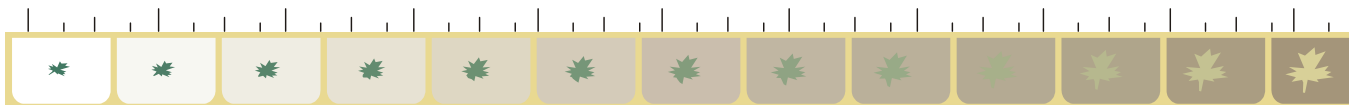


# Air Quality in London: *Moving Forward Locally*



## **A Statement on Direction and City of London 2003 Projects**

**Mayor Anne Marie DeCicco**



**London**  
CANADA

February 2003

# Air Quality in London: *Moving Forward Locally*

London is committed to the health and well-being of its citizens. As such, we are committed to improving our air quality and developing a local program that can be implemented to make a difference.

In order to move forward, a re-focused air quality strategy is outlined that correctly identifies the role for the Corporation of the City of London; fully recognizes and promotes what can be achieved locally by Londoners; and properly identifies the role senior levels of government must play to design programs and initiatives, and provide adequate resources to cost effectively manage existing and emerging air quality matters that impact all Canadians.

To implement the re-focused strategy, it is recommended that:

1. Municipal Council reiterate its commitment to improving air quality in London by acknowledging that air quality is an important concern to Londoners and that all levels of government, businesses and citizens in Canada have a role to play.
2. The Federal Government and the Government of Ontario be relied upon and encouraged to deliver specialist scientific expertise, knowledge, funding programs, innovative technologies and related initiatives for air quality research projects and for overall monitoring of southwestern Ontario's air shed.
3. The Mayor of London reiterates London's support for dealing with air quality initiatives through the Big City Mayor's Caucus dealing with municipal sustainability; through the Federation of Canadian Municipalities (FCM) and its Partners for Climate Protection Program (London is a member); and encourages the University of Western Ontario and Fanshawe College to further pursue the impact of air quality initiatives both locally and globally.
4. The Corporation of the City of London concentrates its efforts on developing local air quality solutions in the full context of all municipal environmental priorities; the ability to pay for the initiatives; and the integrated nature of programs and projects; all under the 'moniker' Air Quality in London: *Moving Forward Locally*.
5. The development and implementation of Corporation projects and solutions be integrated wherever possible with local community initiatives within defined boundaries and expectations and with realistic and affordable budgets.

6. As part of the Environmental Services Department Organizational Review, Municipal Council directs the General Manager of Environmental Services & City Engineer to provide an area within the department which, coordinates; enhances and reports on the City's environmental activities today; fosters environmental awareness and solutions within the community; brings together the City's environmental initiatives such as transportation demand management, stormwater management, recycling, ecological planning, water conservation; and focuses on incremental changes for the future, such as improving air quality in an integrated and cost effective manner.
7. The Sewer Administrative Charge to be increased from \$255,000 to \$300,000 with the additional \$45,000 directed to a funding source for local environmental/air quality initiatives, such as community tree planting and community awareness programs delivered by local groups.

**Recommendation #1: Municipal Council re-iterate its commitment to improving air quality in London by acknowledging that air quality is an important concern to Londoners and that all levels of government, businesses and citizens in Canada have a role to play.**

Air quality, specifically smog and greenhouse gases (GHG), has a direct effect on the quality of life in the City of London. London is situated in an area of southwestern Ontario known to be Canada's smog hot spot. In 2002, air quality advisories related to smog levels were issued on several occasions. Locally, approximately half of the emissions related to smog come from the United States and half from southwestern Ontario. Realistically, the amount of actual control that can be exerted by the Corporation over these emissions is substantially less than this and may be as low as 5%.

Example: Greenhouse gases have begun to change the global climate and are a serious threat to individuals, not only in London but world-wide. However, within the City of London, the Corporation of the City of London has "direct control"<sup>1</sup> over approximately 5% of GHG emissions (e.g. city vehicles, waste disposal, etc.) and may have "indirect control and influence"<sup>2</sup> on a further 30% to 45% of the GHG emissions (e.g. transportation demand management, anti-idling by-law, etc.)<sup>3</sup>.

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<sup>1</sup> "Direct control" refers to emissions that result from the delivery of municipal services (e.g., operating municipal buildings, landfilling garbage, etc). Municipalities can implement and control projects that directly impact the GHG produced from these facilities or by these services. This concept is presented in the Final Report – Municipalities Table Option Paper (Canada's National Climate Change Implementation Process), December 1999, page 18.

<sup>2</sup> "Indirect control and influence" refers to emissions that can be shaped by actions taken by municipalities but requires businesses and residents to change behaviours for the benefits to accrue. A municipality can be one of several catalysts in this area but the recognition of the limitations locally and the creation of misleading expectations must be understood. Ibid, page 18.

<sup>3</sup> Based on the data presented in the Final Report – Municipalities Table Option Paper, pages 2 and 19 and referred to in London Energy/Air emission Reduction Strategy Task Force: Air Emissions and Energy Use in the City of London, March 2000.

The City of London needs a re-focused air quality strategy, which is achievable and uses integrated staff and financial resources on local projects within municipal direct control and on projects that have a high probability of success and can be influenced by the Corporation (see Recommendation #4). It is not advisable for London staff to concentrate on projects in the area of unproven or emerging technologies, commercialization of technologies, etc. as they drain staff resources, have unknown financial implications and should be undertaken by a higher level of government and/or scientific body.

**Recommendation #2: The Federal Government and the Government of Ontario be relied upon and encouraged to deliver specialist scientific expertise, knowledge, funding programs, innovative technologies and related initiatives for air quality research projects and overall monitoring of southwestern Ontario's air shed.**

We all know that there are no boundaries recognized by bad air, smog, or pollution. The transboundary nature of air quality issues requires that senior levels of government must take the leadership role in improving air quality. The Federal Government has responded to this need for a leadership role by ratifying the Kyoto Protocol in December 2002. The Federal Government implementation plan calls for changes throughout society on energy use (e.g. homes being retrofitted to increase efficiency) and people driving more fuel-efficient cars with ethanol-spiked fuel. Oil industry companies will be offered incentives to meet their targets. Funding and research initiatives have been identified with many available right now through the Climate Change Plan for Canada and the CANMET Energy Technology Centre.

The Federation of Canadian Municipalities (FCM) has taken a leadership role through its program called Partners for Climate Protection. The Corporation of the City of London is a member.

Provincial initiatives include new air emissions limits, expansion of the Drive Clean program and a reduction trading system for the electricity sector to cut emissions that cause smog. Details on some of these and other initiatives are provided in Attachment A.

Previous investments by the Corporation into these areas are a sign of duplication and it is possible to utilize our limited resources in a more cost effective manner. A re-focused air quality strategy recognizes that both the Federal and Provincial Governments have key programs, initiatives, policy directions and the required financial instruments to address global and regional matters, emerging technologies and collaborative strategies. And, these levels of government can more cost effectively deliver, encourage and mandate "overview" (e.g. multi-disciplinary, transboundary) air quality initiatives.

Equally important is that new and emerging technologies that will improve air quality be directed to the appropriate levels of government and that the Corporation be in a position to point entrepreneurs, scientists and investors to the appropriate locations and to follow-up where required or beneficial for local government programs. In this regard the Corporation's best role is to steer and not row.

**Recommendation #3: The Mayor of London reiterate London's support for dealing with air quality initiatives through the Big City Mayor's Caucus dealing with municipal sustainability; through the Federation of Canadian Municipalities (FCM) and its Climate Protection Program (London is a member); and encourage the University of Western Ontario and Fanshawe College to further pursue the impact of air quality initiatives both locally and globally.**

Municipal Council has been supportive of identifying and implementing local solutions which improve air quality and encouraging senior levels of government to pursue initiatives that cover broader jurisdictions. Council resolutions date back into the early 1990s.

The Mayor and several Council members are routinely involved with municipal colleagues who are collectively pushing senior levels of government to take action. Discussions continue to take place through the Big City Mayor's Caucus dealing with municipal sustainability and through the Federation of Canadian Municipalities (FCM) and its Climate Protection Program.

Similarly important scientific research work continues to be completed by the University of Western Ontario and Fanshawe College. Municipal Council has been supportive of this work in the past and will continue to encourage these two learning institutions to pursue research projects.

Example: Fanshawe College has undertaken a major air monitoring study of London area smog. This work was supported by grants from the Canadian Foundation for Innovation, the Ontario Innovation Trust and CRESTech (Province of Ontario Centre of Excellence).

**Recommendation #4: The Corporation of the City of London's role be to concentrate on developing local air quality solutions in the full context of all municipal environmental priorities; the ability to pay for the initiatives; and the integrated nature of programs and projects; all under the 'moniker' Air Quality in London: *Moving Forward Locally*.**

Understanding and working within an air quality framework, which includes "direct control", "indirect control and influence" and other jurisdictional responsibilities, is a fundamental component of moving forward to improve air quality. As a first priority, the responsible role for the Corporation is to focus on local initiatives and solutions that are achievable and within the Corporation's "direct control". As a second priority, to strategically select projects and initiatives from the area that is within "indirect control and influence" and has other benefits which will accrue to Londoners.

Local resources, financial and human, are limited and must be used wisely within the air quality framework to avoid duplication, to harness the energies of those already involved and to most importantly recognize the proper boundaries and context that the Corporation must pursue in air quality, among all the important environmental sustainability initiatives (e.g. safe drinking water, reduced garbage generation, etc.).

In addition to what is described under Recommendation #3, work will include monitoring what other municipalities are undertaking through the FCM program in order that the Corporation is aware of and considering emerging best practices.

A re-focused air quality strategy purposefully blends the above noted priorities to deliver a cost effective framework for 2003 and beyond. An appropriate name for these re-focused efforts is **Air Quality - *Moving Forward Locally***. A list of appropriate short-term projects (approved and proposed; see page 6) are multi-divisional within the Environmental Services Department. These projects demonstrate commitment to air quality issues from a local perspective and in a cost-effective manner. Further project details are found in Attachment B.

As a point of information, many of these ideas are also promoted by both Pollution Probe and the David Suzuki Foundation. Copies of key points are attached for review.

**Recommendation #5:** The development and implementation of Corporation projects and solutions be integrated wherever possible with local community initiatives, within defined boundaries and expectations and with realistic and affordable budgets.

Looking outside the Corporation and into the local community is crucial as initiatives at the University of Western Ontario, Fanshawe College and within community groups such as the Thames Region Ecological Association (TREA) must be acknowledged and contribute to the overall re-focused air quality strategy. These initiatives should continue.

Example: TREA, in partnership with the Middlesex London Health Unit, have recently been approved by the Ontario Trillium Foundation (an agency of the Provincial Government) for \$57,800 in funding to deliver a one year outreach program for air quality issues.

**Recommendation #6:** As part of the Environmental Services Department Organizational Review, Municipal Council direct the General Manager of Environmental Services & City Engineer to provide an area within the department that coordinates, enhances and reports on the City's environmental activities today, fosters environmental awareness and solutions within the community; brings together the City's environmental initiatives such as transportation demand management, stormwater management, recycling, ecological planning, water conservation; and focuses on incremental changes for the future such as improving air quality in an integrated and cost effective manner.

On February 3, 2003 Municipal Council approved the establishment of the City of London Environmental Awareness Reporting Network (The CLEAR Network) which will include air quality data, along with other important environmental indicators.

This important step can be further enhanced by creating a specific area within the Environmental Services Department that focuses on the environmental aspects of the Corporation's programs, services and projects. Numerous staff at all levels within the Corporation are dedicated to protecting and enhancing the environment in the City of London. The environmental aspects of this work can be further coordinated, documented, improved, analyzed and future improvements implemented by establishing an area, which harnesses the energies of staff and provides a focused, integrated opportunity for ongoing dialogue with the community.

Potential City programs and initiatives that could either be moved into a specific area or more closely aligned with an "environmental team approach" include transportation demand management, stormwater management, recycling, household special waste management, ecological planning, water conservation, etc. The City's Corporate Renewal Program has laid a foundation for this movement, which ensures greater program and staff integration and resulting efficiencies.

**Recommendation #7:** The Sewer Administrative Charge be increased from \$255,000 to \$300,000 with the additional \$45,000 directed to a funding source for local environmental/air quality initiatives such as community tree planting and community awareness programs delivered by local groups.

Local community projects outside of the Corporation are an important component of the re-focused air quality strategy under the category “indirect control and influence”. As we have moved forward to redefine our air quality program, concerns have been raised that funding needs to be identified to show the City’s true commitment.

As such, an important contribution of \$45,000 towards local community environmental/air quality initiatives would provide funds that can be used as ‘seed’ money to foster activities in the community. These funds would also assist with developing appropriate linkages within the community, which will spread success stories and initiatives and significantly increase the ‘real’ value of this investment. As reported recently to Municipal Council, it would be appropriate to increase the Sewer Administration Charge, which would free up \$45,000 and could be used for this purpose.

## List of Appropriate Short-term City of London Projects - Approved and Proposed (see *Attachment B* for details)

Approved and proposed short-term Corporation projects for 2003 are listed below. Some projects are subject to funding from senior levels of government. Others await final approval from Municipal Council as part of the 2003 Budget process. The initiatives are grouped under “direct control” and “indirect control and influence” with all projects falling under the responsibility of the General Manager of Environmental Services and City Engineer.

Projects	Goal	Budget	Approved/ Proposed
<b>“Direct Control” of Emissions</b>			
Conversion of existing incandescent traffic signal lamps to light emitting diode (LED) displays	Reduce energy consumption	\$135,000 per year for 3 years (approved in 2002)	Proposed in 2003 Budget
Demonstration Project: W12A Landfill Gas Recovery and Purchase by Federal Government	Reduce greenhouse gas (GHG) emissions (2003 – 2007)	\$300,000 (City) \$900,000 (Federal)	Proposed in 2003 Budget
Feasibility Study: Landfill Bioreactor	Reduce GHG emissions and shortened stabilization period for the W12A Landfill Site	\$25,000 (City) \$25,000 (FCM)	Approved Proposed
W12A Landfill Leachate Forcemain Part A – Assessment Part B – Construction (potential)	Improve management of leachate and reduce vehicle emissions	\$30,000 (Part A)	Approved
Third Party Financed Energy Management Services for City Facilities (1998-2009)	Reduce energy consumption	\$0 – projected annual savings of \$194,000 has been included in the 2003 Budget	
Demonstration Project: Implementation of an Integrated Building Automated Control System in Four (4) City Facilities	Reduce maintenance costs and monitor/reduce energy consumption	\$60,000	Proposed in 2003 Budget
<b>“Indirect Control and Influence” of Emissions</b>			
Enhanced Community Tree Planting Program	Establish more atmospheric cleansing vegetation	\$15,000 - \$25,000	Proposed
Identifying Achievements in City of London Air Quality Projects	Increase public awareness	\$0	Approved
Raising Air Quality Awareness Through the CLEAR Network	Increase public awareness	\$1,000	Proposed in 2003 Budget
Computerized Traffic Signal Control Enhancements  (Note: this project may receive funding support from the Urban Transportation Showcase Program (UTSP))	Reduce overall travel times; thereby reduce vehicle emissions; Reduce travel times for public transit which will reduce use of single occupant vehicles	\$1,500,000 \$2,000,000  to be determined (UTSP)	Approved Proposed in 2003 Budget
Air Advisory Day – Free Transit Business Case	Reduce vehicle emissions on “bad air” days by reducing single occupant vehicle use	\$0	Approved
Expansion of the Pilot TDM program into the business community	Reduce reliance on single occupant vehicles and thereby reduce vehicle emissions	\$60,000	Approved

# **ATTACHMENT A**

## **Major Government Organizations Involved in Improving Air Quality**

### **CANMET Energy Technology Centre / Natural Resources Canada**

The CANMET Energy Technology Centre (CETC) is one of Canada's premier organizations in the field of energy, science and technology. As a key research arm of Natural Resources Canada (NRCan) and as part of NRCan's Energy Sector, CETC works with private and other public sector partners to develop and deploy leading-edge energy products and processes for virtually all sectors of the Canadian economy. CETC has world-class laboratory facilities and employs some 180 people.

CETC's Ottawa location develops a wide range of environmental energy technologies, including:

- renewable energy, including solar, wind, small hydro and bioenergy;
- energy-efficient technologies for industry, communities and buildings;
- alternative transportation fuels, including natural gas, propane, ethanol, methanol, hydrogen and electric and hybrid vehicles;
- district heating and cooling and integrated energy systems;
- advanced low-emission combustion technologies;
- processing and environmental catalysis for fuels production and hydrocarbon conversion; and
- energy-efficient metallurgical fuel products and technologies.

CETC offers to its clients and partners flexible business arrangements, including fee-for-service, cost-sharing and under certain circumstances, financial assistance. As a governmental organization, CETC's objectives are to secure environmental, economic and social benefits while fostering the wise use of conventional energy and the increased use of renewable energy and alternative fuels. As a contractor to its clients and partners, CETC's goal is to help them meet their own business objectives.

Source: as printed on the CANMET Energy Technology website:  
[http://www.nrcan.gc.ca/es/etb/cetc/cetc01/htmldocs/about\\_us\\_e.html](http://www.nrcan.gc.ca/es/etb/cetc/cetc01/htmldocs/about_us_e.html)

### **Government of Canada - Climate Change Plan for Canada**

The Government of Canada released the Climate Change Plan for Canada on November 21, 2002. This Plan is the result of intensive consultation with the provinces and territories, as well as with stakeholders and individual Canadians and reflects the Government of Canada's commitment to action on climate change while ensuring our economic competitiveness and growth.

The Plan provides a clear framework for the way forward while allowing for continuous adjustment as we assess our progress. Participating in the global effort to address climate change will require a national effort, one that summons the best from our citizens, entrepreneurs, scientists, communities, and governments. With commitment and resolve we can create the healthy environment and dynamic economy we want for ourselves and for future generations of Canadians. The Government of Canada is committed to continuing to collaborate with its partners as we move forward.

#### **Climate Change Plan for Canada - Executive Summary - Introduction**

Addressing climate change presents Canada with both an important challenge and an exciting opportunity. Meeting this challenge and seizing this opportunity will require nothing less than a national effort – one that engages every Canadian and includes every region.

That process is well begun. From Iqaluit to St. John's to Tofino, Canadian households are already involved in protecting the environment: recycling, reducing and reusing. We now need to take the next step by improving the energy efficiency of our homes and making more informed choices when deciding what products and vehicles to buy.

Canadian companies are also at the forefront, developing new fuels and new technologies and cutting their greenhouse gas emissions while improving their bottom lines.

Provincial and territorial governments are moving to develop comprehensive strategies to help address climate change. They are implementing a range of measures to promote energy efficiency while investing in sources of renewable energy. Canada's cities are encouraging alternative forms of transportation, using renewable energy and retrofitting buildings.

This Plan builds on those efforts and sets out ways that will stimulate further action. In doing so, it charts a way to meet our international obligations, enhance our competitiveness and improve the quality of life for all Canadians.

Source: as printed on the Government of Canada website:  
[http://www.climatechange.gc.ca/plan\\_for\\_canada/index.html](http://www.climatechange.gc.ca/plan_for_canada/index.html)

## **Federation of Canadian Municipalities (FCM) - Partners for Climate Protection (PCP)**

[The Federation of Canadian Municipalities (FCM) has been the national voice of municipal government since 1901. FCM is dedicated to improving the quality of life in all communities by promoting strong, effective and accountable municipal government.]

### **Who we are**

Partners for Climate Protection (PCP) is a national program that brings Canadian municipal governments together to reduce the local production of greenhouse gas emissions and improve quality of life. Currently, over 100 municipal governments belong to PCP, and participation is growing monthly. This partnership goes beyond Canada. As PCP members, Canadian municipalities belong to a large international network of local governments taking steps to combat climate change.

### **What we do**

The PCP program helps Canadian municipalities prepare and implement local climate action plans. In doing so, PCP directly supports community sustainable development across Canada. PCP members follow a five milestone process for achieving tangible reductions in local greenhouse gas emissions. Along the way, PCP provides:

- **services:** advocacy tools, training and workshops, research, networking, recognition, and more
- **tools and resources:** software, model documents, information, case studies, and more

### **Why we are doing it**

When municipalities reduce greenhouse gases they can also save money, cut local air pollution that leads to smog, acid rain and health problems, create jobs and stimulate community economic development. They also contribute to Canada's international commitment to reduce greenhouse gas emissions globally.

### **How we are organized**

PCP is a partnership between the Federation of Canadian Municipalities (FCM) and the International Council for Local Environmental Initiatives (ICLEI) - the international environmental agency for local governments. FCM is the lead partner on policy development, government relations and funding in

Canada and the ICLEI provides technical support. PCP receives funding from Environment Canada, the Climate Change Action Fund, Natural Resources Canada and Health Canada.

Source: as printed on the Federation of Canadian Municipalities website:  
[http://www.fcm.ca/scep/support/PCP/pcp\\_index.htm](http://www.fcm.ca/scep/support/PCP/pcp_index.htm)

## **Ontario Ministry of the Environment (MOE)**

The ministry fosters partnerships with industry, municipalities and others to reduce pollutants and waste, improve energy efficiency and conserve water. As well, the ministry recognizes that everyone benefits from more efficient use and conservation of available resources and that widespread use of new environmental technologies can contribute to a more efficient infrastructure and a strong, sustainable economy.

### **Annual Report on Key Achievements for 2001-2002 - Protecting Air Quality**

The government's comprehensive strategy to combat air pollution province-wide accelerated into high gear. The government implemented tough new air emissions limits and a reduction trading system for the electricity sector to cut emissions that cause smog and acid rain. The decision to require the Lakeview Generating Station to stop burning coal by April 2005 will prevent thousands of tonnes of smog and acid-rain causing pollutants from entering Ontario's air, and significantly cut mercury as well as greenhouse gas emissions which can contribute to global warming.

To ensure the environment is protected in Ontario's competitive electricity market environmental assessment requirements for new electricity projects now apply equally to public and private sector projects.

Emitters in all sectors are now required to monitor and report annually on 358 air contaminants. Ontario is one of the first jurisdictions in North America to require monitoring and public reporting on a full suite of key greenhouse gases linked to climate change. The new on-line emissions reporting registry -- *OnAIR* -- makes polluters more accountable to their neighbours and the broader public by providing regular information about emissions being put into the air.

Drive Clean's success in helping to clean the air we breathe continued. Since 1999, smog-causing emissions from vehicles in the Greater Toronto Area and Hamilton were reduced by 15.2 per cent and carbon monoxide emissions were reduced by 19.8 per cent by the end of 2001.

### **Key Commitments and Strategies for 2002-2003 – Cleaner Air**

As part of the government's clean air plan for the province, the ministry aims to implement stringent limits for smog and acid-rain causing emissions from all major industrial emitters in addition to the electricity sector. Proposals are in place for province-wide targets for emissions of nitrogen oxides (NOx) and sulphur dioxide (SO<sub>2</sub>) to be accelerated from 2015 to 2010.

Thirty large industrial facilities will be required to assess the combined impact of air emissions from all on-site pollution sources. In addition, 315 air emission sources will be inspected. Drive Clean, Ontario's vehicle emissions testing program, expanded on July 1, 2002 to cover the entire southern Ontario smog zone. The Smog Patrol that complements this program will be strengthened to help inspect more polluting vehicles and enforce Ontario's vehicle emissions requirements.

The ministry is taking steps to improve its smog notification system by adding fine particulate matter (PM<sub>2.5</sub>) to its Air Quality Index to give the public better information to protect their health.

Source: as printed on the Ministry of the Environment website:  
<http://www.ene.gov.on.ca/envision/bp/2002-2003.htm>

## **ATTACHMENT B**

### **Appropriate Short-term Corporation of the City of London Projects – Approved and Proposed**

#### **Part A - Projects Classified as “Direct Control” of Emissions by the Corporation**

“Direct control” refers to emissions that result from the delivery of municipal services (e.g., operating municipal buildings, landfilling garbage, etc). Municipalities can implement and control projects that directly impact the GHG produced from these facilities or by these services. This concept is presented in the Final Report – Municipalities Table Option Paper (Canada’s National Climate Change Implementation Process), December 1999, page 18.

#### **Conversion of existing incandescent traffic signal lamps to light emitting diode (LED) displays**

**Status:** Proposed

**Goal:** Reduce amount of energy consumed by the City’s traffic signals

**Lead Organization:** Transportation Division

**Year:** 2002 to 2004

**Funding:** \$135,000 per year (approved in 2002, proposed in 2003 Budget and 5 year Capital Budget)

Council approved a program to replace traffic signal heads which were installed prior to 1970 due to their high maintenance costs. This proposal involves the replacement of the incandescent components with light emitting diode (LED) displays. The higher cost of the LED equipment is offset by the 80 – 90% reduction in electricity consumption. This project will improve air quality in a broader sense by reducing the need for electricity produced by coal burning generators.

#### **Demonstration Project: W12A Landfill Gas Recovery and Purchase by Federal Government**

**Status:** Proposed

**Goal:** Reduction of greenhouse gases emitted from the W12A Landfill Site (closed portion)

**Lead Organization:** Public Service & Solid Waste Management

**Year:** 2003 - 2007

**Funding:** City : \$300,000 (funds proposed in 2003 Budget)  
Federal : \$900,000 (pending) from the Pilot Emission Removals, Reductions and Learnings (PERRL) Initiative (Chances of success – 50%)

Landfill gas is one of the major man-made sources of methane emissions and is 24.5 times more potent, by weight, than carbon dioxide which is the other key greenhouse gases (GHG). This demonstration project consists of the capture and destruction of approximately 70,000 tonnes CO<sub>2</sub>e of GHG from the W12A landfill annually. This reduction is equivalent to the elimination of 19,000 cars from City streets. The GHG would be recovered from the existing fill area using gas extraction wells and destroyed in an enclosed flare.

## Feasibility Study: Landfill Bioreactor

**Status:** Work to be undertaken as a component of W12A Landfill Optimization Project

**Goal:** Reduction of greenhouse gases and shortened stabilization period for the W12A Landfill Site (remaining areas to be filled)

**Lead Organization:** Public Service & Solid Waste Management

**Year:** 2003

**Funding:** City : \$25,000 (funding approved)  
FCM : \$25,000 (proposed)

A bioreactor landfill is a landfill that uses enhanced microbiological processes to stabilize the waste in a relatively short period of time (5 to 10 years). This is accomplished by adding liquids and/or air in order to provide optimal conditions for the breakdown of the waste. Anaerobic bioreactor landfills (no air added) produce more landfill gas than conventional landfills but for a shorter period of time. This increases the economical viability of landfill gas capture and power generating power which would reduce GHG. Aerobic bioreactor landfills (air added) do not produce methane gas (GHG). The feasibility study will look at the viability of developing the remainder of the W12A Landfill as a bioreactor landfill.

## W12A Landfill Leachate Forcemain

**Status:** Work to be undertaken as a component of W12A Landfill Optimization Project

**Goal:** Improved Management of Leachate and Reduced Vehicle Emissions

**Lead Organization:** Public Service & Solid Waste Management

**Year:** Part A - 2003; Part B – 2004 to 2005

**Funding:** Part A - \$30,000 (funding approved); Part B - \$3,775,000 (funds proposed in 5 year Capital Budget)

Part A - Complete assessment of long-term solutions for leachate management. Leachate is currently hauled by tanker truck. Initial data suggests that a forcemain to convey leachate from the W12A Landfill to the City's sanitary sewers is the preferred solution. This would eliminate over 4,000 one-way truck trips per year to the landfill.

Part B - [Assuming the above is confirmed] This project consists of installing approximately 8 kilometres of forcemains and gravity sewers to convey leachate from the W12A Landfill to the City's sanitary sewers as well as construction of a pumping station.

## Third Party Financed Energy Management Services for City Facilities

**Status:** Construction complete November 2001

**Goal:** Reduce energy consumption in city owned facilities thereby reducing greenhouse gas emissions

**Lead Organization:** Facilities Planning & Engineering

**Year:** 1998 - 2009

**Funding:** Zero – projected annual savings \$194,000

The City entered into a "Guaranteed Energy Services Agreement" on December 11, 1998, with Rose Technology Group (now Vestar), whereby the energy savings generated would cover the costs associated with the implementation of energy measures. There was no capital outlay by the city. The guarantee period/repayment plan is for 96 months commencing December 1, 2001.

By incorporation of the energy efficient measures the project was designed to:

- Save energy and operating costs over the long term
- Improve buildings by replacing outdated inefficient equipment
- Improve the environment through reduced greenhouse gas emissions

Thirty one buildings met the savings criteria noted above and were included in the project: City Hall, Centennial Hall, Fire Stations (9), Arenas (10), Garages – Operations Centres (4), and Community & Senior Centres (6).

Year one of the guarantee period is now complete and civic administration along with Vestar are in the process of reviewing energy consumption jointly to prove success. If there is a proven shortfall Vestar is contractually responsible to cover the difference throughout the 96 month guarantee period.

## **Demonstration Project: Implementation of an Integrated Building Automated Control System in Four (4) City Facilities**

**Status:** Request for Quotation (RFQ) proposed for spring 2003

**Goal:** Reduce maintenance costs and monitor/reduce energy consumption

**Lead Organization:** Facilities Maintenance

**Year:** 2003 (and beyond)

**Funding:** \$60,000 (funds proposed in 2003 Budget)

The proposed system would allow for the installation of a “non-proprietary” building automated monitoring and control system.

Implementation of a centralized system will enable the facility maintenance division to remotely and automatically collect data of mechanical system performance, collect data of energy use, and respond remotely to system faults.

The data collected will be used as a basis for predictive and preventative maintenance of building mechanical systems which we anticipate will reduce system failures and building “out of service” time. A secondary outcome may be to reduce energy consumption through predictive replacement of worn - high electrical drawing components before total system failure.

At the end of the one year pilot project an analysis of the previous years building failure rates, emergency mechanical maintenance cost and energy cost for these targeted building will be compared. The assessment will be used to determine which other city facilities could be incorporated into the automated monitoring and control system as a function of the overall system.

## Part B - Projects Classified as “Indirect Control and Influence” of Emissions by the Corporation

“Indirect control and influence” refers to emissions that can be shaped by actions taken by municipalities but requires businesses and residents to change behaviours for the benefits to accrue. A municipality can be one of several catalysts in this area but the recognition of the limitations locally and the creation of misleading expectations must be understood. This concept is presented in the Final Report – Municipalities Table Option Paper (Canada’s National Climate Change Implementation Process), December 1999, page 18.

### Enhanced Community Volunteer Tree Planting

**Status:** Proposed

**Goal:** To establish more atmospheric cleansing vegetation

**Lead Organization:** Solid Waste & Public Service

**Year:** 2003

**Funding:** \$15,000 - \$25,000 (proposed as part of a new funding source for environmental/air quality initiatives)

Community volunteers have traditionally demonstrated a strong interest in tree planting. This project proposes partnering and facilitating a tree planting program in 2003. Details are yet to be finalized but could involve City purchase of seedlings, City co-ordination, and community volunteer planting.

### Identifying Achievements in City of London Air Quality Projects (i.e., inventory of City actions and next steps)

**Status:** Work to be included in the recently approved CLEAR Network

**Goal:** Increase public awareness

**Lead Organization:** The CLEAR Network

**Year:** 2003

**Funding:** none required

Ensure that air quality is a top priority for the design and implementation of the City of London Environmental Awareness Reporting (CLEAR) Network. Publish the achievements of air quality based projects and initiatives (e.g., City building retrofits, TDM work, W12A Landfill Gas Recovery results). “Let success breed success.”

### Raising Air Quality Awareness Through the CLEAR Network

**Status:** Proposed

**Goal:** Increase public awareness

**Lead Organization:** The CLEAR Network

**Year:** 2003

**Funding:** \$1,000 (funds proposed in 2003 Budget)

What can you do locally. .as a City, as a business, as a citizen. Use the CLEAR Network to advertise opportunities. . every little bit counts. Strategies that can be adopted include:

- Clean fuel usage
- Cleaner cleaning products
- Energy efficient lighting
- Energy efficient buildings
- Environmentally preferable purchasing
- Lawnmower incentive programs
- Low-impact paving
- Low-VOC building materials
- Low-VOC paint
- Natural landscaping
- Tree planting
- Workplace and community transportation options

## Computerized Traffic Signal Control Enhancements

**Status:** Approved (2002) and Proposed

**Goal One:** To improve overall travel times resulting in reduced vehicle emissions

**Goal Two:** To improve transit travel times by improving transit's ability to compete as a preferred travel mode resulting in reducing vehicle emissions by reducing our reliance on single occupant vehicles (SOVs).

**Lead Organization:** Transportation Division

**Year:** 2003+

**Funding:** City : \$1.5 million (approved) and \$2.0 million (proposed in 2003 budget)  
 UTSP : to be determined (note: this project may qualify under the City's Urban Transportation Showcase Program)

Goal One - Council approved the installation of a new Computerized Distributed Traffic Control System to replace the existing 19 year old system. An enhancement to this new system is the development of an active or responsive traffic control system which will continuously and automatically adjust time traffic signal timings based on the flow of the traffic. The implementation of this technology is best suited along congested corridors or in areas that experience greatly fluctuating traffic patterns. Reducing travel times correspondingly reduces vehicle emissions.

Goal Two - The use of transit as the preferred mode of travel by Londoners has remained relatively constant over the last few years. In order to increase the desirability of this mode of travel over the single occupant vehicle (SOV), improvements are required. One of the proposed improvements is the installation of a transit priority traffic signal system which will allow transit to depart from a traffic signal in advance of the remaining traffic. This "queue jumping" will shorten transit's travel time thereby giving it an advantage over the automobile. Reducing transit's travel time will encourage people to switch travel modes and decrease vehicle emissions by decreasing the number of SOVs.

## Air Advisory Day – Free Transit Business Case

**Status:** Approved (work to be undertaken in-house)

**Goal:** To reduce vehicle emissions on "bad air" days by reducing single occupant vehicle use

**Lead Organization:** London Transit Commission

**Year:** 2003

**Funding:** None required

A number of American cities provide free transit service on 'bad air days', when air advisory notices are made. The goal is to entice drivers from their automobiles onto free, more energy efficient transit services. The LTC is undertaking a business case to identify:

- the extent that such a program might take within the City of London,
- how it might be operated,

- service impacts,
- cost implications,
- revenue implications, and
- overall return on investment.

The business case assessment will be linked with the promotion of Clean Air Day and Commuter Challenge 2003.

## Expansion of the Pilot TDM program into the business community

**Status:** Proposed

**Goal:** To reduce commuter travel time, vehicle emissions, roadway accidents and road widenings by reducing the number of SOVs.

**Lead Organization:** Transportation Division

**Year:** 2003+

**Funding:** City : \$60,000 (approved)  
UTSP : to be determined (note: this project may qualify under the City's Urban Transportation Showcase Program)

Municipal Council approved the expansion of the Pilot TDM program to bring on board the local business community. One aspect of the City's Urban Transportation Showcase Program (UTSP) submission will be the expansion of this initiative to include more businesses. The purpose of the program is to assist local businesses in implementing their own unique TDM program to address their particular needs (ie: parking restrictions, employee requests). By expanding the Pilot TDM program the City has the opportunity to try other TDM measures and gauge their success and acceptance. A successful TDM program will reduce traffic congestion thereby reducing travel time, vehicle emission, roadway accidents and road widening.

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