

Halifax Regional Council
January 21, 2003

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY: Brian T. Smith
Brian T. Smith, Acting Director of Environmental Management Services

DATE: January 15, 2003

SUBJECT: Greenhouse Gas (GHG) Emissions and the Kyoto Accord

INFORMATION REPORT

ORIGIN

Discussion by Councillor Goucher and others at the December 17, 2002 Council Meeting about the issue of Greenhouse Gas Emissions (GHG's), following the announcement that the Federal Government had ratified the Kyoto Accord. After raising questions about the role of the Federation of Canadian Municipalities, other municipalities, and HRM relative to the future plans to reduce GHG's, it was agreed to ask for a staff report.

BACKGROUND

The issue of GHG reductions is not a new one to municipal governments, individually or collectively through the Federation of Canadian Municipalities. Attachment # 1 is an excerpt from a 2002 policy statement by FCM. Attachment # 2 is an excerpt from the Federal Climate Change Plan for Canada which identifies a municipal role in meeting the GHG reduction targets of the Kyoto Accord. This excerpt also recognizes the leadership already demonstrated by Halifax and other municipalities in reducing our environmental impacts. The Canada Plan envisions a 10 MT reduction in GHG emissions from community level action over the next ten years.

HRM has recently established a Corporate Scorecard Theme that supports Vital, Healthy, Sustainable Communities, and GHG reductions would support this theme. Such activities would also compliment Regional Planning programs and provide potential cost savings in energy use over the longer term.

DISCUSSION

Climate change is now well recognized as a reality for all organizations to deal with, including municipal government. The Federation of Canadian Municipalities, in particular, has been very active in developing policies and resources to support municipal governments in responding to this issue. Attachment # 1 provides a summary of that involvement and a policy statement issued in 2002 prior to the decision of the Federal Government to ratify the Kyoto Accord. Mayor Kelly and other members of the Big City Mayors Group, agreed at their meeting in November to participate in a forthcoming National Municipal Conference on Kyoto to discuss how cities can meet Kyoto targets.

Should Council want to issue a challenge to other municipalities to reduce greenhouse gas emissions, it would not be the first to do so and HRM might not yet be in a position to take concrete steps forward. In 1998, HRM did join the FCM 20% Club, committing to reduce its GHG emissions. The program is now called Partners for Climate Protection, and staff did complete Milestone One, a GHG inventory and forecast, with a report to Council in 1998.

The subsequent Milestones, leading to the development and implementation of a GHG reduction plan, have not been completed. This does not mean that progress to reduce GHG emissions has not been made by HRM, but that other priorities have limited the availability of staff and financial resources to relate such progress to an actual PCP plan. HRM programs to divert waste from landfill, to replace older vehicles in the transit and other fleets, and to consolidate, upgrade and dispose of HRM buildings all have a positive impact on our overall GHG emissions.

Council has recently approved a contract for improved capture and elimination of methane gas emissions at the former Highway 101 Landfill, and methane is one of the strongest of GHG's. Besides reducing our direct GHG emissions, HRM is setting the example for the rest of the community, through programs like the Bikeway Plan, enhancement of urban forests, and Sustainable Landscaping. Our staff are also involved in a joint initiative with NS Department of Environment & Labour, Environment Canada, and a group of local environmental consulting companies, to develop policies and methods for climate change adaptation, and to promote local expertise. The initiative, called ClimAdapt, will help develop ways in which climate change issues may be incorporated into municipal planning processes. It may also provide avenues for provision of funding for climate change initiatives, through federal and international funding sources.

Within HRM, our volunteer Environmental Initiatives Group (EIG) has recently been reviewing the work done earlier on the PCP program, and looking at opportunities to move forward with GHG emission reduction programs, with a particular focus on possible new funding opportunities through the FCM Green Fund and others. The EIG can also provide communications and education support to employees and residents interested in reducing their own GHG emissions, through articles in Naturally Green, our HRM web site, and HRM employee newsletter. We can also partner with other groups involved with communication and education. HRM supports the activities of the Eco-Efficiency Centre, located in Burnside, in assisting businesses to reduce their environmental impacts (www.dal.ca/eco-burnside). We also partner with Clean Nova Scotia on a number of environmental education programs, and they have established a Climate Change Centre (www.clean.ns.ca) that has a wealth of information about efforts to reduce GHG's, and predicted climate change impacts for Nova Scotia.

The CAO has recently brought a number of HRM work groups, dealing with issues of sustainable development, together in the new Environmental Management Services business unit. The scope of a concrete plan to reduce GHG's would extend well beyond the EMS unit, and should include Public Works & Transportation, Regional Planning, Real Property Services, Halifax Regional Water Commission, and others. To be effective, a GHG reduction plan for HRM would also have long term impacts on the allocation of operating and capital budgets. Having said this, it is timely to develop such a plan, it should be possible to build this initiative into the 2003-04 Business Plan for the EMS unit, should Council support this. We suggest Council be provided with a further report specifically on the PCP initiative, and a process to develop a concrete GHG reduction strategy. In the meantime, HRM representatives on the Federation of Canadian Municipalities committees dealing with GHG reductions, should be encouraged to provide updates to Council and staff on national municipal responses to the GHG and Kyoto Accord issues.

BUDGET IMPLICATIONS

There may be FCM Green Fund monies available for developing an HRM GHG reduction plan, and it is expected that other funding opportunities will present themselves. However, most of these programs do require a commitment of HRM resources, and this will have to be taken into account in relation to other Council priorities. While the study and development of a plan may be relatively low cost activities, significant reductions in HRM emissions will require the municipality to balance the capital and operating costs of new technologies against the benefits of reduced energy use and emissions.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

HRM could wait for more information to come from the Federal and Provincial governments on expectations for municipal activities relative to Kyoto and GHG reductions before starting work on a GHG reduction plan, but this is not recommended.

ATTACHMENTS

1. FCM Information on Climate Change, PCP and Kyoto
2. Excerpt from the Federal Climate Change Plan for Canada

Additional copies of this report, and information on its status, can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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Attachment # 1

EXERPT FROM FCM 2002 POLICY STATEMENT ON ENVIRONMENTAL ISSUES

ISSUES AND ACTIVITIES

3.2 CLIMATE CHANGE

Everyday activities such as driving cars, heating homes and operating businesses affect the earth's climate and the quality of the air we breathe. The burning of fossil fuels, forestry and agriculture activities release greenhouse gases such as carbon dioxide, methane and nitrous oxide into the atmosphere. Greenhouse gases create an insulating blanket around the planet. Along with clouds and water vapour, they block outgoing radiation and keep the atmosphere warm. This phenomenon is called the "natural greenhouse effect" and keeps the average temperature of the earth's surface at about 15°C. This temperature allows for the presence of life as we know it. Without this natural greenhouse effect, the average temperature on earth would be -18°C and life could not be sustained.

Almost eight billion tonnes (Gt) of greenhouse gases go into the atmosphere each year. In Canada, emissions in 1999 were 699 million tonnes (Mt), a 16.5 per cent increase since 1990. If no serious actions are taken, current forecasts predict that Canada's greenhouse gas emissions could be 30 per cent above 1990 levels by 2010. Global increases in greenhouse gases are predicted to increase global mean temperature between 1.4 and 5.8°C over the next century (Summary for Policy Makers, Intergovernmental Panel on Climate Change, January 2001).

The Intergovernmental Panel on Climate Change's (IPCC) latest scientific assessment reports that "global average surface temperature has increased over the 20th century by about 0.60C and that "in light of new evidence and taking into account the remaining uncertainties, most of the observed warming over the last 50 years is likely to have been due to the increase in greenhouse gas concentrations."

Scientists project:

- changes in flora and fauna;
- increased risks of drought;
- increased fire and insect outbreaks;
- large changes in water resources;
- lower summer soil moisture in Canada's Prairie provinces, and larger flood flows in the northern rivers;
- increased severity and frequency of extreme weather events, including storms and heat waves;
- adverse effects on human health; and
- acceleration of sea-level rise and modification of ocean temperatures and circulation.

(Sea-level rise would increase shore erosion, change coastal ecology, affect wetlands and important fisheries, and necessitate significant costs for coastal protection. Ocean changes will affect fish distribution and migration routes.) To avoid these impacts greenhouse gas emissions will have to be cut globally by at least 50 per cent from current levels.

Canada has 0.4 per cent of the world's population and produces two per cent of all greenhouse gases. Canada is second among industrialized countries in energy CO₂ emissions per capita and sixth in emissions per unit of Gross Domestic Product. The principle of "thinking globally and acting locally" is as applicable to a country as it is to a municipality. The Framework Convention on Climate Change (UNFCCC) signed at the 1992 Earth Summit in Rio commits signatory nations, including Canada, to limiting emissions of greenhouse gases and protecting carbon sinks and reservoirs.

3.2.1 PARTNERS FOR CLIMATE PROTECTION

In 1995, FCM established its 20% Club, with support from Environment Canada. In 1998, the FCM 20% Club merged with the Cities for Climate Protection–Canada program of the International Council for Local Environmental Initiatives (ICLEI) to provide better support to municipal government commitments to reduce greenhouse gas emissions.

The merged program is called "Partners for Climate Protection" (PCP); the call to action is: "For a Better Quality of Life." The PCP program secretariat is located at the FCM Ottawa office. FCM is responsible for policy, serves as the political voice for the program, and is PCP's point of contact with the federal government.

ICLEI provides the technical resources to help PCP achieve its milestones. There are now more than 90 municipal governments participating in the program. In addition, more than 300 municipal governments passed resolutions in 2000 calling for all orders of government to work together to protect the climate.

Partners for Climate Protection communities are encouraged to:

1. profile energy use and emissions for the base year 1994 for municipal operations and the community (or for the year with the best available data); forecast energy use and emissions for the next 10 or 20 years for municipal operations and the community;
2. establish a reduction target (preferred targets are a 20 per cent reduction in greenhouse gas emissions from municipal operations, and a minimum of a six per cent reduction for the community — both within 10 years of joining the program);
3. develop and finalize a local action plan that aims to reduce emissions and energy use in municipal operations and the community (this local action plan will incorporate public awareness and education programs);
4. implement the local action plan; and
5. monitor, verify and report greenhouse gas reductions.

PCP communities are encouraged to use the Green Municipal Funds to secure the resources needed to achieve the milestones. For more information, see FCM's Web site: www.fcm.ca

3.2.2 THE KYOTO PROTOCOL

In December 1997, Canada, along with 180 other nations, agreed to new emission reduction targets for greenhouse gases, which contribute to global warming and climate change.

The Kyoto Protocol was negotiated in December 1997 setting new legally binding emission reduction targets for greenhouse gases that contribute to global warming and climate change.

While countries agreed to different individual reductions, the average reduction for the OECD (Organization for Economic Co-operation and Development) and economies in transition (Russia, Ukraine, Hungary, Rumania, etc) was 5.2 per cent below 1990 levels, to be achieved sometime between 2008 and 2012. Canada committed to a six per cent reduction; the U.S. to seven per cent and the European Union to eight per cent.

The Kyoto Protocol will enter into force once 55 nations, representing 55 per cent of global greenhouse gas emissions, have ratified the protocol.

Governments laid the foundation in 2001 for making decisions regarding ratification with the negotiation of the operating rules for the Kyoto Protocol. Canada succeeded in securing unlimited access to international flexibility mechanisms like joint implementation, the Clean Development Mechanism and international emissions trading, as well as the use of agricultural and forest sinks (see explanation below). Canada can claim about 65 million tonnes of carbon dioxide from Canadian and international forest and agriculture sinks, one-quarter of the reductions it needs to meet the Kyoto target.

With the international rules in place, Canada is now finalizing its domestic analysis taking into account the decision by the United States not to participate in the Kyoto Protocol. Without U.S. participation there will be less demand for international carbon credits lowering the price. While this may be a benefit, it could also mean that fewer reductions take place at home reducing the air quality benefits that usually result from greenhouse gas reductions.

There are also concerns regarding the potential impact on exporting industries if U.S. companies are exempt from greenhouse gas reduction requirements. Canada is working now to finalize a plan that would take into account these concerns. We can, for example, exempt exporting industries from any costs related to greenhouse gas reductions that may put them at a competitive disadvantage. On the other hand, Canada must also ensure that it does not become a dumping group for inefficient industries or fossil-fuel intensive investment that puts us at a competitive disadvantage.

Attachment # 2

Excerpt from

Climate Change Plan for Canada, Government of Canada, November 2002

Community-Level Action

In Canada, sustainable community development is catching on. Municipal governments are taking actions to reduce greenhouse gases, both in their own operations and in the community at large.

They are doing this to obtain the myriad of co-benefits that come from greenhouse gas reduction -- cost savings, local economic development, improved local air quality and the health benefits that result and improvement in the quality of life for their citizenry. Municipalities are encouraging alternative forms of transportation, curbing urban sprawl, protecting and enhancing urban green space, using renewable forms of energy and performing energy-efficiency retrofits on buildings. With 80 percent of Canadians living in cities, municipalities have a vital role to play in tackling climate change.

The City of Calgary, for example, is purchasing 21 gigawatt hours of wind-generated electricity every year to power the city's light-rail transit system. Calgary also uses solar energy to heat its municipal bus garages.

In Montreal, commuters are riding 155 biodiesel buses. The \$1.3 million BIOBUS project will help assess the environmental, economic and social advantages of using biodiesel in Canada. The result could be a new, less-polluting fuel and new opportunities for farmers.

In Halifax, an innovative strategy has been put in place for the on-site separation of wet, dry and recyclable waste at both residential and business sources. Operational since January 1999, the Halifax approach has diverted 43 percent of the waste that would normally have gone to landfill and reduced greenhouse gas emissions (mostly methane) by approximately 1.4 tonnes per resident based on the volume of organic materials diverted from the landfill.

From major cities like Toronto, Ottawa and Vancouver, to regional centres such as Sudbury and Windsor, to remote communities such as Fort McPherson and Oujé-Bougoumou, district or community energy systems are meeting heating, cooling and other energy needs in a more efficient manner. These systems use a central plant to meet the energy needs of buildings within a specific urban cluster, providing environment-friendly energy and substantial savings.

Budget 2000 established a number of new initiatives by the Government of Canada to assist Canadians and their communities in addressing climate change, including the Green Municipal Funds, expanded purchases of "green" power and renewal of the Climate Change Action Fund and energy efficiency and renewable energy programs.

Partners for Climate Protection (PCP) is a partnership between the Federation of Canadian Municipalities (FCM) and the International Council for Local Environmental Initiatives (ICLEI). It works to bring Canadian municipal governments together in efforts to improve environmental performance and quality of life by reducing greenhouse gas emissions from their operations and their communities as a whole.

Under the initiative, communities set ambitious emissions reduction targets, develop action plans and monitor progress. PCP has been extremely successful, with 100 communities signed up across the country, including every capital in Canada. PCP communities represent nearly 50 percent of the Canadian population.

In addition, the Green Municipal Enabling Fund and the Green Municipal Investment Fund, managed by the FCM, have proven effective in stimulating community-based projects that reduce greenhouse gas emissions across Canada. The Green Municipal Enabling Fund supports communities in developing their own innovation and climate change plans. No one knows better than communities themselves the particular strengths they have to offer and how they would like to develop in the future. By facilitating local level engagement, communities can secure buy-in from their industry, institutions and residents on the kind of community in which they want to live, invest, and grow.

The FCM believes that these initiatives will help Canada's municipalities reduce emissions by a further 10 MT over the next 10 years.