



DATE: December 11, 2006

REPORT TO: Hamilton City Council

REPORT FROM: Environment Hamilton

SUBJECT: Short term city response to climate change

Introduction:

More than a decade ago, Vision 2020 committed the City of Hamilton to reducing greenhouse gas emissions by 20% below 1994 levels in its corporate operations and 6% below 1994 levels in the community as a whole. It appears that limited progress has been made in achieving these goals, especially the latter one, although there is no current tracking of Hamilton's emission levels.

Environment Hamilton works to assist citizens in protecting and enhancing the environment around them. Environment Hamilton was identified as an NGO partner in the Corporate Air Quality and Climate Change Strategic Plan report adopted by City Council in August 2006.¹ Consequently, we would like to assist the City to take immediate steps to address climate change.

As a partner, we are submitting the following recommendations for practical cost-effective measures that we recommend be taken to help address climate change. These recommendations pay attention to the public health implications of air pollutants, and respect the city's commitment to a triple bottom line approach to decision-making.

¹ Pg. 24 http://www.myhamilton.ca/NR/rdonlyres/C43C2AB2-0F88-4076-A49A-92AD9D3429AC/0/FINAL_AQCCStratPlanPhase1.pdf

We suggest the following short-term low-cost measures as an immediate response by the City of Hamilton in early 2007 to the threat of global climate change:

1. Sponsor a 2007 conference in Hamilton on Effective Municipal Actions to Address Climate Change and commission a study of best practices being utilized in other cities.
2. As part of the annual Clean Air Hamilton Report, include an inventory of greenhouse gas emissions in Hamilton by municipal operations and by the community, and updates on programs and measures to reduce these emissions.
3. Adopt the recommendation of Dr Richard Gilbert to commission a detailed study on how Hamilton can reduce our dependence on fossil fuels and respond effectively to the pending shortages of fossil fuels.
4. Establish a timetable, annual targets and an implementation program to achieve the city's Official Plan objective of increasing transit ridership to at least 100 rides per capita by 2020 (currently 47).
5. Provide free public transit on all smog days.
6. Support the establishment of high occupancy vehicle lanes within the City of Hamilton, and initiate steps to implement these by 2010 on at least two major east-west corridors (such as Main-King, Mohawk).
7. Approve and enforce an anti-idling bylaw and adopt a bylaw banning or restricting the use of gasoline-powered leaf blowers and weed whackers within the city of Hamilton.
8. Impose a moratorium on all new commercial drive-thru operations, and establish a timetable to phase out existing commercial drive-thru operations.
9. Establish a timetable and annual targets to double Hamilton's urban tree canopy by 2025.
10. Establish an after-hours lights-out program for all city facilities and offices and encourage private businesses to do the same.

Background information on the recommendations

1. Sponsor a 2007 conference in Hamilton on Effective Municipal Actions to Address Climate Change and commission a study of best practices being utilized in other cities.

While much of the responsibility for addressing climate change rests with senior levels of government, municipalities around the world have already adopted numerous practical measures to reduce the emissions of greenhouse gases and other air pollutants, and to mitigate the adverse effects of global climate change and urban heat island effects.

The City of Hamilton through Clean Air Hamilton has already taken positive steps in this direction by funding the biennial Upwind Downwind Conference. The urgency of addressing climate change is borne out by numerous scientific reports of major impacts that are already occurring as a result of global climate change, and was recently underlined by the report to the British government by Sir Nicholas Stern, former chief economist of the World Bank.

2. As part of the annual Clean Air Hamilton Report, include an inventory of greenhouse gas emissions in Hamilton by municipal operations and by citizens, and a report on programs and measures to reduce these emissions.

Formed in 1998, Clean Air Hamilton works to improve air quality in Hamilton through research, policy development, behavioural change and emission reductions.

At present, the Clean Air program measures particulate matter (PM10), sulfur dioxide (SO₂), Nitrous Oxide (NO₂), and Carbon Monoxide (CO). This inventory does not include two major greenhouse gases - carbon dioxide (CO₂) and methane (CH₄).

The city also has a decade-old commitment to reduce greenhouse gas emissions from municipal operations by 20 percent, but information is not available on the current emissions of greenhouse gases, making the commitment impossible to monitor and evaluate.

An annual report of Hamilton's actual greenhouse gas emissions will help us evaluate progress in our city in addressing climate change. We recommend that the city provide the necessary funding and assistance to permit Clean Air Hamilton to track greenhouse gas emissions and to

monitor the implementation of municipal and other programs to reduce these emissions.

3. Adopt the recommendation of Dr Richard Gilbert to commission a detailed study on how Hamilton can reduce our dependence on fossil fuels and respond effectively to the pending shortages of fossil fuels.

Dr Richard Gilbert was commissioned by the City last year to prepare a report on "Peak Oil" and its implications for Hamilton. The report was submitted earlier this year and presented to city councillors on April 28. Dr Gilbert concluded that the costs of fossil fuels will likely rise four fold in the next twelve years and recommended that the City make energy reduction "the organizing principle of the City's strategic planning". In his presentation to council, Dr Gilbert further recommended that the city immediately commission a fuller report to supplement his initial findings.

Improvements in energy efficiency and reductions in energy use necessarily include reductions in greenhouse gas emissions, and direct financial benefits to both the municipality and the residents of Hamilton. In commissioning and receiving Dr Gilbert's report, the city put itself in the position to be a national leader. An immediate followup report will permit council to make better choices about the most effective actions the city can take.

4. Establish a timetable, annual targets and an implementation program to achieve the Official Plan objective of increasing transit ridership to at least 100 rides per capita by 2020 (currently 47).

The official plan adopted in 1994 by the former regional council and currently in force over the new City of Hamilton commits us to plan and operate the urban transit system to achieve the goal of 100 trips per person per year on public transit.²

Despite the commitment to this goal, ridership levels have made little progress over the last 12 years and the current ridership per capita sits at approximately 47 rides per capita per year. We are nearly half way to 2020 (from 1994). If we are to achieve the Official Plan goal, we need to take immediate steps to achieve significant progress towards the 100 rides per capita objective.

² Pg. 3 <http://www.vision2020.hamilton.ca/NewVision2020pdf/Indicators2004/Changing-Transportation04.pdf>

We recommend the immediate establishment of targets for ridership for each year between now and 2020. We will need to achieve an increase of slightly more than 4 rides per capita in each of the next 13 years. An annual target will allow city council and the residents of Hamilton to measure progress each year towards the 2020 goal.

Large urban transit systems in Canada are currently achieving 3-5% annual increases in ridership, and both senior levels of government have committed significant funding to municipalities for improvements to public transit. In addition, a phase out of area rating transit taxation policies in conjunction with improved services to the former suburban municipalities offers the potential of substantial financial contributions to the HSR.

HSR has pioneered innovative steps to increase transit usage, including reduced transit passes for students at McMaster, Redeemer and Columbian College, and the offer to extend these types of savings to major employers in Hamilton. McMaster University is implementing measures to increase GO Transit service, restrict parking availability, increase bike racks and doubling the number of carpool parking permits. The university has seen increases in GO ridership in excess of 200% in each of the last two years.

Boulder, Colorado had great success incorporating the larger community into a commuter transit pass promoting and increasing ridership with its Neighborhood Eco Pass (NECO Pass)³.

5. Provide free public transit on all smog advisory days.

The Ontario government monitors and issues public advisories on high levels of air pollution that are likely to cause significant health impacts, and encourages residents to “spare the air” and utilize other means of transportation than single-occupancy vehicle travel.

Clean Air Hamilton recommended in 1999 that the city provide free public transit on smog days. A Corporate Smog Response Plan presented to the council in April 2000 calculated that the daily cost of providing free transit service ranged from \$13,000 to \$31,000.

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http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=4293&Itemid=320

The average number of smog days in Hamilton per year since 1995 is 23, with the highest level being reached in 2005 when there were 53 smog days. In 2006 there have been 17 smog days.

The City could apply for in-kind funding to Environment Canada as Windsor did in 2003 when it implemented free public transit on smog advisory days. The city paid a total of \$30,000 per day with assistance from Environment Canada. The campaign was a success with up to 50% increase in ridership on free transit days.⁴

The provision of free public transit on smog days and the active encouragement of residents to utilize the transit system to spare the air would likely lead to increased ridership as residents experience the benefits of public transit, and result in increased transit revenues.

6. Support the establishment of high occupancy vehicle lanes within the City of Hamilton, and initiate steps to implement these by 2010 on at least two major east-west corridors (such as Main-King, Mohawk).

The success of high occupancy vehicle (HOV) lanes on the 400 series highways serves as an example of what is possible in an urban setting. With the same results in mind – more efficient and reliable travel, fuel conservation and decreased long-term spending – Hamilton could establish HOV lanes to improve the speed of travel across the city and reduce costs of widening existing streets to accommodate traffic flows.

In the US there are at least 22 cities with HOV lanes on the highways surrounding the city or within the inner city traffic infrastructure.⁵ In all cases, congestion, pollution and single-occupancy ridership have decreased.

The one-time budgetary demands of incorporating HOV lanes is negligible when compared to the long-term benefits to public health, air quality, and relatively low maintenance fees which would pay for the HOV lanes many times over.

The implementation of HOV lanes also offers opportunities for the establishment of additional bike lane facilities.

⁴ <http://www.tc.gc.ca/programs/environment/UTSP/freetransitonsmogdays.htm>

⁵ http://www.ndsu.nodak.edu/ndsu/ugpti/MPC_Pubs/html/MPC04-158/pg2.html

HOV Benefits to You

- Save Time: HOV lane users avoid congestion, arriving at their destinations more quickly than those who do not carpool; no more leaving at 6 a.m. to "beat the rush"!
- More Reliable Commute: Avoiding congestion means a quicker and more consistent commute time.
- Save Money: It costs less to ride a bus or to share a ride than to drive alone every day. Regular carpooling could cut fuel costs by 50 per cent.
- Conserve Fuel: Less fuel wasted sitting in traffic.
- Less stress: Many HOV users enjoy a less stressful commute. Letting someone else drive - or taking turns - gives carpoolers a chance to relax on the drive to work.⁶

HOV Benefits to the Community

- Air Quality Benefits: Reduced vehicle emissions and improved air quality.
- Managing Congestion: An HOV lane can handle a lot of growth in demand, whereas once a general traffic lane reaches capacity, it actually moves fewer vehicles due to congestion.
- Better use of Infrastructure: One highway lane can carry 1,500-2,200 vehicles per hour. A lane full of buses and carpools moves many more people than a general traffic lane.
- Increased Productivity: Happier, less stressed, more productive, more reliable workers and students.
- Transit Priority: Buses and transit riders have priority - transit buses can carry the equivalent of up to 57 single occupant cars!⁷

7. Approve and enforce an anti-idling bylaw and adopt a bylaw banning or restricting the use of gasoline-powered leaf blowers and weed whackers within the city of Hamilton.

Fourteen municipalities in southern Ontario now have idling control by-laws, including six in the Greater Toronto Area. At least eight other municipalities – including Markham, Newmarket, Oshawa, the City of North Vancouver, Vancouver, Welland and Whitby – have plans to pass stand-alone by-laws in the near future. At least 12 communities in Ontario and B.C. have anti-idling provisions in other by-laws. Individual citizens and

⁶ <http://www.mto.gov.on.ca/english/traveller/hov/>

⁷ Ibid.

local environmental organizations have encouraged several other municipalities to consider and implement such by-laws.⁸ Montreal incorporated an anti-idling by-law in 1970.⁹

Other Ontario cities and school boards, such as Mississauga have worked together to decrease idling near schools¹⁰. These anti-idling campaigns also required changes in staff behaviour with no additional funding.

The City has laid the groundwork for an anti-idling bylaw by implementing a corporate policy with regard to internal fleets. And it is working with Green Venture on an anti-idling awareness campaign involving driver education and mock anti-idling tickets which is raising driver awareness¹¹.

The obstacle to the implementation of an anti-idling bylaw in Hamilton has been identified as enforcement capacity. The proposed cost for a bylaw officer is estimated at approximately \$55,000¹². The option of using existing staff, such as expanding the duties of parking officers, should be explored.

Given the success of such bylaws in other municipalities, the efforts already made by the City's NGO partners and the City awareness around this issue, adopting an anti-idling bylaw officer and ensuring enforcement is the next step in implementing a successful plan.

Gas-powered leaf blowers and other two-stroke engines are highly inefficient and have been identified as a significant contributing source of fine air particulates¹³. The City of Toronto has restricted the use of this equipment to brief periods in the autumn¹⁴. In 2002, the City of Vancouver and its Parks and Recreation office banned leaf blowers and gas powered sweepers.

⁸ <http://oee.nrcan.gc.ca/communities-government/transportation/municipal-communities/reports/existing-bylaws.cfm?attr=28>

⁹ Ibid.

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http://www.mississauga.ca/portal/residents/idlefree;jsessionid=K0PB5VXV5TUR5TRPH3XCFEWO25W4JVC?paf_gear_id=10200022&itemId=42200027&returnUrl=%2Fportal%2Fresidents%2Fidlefree%3Bjsessionid%3DK0PB5VXV5TUR5TRPH3XCFEWO25W4JVC

¹¹ <http://www.myhamilton.ca/nr/ronlyres/d76bb782-0993-4445-9910-2d7a7235afc7/0/jan17pd05092arevised.pdf>.

¹² <http://www.myhamilton.ca/nr/ronlyres/d76bb782-0993-4445-9910-2d7a7235afc7/0/jan17pd05092arevised.pdf>

¹³ [Determination of PM Emission Rates from Leaf Blowers - www.epa.gov/ttn/chief/conference/ei15/session5/fitz_pres.pdf](http://www.epa.gov/ttn/chief/conference/ei15/session5/fitz_pres.pdf)

¹⁴ <http://www.toronto.ca/legdocs/2006/agendas/committees/plt/plt060306/it016.pdf>

Clean Air Hamilton currently advises against the use of gas-powered lawn mowers¹⁵, and cities such as Toronto have banned the use of gas-powered lawn mowers on smog days¹⁶. Hamilton has a corporate smog response plan that postpones the use of gas-powered lawn mowers on smog days, and recommends a number of other steps to reduce municipal contributions to air pollution at those times.¹⁷

8. Impose a moratorium on all new commercial drive-thru operations, and establish a timetable to phase out existing commercial drive-thru operations.

In 2002, the City of Toronto passed a bylaw requiring that at least 30 meters separate new drive-thrus from residential neighbourhoods¹⁸. The city of Santa Cruz, California, banned the creation of new drive-thrus in 1979¹⁹.

A moratorium on new drive-thrus for Hamilton would require little cost for the City in terms of enforcement. If an anti-idling bylaw were implemented, a moratorium on drive-thrus would be logically launched in tandem. Since most anti-idling bylaws require that idling be limited to three minutes, the first offenders of this by-law would be large and inefficient drive-thrus like many of those in the City at banking institutions and an increasingly large number of fast food outlets.

9. Establish a timetable and annual targets to double Hamilton's urban tree canopy by 2025.

Cities are challenging environments for trees, but a 35% canopy cover is considered a reasonable objective for urban areas. Hamilton's current canopy cover in the urban area is less than half that amount.

Trees absorb carbon dioxide and produce the oxygen essential for human and other animal respiration. Trees also reduce heat island effects, cut home energy consumption, reduce stormwater runoff rates, beautify the urban environment and provide many other valuable services.

¹⁵ <http://www.cleanair.hamilton.ca/smog/smog-advisory.asp>

¹⁶ <http://www.toronto.ca/legdocs/2006/agendas/committees/plt/plt060306/it016.pdf>

¹⁷ <http://www.cleanair.hamilton.ca/downloads/Smog-Response-Plan.pdf>

¹⁸ <http://www.toronto.ca/legdocs/2006/agendas/committees/sc/sc060913/it032.pdf>

¹⁹ Santa Cruz County - Section 13.10.652

This fall, the city of Seattle unveiled a plan to plant 649,000 new trees – one for each of its residents. One mayoralty candidate in Hamilton proposed to plant 150,000 trees a year for the next three years.

In 2004 city council agreed to allocate one percent of the capital budget to the planting of city-owned trees, but a bold program to double the urban canopy should also anticipate major private planting efforts. Supporting policies could include a doubling of the tree planting requirements associated with new developments, minimum canopy coverage standards for parking lots, and making available potted stock at cost to residents.

A major adverse effect expected from climate change is a steep rise in temperatures in urban areas, especially at night. Trees and other greening efforts represent a cost-effective way to mitigate these negative effects.

10. Establish an after-hours lights-out program for all city facilities and offices and encourage private businesses to do the same.

In 2003, the City of Toronto adopted a widespread energy management program which included creating an after-business-hours “lights out” strategy for municipal buildings²⁰.

We recommend that Hamilton’s municipal buildings include this program acting as an exemplar of energy efficiency and an actor in the reduction of greenhouse gas emissions. The City’s energy reduction policy and success could be used to create private and public partnerships for “lights out” programming involving the private sector.

Official “lights out” strategies do not currently exist in great numbers in Canada and the early adoption of such a program would allow for the City of Hamilton to be an innovative force in energy conservation and the reduction of greenhouse gas emissions.

Conclusion

If implemented, this list of immediate actions would put Hamilton on track to be a leading innovator in progressive change for the protection of the environment in relation to climate change.

²⁰ http://www.toronto.ca/ewmo/pdf/energy_management_project_0203.pdf

We need to take immediate action in order to cut greenhouse gas emissions by 20 to 50 Mt (as in the original Federal plan) from municipal operations and community-wide initiatives with investments in environmental infrastructure and sustainable transportation infrastructure.

Adoption and implementation of the proposed list of immediate actions, will quickly reduce emissions in the City and set the stage for more comprehensive actions. It will also provide encouragement to residents and private businesses to make their own contributions to addressing both the causes and the effects of climate change.

More information:

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