



CORPORATE SERVICES DIVISION
Environment Section

TO: Chair and Members of the Community and Corporate Services Committee
SUBJECT: Partners for Climate Protection Update

Report Number: CORPSERV12/05 Report Date: April 19, 2005
Author(s): Lynn Robichaud Date to Committee: May 10, 2005
Telephone: 905-335-7600 Ext. 7931 Date to Council: May 24, 2005
Ward(s) Affected: 1 2 3 4 5 6 All File Number(s): 210-09-01

APPROVALS: Department Head General Manager City Manager

To be completed by the Clerks Department

Committee Disposition & Comments

01- Approved 02 - Not Approved 03 - As Amended 04 - Referred 05 - Deferred 06 - Received & Filed 07 - Withdrawn

Council Disposition & Comments

01- Approved 02 - Not Approved 03 - As Amended 04 - Referred 05 - Deferred 06 - Received & Filed 07 - Withdrawn

1.0 RECOMMENDATION:

For information only.

2.0 PURPOSE:

The purpose of this report is to provide an update to council on the city's participation in the Partners for Climate Protection Program.

### **3.0 BACKGROUND AND RELATIONSHIP TO STRATEGIC PLAN:**

In 2002, the City of Burlington joined the Partners for Climate Protection program and committed to reducing greenhouse gas emissions. This program is a partnership between the Federation of Canadian Municipalities (FCM) and the International Council for Local Environmental Initiatives (ICLEI) to provide guidance to municipal governments in taking stock of its greenhouse gas emissions and developing a plan to reduce these emissions.

On February 16, 2005, the Kyoto Protocol, a multilateral environmental agreement under the United Nations Framework Convention on Climate Change Treaty, became legally binding. In ratifying the protocol, Canada committed to a six per cent reduction to 1990 levels of greenhouse gas emissions. The federal government recently released its 2005 Climate Change Plan outlining its strategy to meet its reduction target, based on six key elements: competitive and sustainable industries; harnessing market forces; partnerships with provincial & territory governments; engaging citizens; sustainable agriculture and forestry practices; and, sustainable cities and communities.

Greenhouse gases, such as carbon dioxide, methane and nitrous oxide, are created by consuming fossil fuels such as oil and natural gas to move cars, fire furnaces or run motors, and to carry out every day activities. These gases, combined with clouds and water vapour have contributed to a marked rise in average temperatures around the world and impacts are expected to be greater in northern latitudes such as Canada, Russia and Scandinavia. It is predicted that the risks of global warming can include drought and an increase in erratic, extreme weather events.

A reduction in greenhouse gas emissions can be achieved through energy and fuel efficiencies in city facilities, lighting, traffic signals and vehicles, helping our local air quality and in some situations, resulting in operational savings. Reducing greenhouse gas emissions supports the following goals and strategies of the city's strategic plan, *Future Focus VI*.

#### Long Term Goal:

*The city will be a leader in making a high level of environmental performance one of the primary goals of its policies, programs and operations, and in the actions of its citizens, to provide the highest quality of life for all.*

#### Three Year Goal:

*The city will enhance the quality of air, land, water and the city's natural heritage.*

#### Strategy:

*b) Participate in municipal and/or other programs designed to improve air, land, water quality and the natural heritage.*

**4.0 DISCUSSION:**

There are five milestones for municipalities to meet in the PCP program, including:

- |  |   |
|--|---|
| Milestone One – Inventory                    | ▪ Participants are advised to complete a greenhouse gas inventory (corporate & community) using 1994 as a base year.  |
| Milestone Two – Setting the Targets          | ▪ Participants must set reduction targets. The PCP program recommends reduction targets of 20 per cent for municipal corporations and six per cent community wide. Some municipalities have opted to develop their local action plans prior to setting their reduction targets. |
| Milestone Three – Develop Local Action Plans | ▪ Local Action Plans should be developed on how municipalities will reduce corporate emissions and encourage community wide reductions.   |
| Milestone Four – Implementation of Plans     | ▪ Municipalities implement their action plans.  |
| Milestone Five – Measuring Progress          | ▪ Municipalities must track, monitor and report their progress in reducing emissions.   |

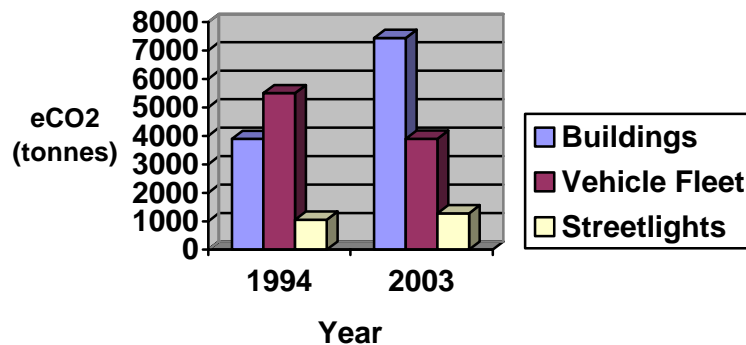
**Milestone One - Inventory**

In 2004, a corporate and community-wide inventory of greenhouse gas emissions was completed using the Partners for Climate Protection recommended base year of 1994. The inventory report outlines several challenges in collecting the data for this initiative, particularly due to the age of the data. Assumptions were often made, particularly for community wide data. The inventory results should be used as a tool to provide guidance but not be used in absolute terms.<sup>1</sup>

***Corporate Emissions***

The following table provides an illustrated summary of the corporate emissions inventory, comparing the baseline data with 2003 data.

**Corporate Emissions by Sector**



<sup>1</sup> Please contact the author of the report to obtain a copy of the Greenhouse Gas Emission Inventory for the City of Burlington.

**Pg 4 of Report CORPSERV12/05**

The corporation's greenhouse gas emissions were estimated to be 10,500 tonnes of equivalent carbon dioxide (CO<sub>2</sub>)<sup>2</sup> in 1994. By 2003, emissions had increased by 21% to approximately 12,500 tonnes. There was a significant increase in the buildings sector from 1994 to 2003, which can partially be explained by an increase in city facilities (eg. Appleby Ice Arena, Tansley Woods Recreation Centre, and two additional fire stations). There was also a shift in energy generation from a greater reliance on nuclear power in 1994 to coal fired generation in 2003. If the same ratio of nuclear/coal fired power was applied to the 2003 data for corporate electricity usage, it is estimated that the city's GHG emissions would have increased by approximately 13% instead of 21%. As noted below, the city's population increased by approximately 16% during the same time period.

The emissions from vehicles experienced a decline in emissions, which may be explained by the use of cleaner fuels as well as an increase in contracting out some services (eg. snow removal and turf management practices).

<b>Corporate Emissions by Sector 1994-2003 Percentage Increase</b>	
Buildings	91.3
Vehicle Fleet	(29.1)
Streetlights	21.0
<b>TOTAL</b>	<b>21.0</b>

The city's population increased by approximately 16% between 1994 and 2003. Although corporate emissions as a whole increased by 21% for the reasons explained above, on a per capita basis, emissions remained stable.

<b>Corporate Emissions – Per Capita</b>			
	<b>1994</b>	<b>2003</b>	<b>% Increase</b>
<b>Population</b>	128,910	150,000	16
<b>Emissions (tonnes eCO<sub>2</sub>)</b>	10,448	12,621	21
<b>Per Capita Emissions (tonnes eCO<sub>2</sub>)</b>	.08	.08	0

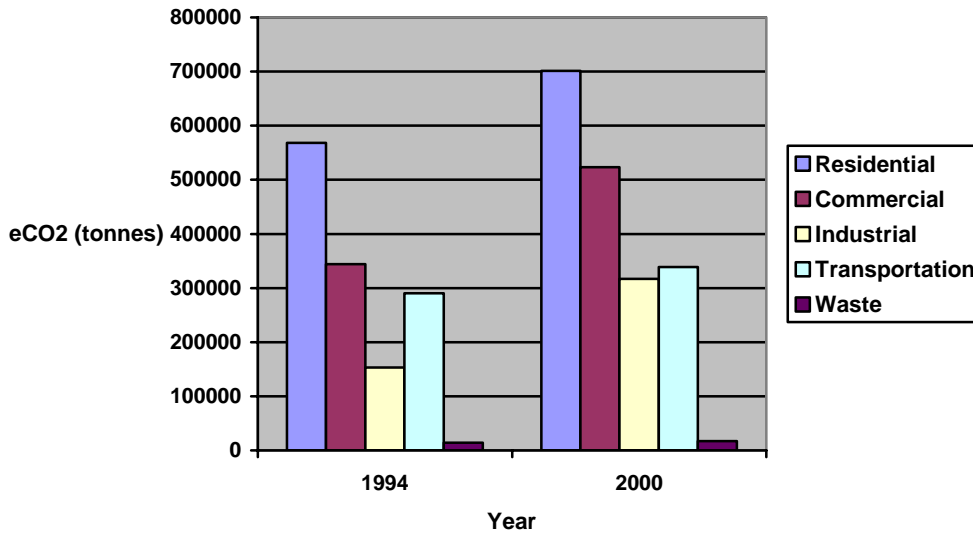
***Community Emissions***

The chart on the following page provides an illustrated summary of the community emissions inventory, comparing the baseline data with 2000 data.

---

<sup>2</sup> Equivalent CO<sub>2</sub> (eCO<sub>2</sub>) is a unit that allows emissions of greenhouse gases of different strengths to be added together. For example, 1 tonne of CO<sub>2</sub> is the same as 1 tonne of eCO<sub>2</sub> but 1 tonne of nitrous oxide emissions is equal to 310 tonnes of eCO<sub>2</sub> (PCP software glossary).

### Community Emissions by Sector



Community emissions in 1994 were estimated at 1.4 million tonnes, increasing by 38% to 1.9 million tonnes in 2000.

Community Emissions by Sector 1994-2000 Percentage Increase	
Residential	23.4
Commercial	51.9
Industrial	106.7
Transportation	16.7
Waste	18.1
Total	38.0

On a per capita basis, community emissions increased by two tonnes or 18% between 1994 and 2000. Again, given the challenges of collecting historic data and assumptions made for the community inventory, the numbers here are provided as a guide.

Community Emissions – Per Capita			
	1994	2000	% Increase
<b>Population</b>	128,910	150,000	16
<b>Emissions (tonnes eCO2)</b>	1,370,289	1,896,956	38
<b>Per Capita Emissions (tonnes eCO2)</b>	11	13	18

## **Milestone 2 – Setting Targets**

The PCP program recommends that participating municipalities set a corporate emissions reduction target of 20% and a community reduction target of six per cent below the base year (1994). According to the program, the targets should be achieved within ten years of joining the PCP program, 2010 for the city.

### ***Corporate Reduction***

A twenty per cent reduction below the 1994 baseline would mean the city's target would be approximately 8,358 equivalent (e)CO<sub>2</sub>, which would require a reduction of approximately 4,200 tonnes eCO<sub>2</sub> from 2003 levels or 7,600 tonnes from forecasted 2010 levels.

### ***Community Reduction***

A six per cent reduction below the 1994 baseline would mean the community target would be approximately 1.3 million tonnes of eCO<sub>2</sub>. This would require a reduction of approximately 600,000 tonnes of eCO<sub>2</sub> from 2003 levels or 1.3 million tonnes from forecasted 2010 levels.

Based on information provided by the Federation of Canadian Municipalities, it appears that many participating municipalities are endorsing the recommended targets without a full analysis of how they will achieve the targets. Staff is aware of two exceptions. The City of Calgary has set their corporate reduction target at six per cent, which is in line with Canada's commitment to reduce emissions under the Kyoto protocol. The City of Mississauga is the other municipality where a decision was made to proceed directly to Milestone 3 and complete a detailed action plan with financial implications of actions before adopting reduction targets. Mississauga council recently adopted an objective *to decrease per capita corporate emissions by 12% from 1998 levels by 2010*.

FCM staff have advised that the PCP recommended targets are meant to be flexible and, therefore, are just guidelines. Staff do not have the information available at this time that would indicate whether a 20% reduction target is achievable and economically feasible for the City of Burlington. It is suggested that the reduction targets be revisited upon the completion of the corporate and community action plans, similar to the City of Mississauga's process.

## **Milestone 3 – Developing Corporate and Community Action Plans**

The focus of Milestone 3 is on the development of corporate and community action plans to reduce greenhouse gas emissions through energy management actions related to city facilities, street lighting, traffic signals and fleet. The city will receive credit for actions implemented since 1994, such as LED traffic signals, lighting retrofits and utilization of cleaner fuels. The plan will build on these initiatives.

Similar to the approach of the city's environmental management plan, staff are recommending that the first priority is to develop a corporate action plan to reduce emissions. This will enable the city to show leadership within the community. It is proposed that the plan be developed by the Environmental Management Team in consultation with the Energy Management Team and any other appropriate staff, and in partnership with the Sustainable Development Committee. It is anticipated that some assistance will be required by an energy consultant to review the work plan and complete an analysis of proposed reduction measures to determine greenhouse gas emission quantity reductions and financial implications.

Once the corporate action plan is completed and endorsed by council, the EMT proposes to work with the Sustainable Development Committee to develop a community consultation process to complete the community action plan. Again, this plan would build on initiatives already in place, such as the anti-idling program, the Residential Energy Efficiency Project, the annual Commuter Challenge, transit programs (eg. free transit on Clean Air Day), and the federal government's One Tonne Challenge.

#### **5.0 FINANCIAL MATTERS:**

The first phase of the development of the corporate action plan, essentially the framework, will be completed within the approved 2005 current operating budget for the Environment Section. The second phase of the action plan will entail the completion of a business plan for the implementation of the action plan. An analysis by a consultant will be required and is estimated to cost \$15,000. Staff will apply to the Federation of Canadian Municipalities Green Municipal Fund to fund part of the cost. If necessary, a proposal will be made as part of the 2006 current operating budget to offset the funding to develop the business plan.

Staff note that proposed actions within the plan may require additional funding in future years although it is anticipated that the energy funding provisions recently approved in the capital budget should assist the corporation to meet future targets. Staff will also monitor the federal government's Climate Change Plan to determine whether additional funding will become available for project implementation.

#### **6.0 ENVIRONMENTAL MATTERS:**

Given that the origin of greenhouse gas emissions and air pollutants are often similar, the city's commitment to reduce emissions will result in the co-benefit of improving air quality.

#### **7.0 COMMUNICATION MATTERS:**

Environment staff will work closely with Corporate Communications to raise staff awareness of the corporate action plan to reduce greenhouse gas emissions once approved by council.

#### **8.0 CONCLUSION:**

Staff will report back in mid-2006 with a completed corporate action plan to reduce greenhouse gas emissions.

Respectfully submitted,

Lynn Robichaud  
Sr. Environmental Co-ordinator

Copy filed: s:\inet\ccs

**Appendices:**

--

**Staff / Others Consulted:**

Name	Telephone
Environmental Management Team Energy Management Team Air Quality Initiatives Team Sustainable Development Committee Management Committee	

**Notifications:**

Name	Mailing or E-mail Address
Sustainable Development Committee Halton Partners for Clean Air	

**Special Instructions:**

Consent Agenda
----------------