet principles two through six which are: rigorously document additionality, promote transparency, definition of appropriate measures, maximize environmental co-benefits and ensure municipal compliance.

The last two principles refer to the use of any potential revenues derived from the sale of ERCs and do not apply at this time. A strategic re-investment plan to support the City's sustainability goals should be part of a Corporate Emissions Management and Trading Policy.

In addition to the eight principles described above, City Council went one step further to state that, "The trading of greenhouse gas emissions should not compromise the City's goals of improving the local environment, particularly air quality. The potential purchaser of Toronto's greenhouse gas credit shall be required to ensure that this transaction in no way facilitates the increase of emissions, or ambient concentrations, of other air pollutants in the Toronto airshed. In the absence of a regulatory cap, the City of Toronto will only trade with parties that have a voluntary cap on greenhouse gas emissions".

These are very rigorous conditions for a potential trade and are not the current practice of PERT members in their contract language for trading. However, these conditions reflect important environmental principles and should be considered in the development of a Corporate Emissions Management and Trading Policy. Emissions trading rules are being developed for Ontario that will be available for public consultation in the near future. The final version of these rules adopted by the Province will be legally binding and substantially influenced by the provincial experience at PERT. Beginning to develop a Corporate Emissions Management and Trading Policy should enable the City to more effectively address the anticipated Provincial legislation

and reflect the environmental principles that have been approved by Council. This policy should consider relevant emissions contributing to climate change and urban smog, reflect the experience of a potential trade and include the implications of proposed provincial emissions trading legislation and implementation of the Kyoto Protocol.

In order to obtain experience with the trading process, it is recommended that authorization be given for a small demonstration trade not to exceed 5,000 tonnes for the learning value of this procedure.

Conclusions:

1. Provincial legislation for emissions trading in NO<sub>x</sub> and SO<sub>2</sub> is likely to be enacted in 2001. An international trading mechanism for CO<sub>2</sub> is being developed under the Kyoto Protocol;
2. A receptive market for emissions trading exists with limited ground rules due to the lack of local and international legislation. Emissions trading is being driven by industry and is occurring even in the absence of a regulated market;
3. The ICLEI report was a valuable resource for City staff. The report is now more than two years old and some of the original findings with respect to credit eligibility no longer apply;
4. The City's participation in PERT has been informative. In the absence of regulations or legislation, the protocols and methodologies developed by this organization can be a useful guide when documenting and registering ERCs;
5. The City has not yet achieved its voluntary target of a 20% reduction in CO<sub>2</sub>. However, the adoption of this target should not limit the opportunities for the Corporation with respect to an emerging marketplace for emissions trading;
6. The City should register, bank and then execute a small demonstration trade not to exceed 5,000 tonnes resulting from the retrofit of Toronto City Hall.

7. A Corporate Emissions Management and Trading Policy developed through an interdepartmental process will be a valuable resource for the Corporation when provincial and federal regulations come into effect.

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