

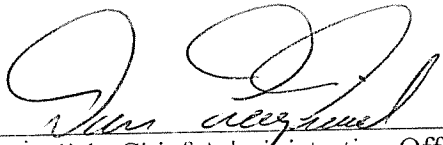


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**HRM Regional Council
Committee of the Whole
May 30, 2006**

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY:



Dan English, Chief Administrative Officer



Brad Anguish, P.Eng, PMP, MBA Director
Environmental Management Services

DATE: April 18, 2006

SUBJECT: Community Wide Greenhouse Gas Emissions - Local Action Plan

ORIGIN

September 13, 2005 Committee of the Whole

RECOMMENDATION

It is recommended that Regional Council:

HRM Council endorse a voluntary target of reducing community wide HRM greenhouse gas emissions by 20% from 2002 levels by 2012 as detailed in the attached GHG Community Action Plan.

BACKGROUND

In accordance with the “Healthy, Sustainable, Vibrant Communities” theme, and scorecard linkage of a healthy and clean environment, HRM is committed to clean air, land, water and energy use for its residents.

A major component of clean air is greenhouse gas emission reduction, a leading contributor to climate change (Global Warming).

Greenhouse gases are invisible gases that let sunlight in but trap the earth’s heat creating the greenhouse effect and warming.

The most abundant greenhouse gas is carbon dioxide (CO₂). While CO₂ is naturally released into the atmosphere, it is also a primary by-product released when fossil fuels such as oil, gas and coal are burned.

On September 13, 2005, staff presented to Regional Council, the corporate Greenhouse Gas Emissions Inventory, Forecast/ Target Report and recommended a target of a voluntary reduction of corporate HRM greenhouse gas emissions by 20% from 2002 levels by 2012. Regional Council approved this recommendation.

This completed Milestones 1, 2 and 3 for the corporate HRM piece of the federal Partners for Climate Protection program.

Staff advised that upon Regional Council’s review and approval of the Corporate Plan, the Community Plan would be completed and brought forth. Staff felt that it was important to lead by example and have our own house in order first as part of our Partners for Climate Protection commitment.

Partners for Climate Protection (What is it?)

As a quick background, in 1997, HRM officially joined the Federation of Canadian Municipalities (FCM) 20% Club, committing to reduce its GHG emissions. The program is now called Partners for Climate Protection and includes completing the following five Milestones:

1. GHG Inventories
2. GHG Targets
3. Local Action Plan
4. Implementation Plan
5. Monitoring

This is a voluntary commitment and a municipality may adjust its targets at any time to reflect new opportunities or challenges. In 1997, HRM Council committed to a 20% GHG emission reduction below 1990 levels by 2007.

DISCUSSION

The original commitment in 1997 did not include the greater community. It only focussed on corporate HRM. However, a Community GHG Emission Reduction Plan is also a requirement of the Partners for Climate Protection program.

A realistic and achievable target and time frame was needed as growth alone contributed to an additional 20-25% increase over the past 10-12 years. The Partners for Climate Protection program only dealt with ultimate numbers and did not take into account growth.

Greenhouse Gas Emissions - Community Action Plan

The **Community Action Plan** (Executive Summary attached) is a component of Climate SMART (Sustainable Mitigation Adaptation Risk Toolkit) and represents completion of Milestone 3 of the Partners of Climate Protection program. As a note of interest, Climate SMART was awarded the FCM 2005 Sustainable Community Award for Sustainable Community Planning. Councillor Jim Smith accepted the award on behalf of HRM.

Climate SMART is a collaborative partnership involving several federal and provincial government departments, the Federation of Canadian Municipalities (FCM), HRM and others. Its focus is an integrated approach to climate change mitigation and adaptation.

The Executive Summary for the GHG Emission Community Action Plan provides the highlights of the proposed actions, cost benefits, time frames and anticipated emission targets. The detailed GHG Emissions Community Action Plan is available electronically.

The attached Executive Summary highlights by sector, the actions, benefits and time frames to meet the recommended emission reduction from 2002 levels by 2012.

As noted in the attached Executive Summary, numerous meetings were held with sector specific stakeholders.

Regional Plan

This Community Action Plan for GHG emissions meets the proposed deliverables of the Emission Reduction Functional Plan in the Regional Plan.

Corporate Scorecard

Greenhouse gas emissions and energy efficiency are key environmental indicators in the Corporate Scorecard.

BUDGET IMPLICATIONS

Funding for the GHG Emission Community Action Plan is a component of Climate SMART. Climate SMART has been funded overall through an innovative and collaborative approach.

A \$35,000 in-kind contribution from HRM has leveraged over \$500,000 in cash and in-kind

contributions from the Federation of Canadian Municipalities (FCM) Green Municipal Enabling Fund; Natural Resources Canada; Nova Scotia Department of Energy; Environment Canada; and the Nova Scotia Department of Environment and Labour to complete Climate SMART.

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

Regional Council could decide to not endorse the voluntary greenhouse gas emission reduction targets for the greater community of 20% of 2002 levels by 2012. However, opportunities for major environmental, energy efficiency, social and health benefits would not be achieved, thus this alternative is not recommended.

ATTACHMENTS

- Executive Summary - HRM Community - GHG Emission Plan
- Power Point Presentation dated May 30th Committee of the Whole

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Stephen King, Manager, Sustainable Environment Management Office 490-6188

Financial Review:



Ferdinand Makani, MBA, CMA, 490-6902

**Halifax Regional Municipality
Community Local Action Plan
To Reduce Greenhouse Gas Emissions:
Executive Summary**

May 2006



Submitted by:
Dillon Consulting Limited



Executive Summary:

Halifax Regional Municipality Community Local Action Plan to Reduce GHG Emissions

***Background
and
Objectives***

The Community component of Halifax Regional Municipality's Local Action Plan (LAP) for reduction of greenhouse gases (GHGs) represents the completion of Milestone Three in the Partners for Climate Protection framework. The LAP sets out how the HRM community and stakeholders can reduce GHG emissions and energy use, and how these efforts are to be supported and encouraged by the Municipality. By preparing the Corporate component of the LAP, HRM has demonstrated to the community at large their leadership and dedication to controlling energy use and reducing GHGs.

Efforts to increase energy efficiency and reduce GHGs by the HRM community are voluntary, except for Large Final Emitters, and are the responsibility of individual community members. By preparing this Community LAP, HRM demonstrates its commitment to GHG reduction by providing support to its constituents to effect improvements.

***Community
Inventories***

In 1997, the Halifax community used 47,501,317 GJ of energy, resulting in 5,595,437 tonnes of GHG emissions. Approximately 25% of emissions were generated by the commercial sector, followed by 24% from the residential sector, 19% from the industrial sector, 15% from the transportation sector, 12% from the institutional sector, and 5% from the waste sector. In 2002, a total of 54,167,709 GJ of energy was used by community sectors, resulting in 6,775,289 tonnes of GHG emissions. In 2002, the residential sector accounted for 25% of all emissions, followed by 24% each from the commercial and industrial sectors, 13% from the transportation sector, 9% from the institutional sector, and 5% from the waste sector. The increase in GHG emissions in HRM's community sectors between the years 1997 and 2002 can be accounted for, in part, by a significant increase in the amount of economic activity in the industrial sector (employment rose by 43%) and the commercial sector (16% increase in employment) and increases in population (14% increase in number of households and 5% increase in population between 1997 and 2002). Employment in the institutional sector decreased by 7% in the same period.

***GHG
Reduction
Measures***

HRM has been making strides towards GHG reductions since 1997, and most recently when Council approved the Corporate LAP, with the commitment to achieve the 20% GHG reduction target by 2012. The Community component of the LAP provides, for Council's consideration, a plan for reducing GHGs generated by HRM residents, businesses and other stakeholders. Community-based reduction of GHGs requires administrative and possibly financial support from HRM and other agencies, most notably the Federal Government. The Community LAP identifies community-led initiatives, supporting Provincial and Federal programs, HRM-run programs, and opportunities for partnering.

Informal discussions were held with community stakeholders from each of the major sectors, in order to identify current awareness of climate change and GHG reduction as issues, and to assemble information on current and planned stakeholder measures. This contact provided the opportunity, as well, to raise awareness of HRM's GHG reduction initiative. Actions were identified by community stakeholders and government agencies, as well as from the Greenhouse Gas Emissions Inventory, Forecast and Target report issued by International Council of Local Environmental Initiatives (ICLEI) Energy Services (IES) in 2005.

Long-term actions to be undertaken by community members include: construction of new homes and commercial and institutional buildings to improved energy standards within the EnerGuide, R-2000 and Commercial Building Incentive Programs; conversion to natural gas in residential, commercial, institutional and industrial sectors; biodeisel projects underway by DND, PWGSC and NSTPW; the Community Energy Project (natural gas-fired combined heat and electrical power plant to service peninsula Halifax universities and the QE II complex); improvements to the Tufts Cove thermal generating plant; and, NSPI's commitment to reduce GHG emissions intensity by 10% below 1990 levels. HRM is currently running and planning programs to support community efforts to reduce GHGs, including: a number of initiatives to increase transit ridership such U-passes for Halifax university students and the new Metro Link; the Anti-idling Campaign; the Highway 101 Landfill Gas to Energy Project; and the Otter Lake Methane Flaring project. Because the PCP recognizes public transit and waste measures as belonging to the community component, these projects are counted in the Community LAP, although they represent HRM's corporate commitment to reducing GHGs.

**Reduction
Target**

As per the Corporate LAP, Dillon recommends that HRM change its reference baseline year for the Community LAP to 2002 and report the **community reduction target as 20% (relative) below 2002 levels by 2012 levels**, which is acceptable within the PCP program. Using 2002 as a baseline year, the combined efforts of the historic, current and future community measures identified in the LAP would reduce GHG emissions by 2,635,230 tonnes from 2002 through to 2012. Using absolute numbers, based on GHG inventory numbers from 2002 and forecasted corporate growth to 2012, these efforts would result in an absolute reduction of 10% below 2002 GHG levels.

Significant growth projected within HRM's population and commercial and industrial sectors will result in continued growth in energy consumption and GHG emissions. This will make it increasingly difficult for the community to achieve absolute reductions in GHG emissions below 2002 levels. The overall challenge with reducing GHG emissions is that HRM is a growing community and, consequently, this 20% goal becomes a moving target as the emissions levels increase at a steady pace. Expressing the GHG target in relative terms, as opposed to absolute terms, factors in the effect of population growth on the target and presents a more relevant target for growing communities such as HRM. In relative, per capita terms, Community LAP measures will reduce community GHG emissions by 21% below 2002 levels.

It is also useful to view this target through a comparison of 2012 forecast inventories and the direct effect of LAP measures on the 2012 forecasts. If no measures were implemented, the "Business-as-Usual" 2012 inventory for the community is 8,740,268 eCO₂ tonnes. If the measures within the LAP are incorporated by 2012, the 2012 inventory will be reduced to 6,105,038 eCO₂ tonnes, a reduction in GHG emissions of 2,635,230 tonnes or 30% below the "Business-as-Usual" 2012 GHG Forecast.

The Community LAP includes initiatives identified by contacted stakeholders and the ICLEI report. There are likely numerous other initiatives underway or planned within the community that are not counted in this plan. These will be identified and accounted for as the Community LAP is rolled out. As new programs are implemented and initiatives are commissioned, this LAP will have to be revised and updated annually to monitor the community's GHG reduction performance. While initiatives, for the most part, are undertaken by individual community members, HRM has a leading role to play, as summarized below.

**Implementation
Plan**

Implementation of the LAP represents Milestone 4 in the PCP 5-milestone program. As a community-based effort, HRM's community LAP depends on the voluntary participation of developers, residents, businesses, industries and institutions in the Municipality. Until such time that improving energy efficiency and reducing fuel consumption become mainstreamed and "second nature" to all of us, progress towards these goals will depend, in large part, on programs that not only increase public awareness of and commitment to GHG reduction, but also demonstrate economic incentives. Consequently, HRM has the following roles to play in the implementation of the Community LAP:

- Serve as a role model
- Deliver some initiatives
- Provide leadership

The approach to the community component of the LAP will involve a staged approach.

In the short term, HRM should:

- Develop a message and a brand for the community GHG reduction initiative.
- Develop and deliver a public education campaign to raise awareness of the need for and benefits of GHG reduction.
- Continue to consult with representatives of community sectors to develop and build relationships with stakeholders.
- Develop a profile for the program by holding a Community Leaders Forum.
- Promote existing funding incentives and supporting programs (such as those offered by NRCan, NS Energy, Clean NS, and Ecology Action Centre).
- Initiate and continue to deliver supporting HRM projects and programs.
- Document and recognize community initiatives and results.
- Revisit the Community GHG target periodically.
- Provide information to the community regularly.

In addition, over the long term, HRM should work to:

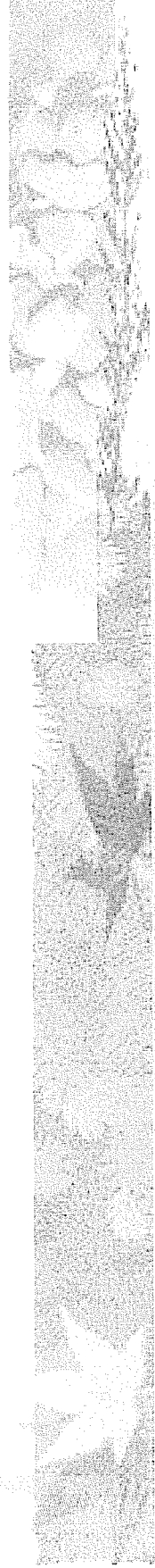
- Stimulate increased commitments from stakeholders.
- Increase the community GHG reduction target.

As recommended in the Corporate LAP, staffing and resources will be required to provide the following services:

- Ensure that this plan is carried out to its full potential;
- secure funding for HRM programs;
- administer and track HRM programs;
- review existing programs and identify potential future programs in response to successes, barriers and available funding;
- market the LAP to community sectors in general as well as to specific stakeholders; and,
- establish and acquire information on stakeholder initiated programs/initiatives and GHG savings results.



Presentation to Regional Council
Greenhouse Gas Emissions – Community Plan



May 30, 2006



Climate SMART

Climate Sustainable Mitigation and Adaptation Risk Tool

Overall Objective:

To mainstream climate change mitigation and adaptation into overall municipal decision making.



Climate SMART

Mitigation

- GHG Emissions Plans:
- Corporate and Community
- Cost Benefits
- Communications



Adaptation

- Risk Management Plan
- Vulnerability Assessments
- Cost Benefits





Performance Scorecard Links

HSVC Theme

Clean and Healthy Environment

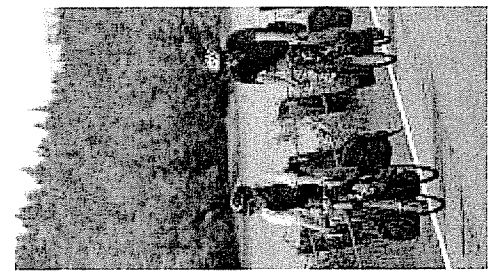
Clean Air



Climate SMART

Mitigation (GHG Reduction)

Adaptation





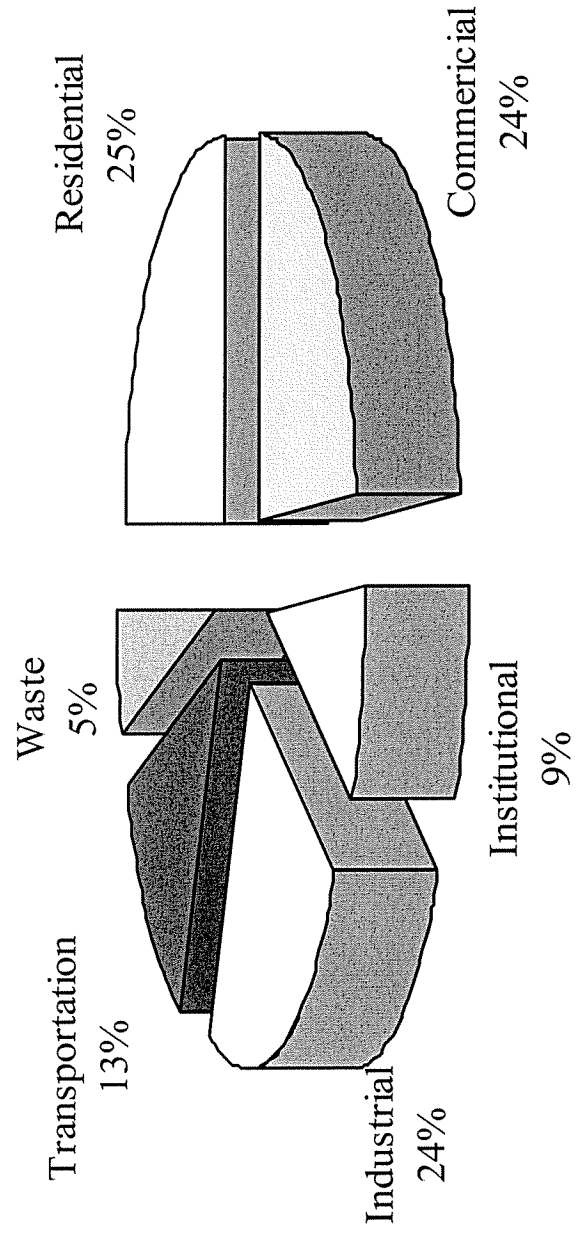
Community Local Action Plan

- Strategic document outlining the actions to be taken to achieve the GHG reduction target (20% below 2002).
- Summarizes emissions by sector.
- A “Living Document” that provides short and long term reduction plans by sector.
- Sets direction for implementation.





Community GHG Emissions (2002)



Total GHGs: Corporate 101,493 t Community 6,775,289 t



Examples of Current and Proposed Actions

<u>Measure</u>	<u>Historic & Current GHG Savings (t)</u>	<u>Future GHG Savings (t)</u>
Natural Gas Conversions	2,983	51,399 (up to 2010)
Commercial Building Incentive Program	2,038	2,038+
Community Energy Project		128,000
Tufts Cove Power Plant		96,000
Transit Metro Link	474	750
HRM Anti-idling Campaign		24,780
Commuter Trip Reduction Program		80,220
Otter Lake Methane Flaring	120,000	640,000
Hwy 101 LGTE Project		95,030





Challenges

- Funding: must compete with other priorities.
- Keeping leaders in the community involved, & engaged.
- Uncertainty with Federal government direction.
- In many cases, no regulatory driver.





HRM Leadership

- Leadership at Corporate level will facilitate GHG reductions actions at the Community level:
 - Community Energy
 - Sustainable Transportation
 - Landfill Gas To Energy/Methane Capture
 - Regional Plan
 - Sustainable Environment Strategies
 - Sharing of Experiences





Recommendations, Next Steps

- Continue to note that mainstream climate change is a part of decision making.
- Help build capacity in the Community.
- Encourage & support funding.
- Involve/update partners & the Community.

