

**Environment and Sustainability Committee**

**March 3, 2011**

**March 9, 2011**

**April 7, 2011**

## **REVISED**

**TO:** Chair and Members of Environment and Sustainability Committee

**SUBMITTED BY:**



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Phillip Townsend, Director, Infrastructure and Asset Management

**DATE:** February 9, 2011

**SUBJECT:** Corporate Knights Sustainable Cities Rankings 2011

### **ORIGIN**

This report originates from Staff.

### **RECOMMENDATION**

It is recommended that the Environment and Sustainability Committee accept this report, provide any additional comments and forward to Regional Council for information.

**BACKGROUND**

On February 9, 2011, Corporate Knights Magazine released their 5<sup>th</sup> Annual Sustainable Cities Rankings. This year, Halifax Regional Municipality (HRM) ranked as the number three Medium Sized City. Vancouver and Mississauga were ranked higher than HRM.

*Positive notes were:* Green Space and Life Satisfaction

*Opportunities for improvement include:* Density and Community GHG Emissions Reductions

- Attachment One is the Overall Rankings
- Attachment Two is the Detailed Breakdown
- Attachment Three is the HRM Submission

**DISCUSSION**

Below is a table comparing HRM scores to the best in class scores:

<b>Category</b>	<b>Indicator</b>	<b>Top Medium City Score</b>	<b>HRM Score</b>	<b>Staff Comment</b>
Governance and Empowerment	Education	8.8	8.0	
Governance and Empowerment	Voter Turnout	7.9	6.6	
Governance and Empowerment	Household garbage limit	8.0	3.0	Item before Committee and Council
Governance and Empowerment	City Council	8.8	8.8	Gender and Diversity
Governance and Empowerment	GHG reduction target	8.0	7.0	
Economic Security	Employment participation rate	7.1	7.0	
Economic Security	Household spending on shelter	9.2	7.0	
Economic Security	Unemployment Rate	8.6	5.5	
Economic Security	% of low income people	8.6	6.3	
Economic Security	Household long term debt	8.2	8.6	
Ecological Integrity	Water Consumption	7.9	6.5	
Ecological Integrity	Green space	9.3	9.3	
Ecological Integrity	Waste Diversion Residential	6.9	6.4	
Ecological Integrity	Air Quality	7.8	7.3	

Integrity				
Ecological Integrity	GHG Reduction	7.8	1.5	HRM does not have Community GHG Reduction Target.... Expected in 2011. Disagree with this score.
Ecological Integrity	Urban Biodiversity monitoring Program	8.0	5	
Ecological Integrity	Water Quality	10	8.5	
Infrastructure and built environment	Density	10	0.2	Regional Plan Review and Greenprint coming soon...
Infrastructure and built environment	Green Transportation	7.9	6.5	
Infrastructure and built environment	Local Food	9.0	2.4	Need to examine what other municipalities are doing.
Infrastructure and built environment	Green Buildings	9.0	7.0	
Infrastructure and built environment	Renewable Energy	8.0	7.0	
Infrastructure and built environment	Green and cleantech business opportunity	10	7.0	
Social Wellbeing	Life Satisfaction	9.5	9.2	
Social Wellbeing	Crime	8.7	4.0	
Social Wellbeing	Health	9.3	7.7	
Social Wellbeing	Cultural Events	9.0	9.0	
Social Wellbeing	Homelessness	5.9	4.4	

The Corporate Knights annual rankings are a good external look at our work towards becoming a sustainable community.

**BUDGET IMPLICATIONS**

There are no budget implications to this report.

**FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN**

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

**COMMUNITY ENGAGEMENT**

None

**ALTERNATIVES**

Not applicable

**ATTACHMENTS**

1. Overall Ranking;
2. Detailed Breakdown; and
3. HRM Submission.

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

Report Prepared by: Richard MacLellan, Manager, Sustainable Environment Management Office, 490-6056

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Next item from Issue 34



**The Metabolic Metropolis**  
 by Sarah Barmak

FROM: [The 2011 Most Sustainable Cities in Canada](#)

IN THIS REPORT ▼

# The Results

Click [here](#) to access the full report.

Below: 2011 Sustainable Cities results by ranking category:

	Ecological Integrity	Economic Security	Governance & Empowerment	Infrastructure & Built Environment	Social Well-being	Total
<b>Large Cities</b>						
Toronto	5.5	6.2	7.9	7.3	7.7	6.9
Edmonton	7.1	6.2	5.3	4.7	7.2	6.1
Ottawa	4.8	7.3	6.0	4.1	7.6	6.0
Calgary	5.8	6.6	5.5	4.5	7.6	6.0
Montréal	5.2	4.4	5.3	6.8	7.5	5.8
<b>Medium Cities</b>						
Vancouver	6.5	6.0	7.6	7.7	7.5	7.1
Mississauga	5.5	7.6	5.7	5.3	7.6	6.3
Halifax	6.3	7.1	6.7	4.3	6.8	6.2
Hamilton	5.2	7.5	6.8	4.0	6.9	6.1
Québec	4.5	8.4	5.9	3.7	7.7	6.1
Winnipeg	4.6	7.4	5.0	5.5	6.9	5.9
<b>Small Cities</b>						
Victoria	5.2	7.2	7.2	7.6	8.2	7.1
Saskatoon	4.7	7.4	6.6	4.5	7.4	6.1
Saint John	4.6	8.2	5.5	4.6	7.5	6.1
Yellowknife	5.7	6.4	6.1	4.3	7.6	6.0
Charlottetown	4.6	6.3	5.2	5.4	7.3	5.8
Whitehorse	4.7	5.7	6.9	2.8	6.5	5.3

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**ECOLOGICAL INTEGRITY**

<b>Category: Ecological Integrity</b>								
<b>Weighting</b>	<b>20</b>	<b>10</b>	<b>20</b>	<b>20</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>100</b>
<b>Indicator</b>	<b>Water consumption</b>	<b>Green space</b>	<b>Waste diversion residential</b>	<b>Air quality (PM<sub>2.5</sub>)</b>	<b>Greenhouse gas emissions reduction</b>	<b>Urban biodiversity monitoring program</b>	<b>Water quality: In and out</b>	<b>Total</b>
<b>BIG CITY</b>								
Edmonton	6.5	8.3	6.3	7.3	3.5	10.0	9.3	7.1
Calgary	5.2	4.2	4.0	7.3	5.7	5.0	10.0	5.8
Toronto	5.1	4.2	5.0	5.2	6.0	6.0	8.4	5.5
Montreal	0.0	4.8	6.6	5.2	4.5	10.0	8.8	5.2
Ottawa	5.5	0.7	4.4	5.8	1.5	5.0	9.0	4.8
<b>MEDIUM CITY</b>								
Vancouver	4.1	4.3	6.9	7.8	7.8	8.0	7.5	6.5
Halifax	5.6	9.3	6.4	7.3	1.5	5.0	8.5	6.3
Mississauga	5.4	3.4	6.3	5.2	3.5	5.0	10.0	5.5
Hamilton	4.7	3.8	5.9	5.0	5.1	5.0	7.0	5.2
Winnipeg	6.5	2.2	0.0	7.7	3.0	4.0	8.4	4.6
Quebec	3.9	0.9	6.1	6.2	1.5	4.0	6.5	4.5
<b>SMALL CITY</b>								
Victoria	4.3	5.3	4.8	NA	1.5	7.0	10.0	5.2
Yellowknife	5.8	3.1	2.5	7.8	6.3	7.0	8.0	5.7
Saskatoon	3.7	2.3	2.9	8.2	1.5	4.0	10.0	4.7
Whitehorse	1.0	10.0	5.3	7.8	1.5	0.0	7.0	4.7
Charlottetown	4.0	1.7	8.1	NA	1.5	5.0	4.5	4.6
Saint John	3.6	1.2	4.3	7.5	2.9	4.0	7.5	4.6

## ECONOMIC SECURITY

<b>Category: Economic Security</b>						
<b>Weighting</b>	<b>10</b>	<b>25</b>	<b>15</b>	<b>25</b>	<b>25</b>	<b>100</b>
<b>Indicator</b>	<b>Employment participation rate</b>	<b>Household spending on shelter</b>	<b>Unemployment rate</b>	<b>Percentage of low-income people</b>	<b>Household long-term debt</b>	<b>Total</b>
<b>BIG CITY</b>						
Ottawa	7.0	6.0	6.2	8.5	8.2	<b>7.3</b>
Calgary	7.4	6.8	6.9	8.6	3.9	<b>6.6</b>
Toronto	6.8	4.5	4.2	7.6	7.3	<b>6.2</b>
Edmonton	7.1	4.4	7.0	8.2	5.3	<b>6.2</b>
Montreal	6.6	5.5	4.4	6.9	0.0	<b>4.4</b>
<b>MEDIUM CITY</b>						
Quebec	7.0	9.2	8.6	8.1	NA	<b>8.4</b>
Mississauga	7.1	NA	6.5	8.4	NA	<b>7.6</b>
Hamilton	6.6	NA	6.3	8.2	8.0	<b>7.5</b>
Winnipeg	7.1	6.2	7.6	8.0	8.2	<b>7.4</b>
Halifax	7.0	5.5	6.3	8.6	7.9	<b>7.1</b>
Vancouver	6.7	2.3	5.8	7.3	8.2	<b>6.0</b>
<b>SMALL CITY</b>						
Saint John	6.2	9.0	6.0	7.9	9.8	<b>8.2</b>
Saskatoon	7.0	5.3	7.4	8.2	9.0	<b>7.4</b>
Victoria	6.7	4.9	7.4	7.7	8.9	<b>7.2</b>
Yellowknife	8.4	2.2	7.3	NA	9.2	<b>6.4</b>
Charlottetown	6.5	4.8	4.0	8.0	7.5	<b>6.3</b>
Whitehorse	7.9	4.9	5.7	NA	NA	<b>5.7</b>



## GOVERNANCE AND EMPOWERMENT

<b>Category: Governance and Empowerment</b>						
<b>Weighting</b>	20	20	20	20	20	100
<b>Indicator</b>	Education	Voter turnout	Household garbage limit	City council	Municipal greenhouse gas emission reduction target	Total
<b>BIG CITY</b>						
Toronto	7.7	8.3	10.0	5.6	8.0	7.9
Ottawa	9.1	7.4	3.0	3.6	7.0	6.0
Calgary	8.2	8.3	1.0	2.7	7.0	5.5
Montreal	7.4	6.9	0.0	4.2	8.0	5.3
Edmonton	7.1	6.3	0.0	4.8	8.0	5.3
<b>MEDIUM CITY</b>						
Vancouver	8.8	6.1	8.0	6.9	8.0	7.6
Hamilton	6.1	7.0	8.0	5.8	7.0	6.8
Halifax	8.0	6.6	3.0	8.8	7.0	6.7
Quebec	8.6	7.9	0.0	5.0	8.0	5.9
Mississauga	8.2	6.4	6.0	5.0	3.0	5.7
Winnipeg	6.6	7.7	2.0	5.8	3.0	5.0
<b>SMALL CITY</b>						
Victoria	9.3	5.7	8.0	10.0	3.0	7.2
Whitehorse	7.8	6.7	6.0	6.9	7.0	6.9
Saskatoon	7.1	5.7	9.0	3.0	8.0	6.6
Yellowknife	8.0	7.8	4.0	3.8	7.0	6.1
Saint John	5.7	8.1	4.0	9.7	0.0	5.5
Charlottetown	7.6	8.5	6.0	1.0	3.0	5.2

## INFRASTRUCTURE AND BUILT ENVIRONMENT

<b>Category: Infrastructure and Built Environment</b>							
<b>Weighting</b>	<b>25</b>	<b>25</b>	<b>20</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>100</b>
<b>Indicator</b>	<b>Density</b>	<b>Green transportation use</b>	<b>Local food production and access</b>	<b>Green buildings</b>	<b>Renewable Energy</b>	<b>Green and clean-tech business opportunity</b>	<b>Total</b>
<b>BIG CITY</b>							
Toronto	7.9	8.1	5.0	8.0	8.0	7.0	7.3
Montreal	8.9	8.1	2.6	8.0	4.0	8.0	6.8
Edmonton	2.1	5.9	1.2	9.0	8.0	7.0	4.7
Calgary	2.7	6.2	3.1	5.0	4.0	7.0	4.5
Ottawa	0.6	7.0	0.7	7.0	7.0	6.0	4.1
<b>MEDIUM CITY</b>							
Vancouver	10.0	7.9	2.9	9.0	8.0	10.0	7.7
Winnipeg	4.6	6.2	4.9	9.0	4.0	5.0	5.5
Mississauga	7.7	5.8	0.4	6.0	NA	7.0	5.3
Halifax	0.2	6.5	2.4	7.0	7.0	7.0	4.3
Hamilton	1.5	5.6	0.5	5.0	8.0	8.0	4.0
Quebec	3.6	6.0	0.7	0.0	4.0	8.0	3.7
<b>SMALL CITY</b>							
Victoria	10.0	8.3	6.4	4.0	7.0	7.0	7.6
Charlottetown	4.8	6.2	5.8	5.0	4.0	6.0	5.4
Saint John	1.4	6.4	1.5	8.0	8.0	7.0	4.6
Saskatoon	7.9	5.3	1.4	4.0	5.0	0.0	4.5
Yellowknife	1.2	7.4	2.1	6.0	6.0	5.0	4.3
Whitehorse	0.3	5.5	2.5	4.0	4.0	0.0	2.8

## SOCIAL WELL-BEING

Category:	Social Well-Being					
Weighting	25	15	25	10	25	100
Indicator	Life satisfaction	Crime rate	Health and access to care	Cultural events	Homelessness	TOTAL
<b>BIG CITY</b>						
Toronto	8.9	5.7	9.2	9.3	5.3	7.7
Calgary	9.4	5.4	8.2	9.3	5.8	7.6
Ottawa	9.3	6.1	8.4	10.0	5.1	7.6
Montreal	9.4	8.4	7.2	8.3	5.0	7.5
Edmonton	8.9	5.7	7.5	9.7	5.2	7.2
<b>MEDIUM CITY</b>						
Quebec	9.5	8.7	8.1	8.7	4.6	7.7
Mississauga	9.3	NA	9.0	7.3	4.6	7.6
Vancouver	9.0	4.2	9.3	7.7	5.9	7.5
Winnipeg	9.1	4.8	7.5	8.0	4.7	6.9
Hamilton	9.2	5.6	8.1	6.0	4.8	6.9
Halifax	9.2	4.0	7.7	9.0	4.4	6.8
<b>SMALL CITY</b>						
Victoria	9.0	NA	8.6	9.5	6.5	8.2
Yellowknife	9.3	NA	4.0	9.0	9.0	7.6
Saint John	9.2	10.0	7.3	6.5	4.8	7.5
Saskatoon	9.4	5.5	8.0	10.0	4.8	7.4
Charlottetown	9.3	NA	7.4	9.0	4.4	7.3
Whitehorse	9.1	NA	6.9	3.5	4.7	6.5

**1. Please provide the name, title and contact information for the person citizens in your municipality should contact with concerns regarding sustainability initiatives.**

Richard MacLellan  
Manager, Sustainable Environment Management Office  
[maclelri@halifax.ca](mailto:maclelri@halifax.ca)  
(902) 490-6056

**Sustainability planning and goals:**

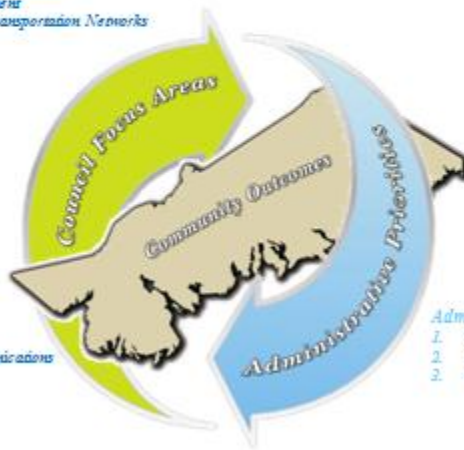
**2. Has the municipality adopted a policy of using sustainability as a filter to inform planning decisions that pertain to the future of the community? Please describe the influence that this filter has had on planning decisions.**

Yes. Sustainability is embedded in planning and service delivery for everything we do. As a Community Outcome Area and Council directing that above their focus areas that Environmental Sustainability and Physical Accessibility be embodied in everything we do, direction is clear at HRM.

*Summary of HRM's Priorities*

*Community Outcome Areas*

1. Safe & Welcoming Communities
2. Diverse Recreation, Leisure & Cultural Choices
3. Well Planned & Engaged Communities
4. Clean & Healthy Environment
5. Integrated & Affordable Transportation Networks
6. Economic Prosperity



*Council Focus Areas*

1. Community Planning
2. Governance & Communications
3. Infrastructure
4. Public Safety
5. Transportation

*Administrative Priorities*

1. Fiscal Responsibility
2. Employer of Choice
3. Excellence in Service Delivery

All planning and service delivery is tied to the six Community Outcome Areas: Clean and Healthy Environment, The Community Outcome Areas influence the Council Focus Areas: This influences the Corporate Plan, which influences Business Unit Plans and Individual Performance Plans.

## CORPORATE PLANNING FRAMEWORK



As well, HRM has been working on implementation of a sustainability filter to assist with decision making. Originally developed in conjunction with The Natural Step, a single filter was generated based on the 4 Systems Conditions. Initial trials and testing of that filter yielded some confusion and difficulty in application, so SEMO staff have been working corporately at supporting incorporate of Sustainability Filters in various decision making processes, realizing that a one size fits all approach is not flexible enough to compliment our processes.

As per the 2010 Update on the Corporate Sustainability Analysis:

([http://www.halifax.ca/environment/documents/2010\\_CSA\\_final.pdf](http://www.halifax.ca/environment/documents/2010_CSA_final.pdf)), adoption of triple bottom line terminology (Social, Environmental and Economic) is having better understanding and uptake. We are seeing adoption of customized sustainability filters through the various Asset Management processes that feed into the Capital Planning and Budgeting process.

Examples of work to further explore the sustainability implications of a capital decision include:

1. Engagement of Sustainability Solutions Group to assist with the identification of the non-economic considerations in looking at on-road or off-road cycling lanes
2. Working with Design and Construction services to review their filter for selecting new sidewalks. The filter now includes items such as proximity to schools, density, etc – meaning that installation is linked to development that meets sustainability principles.

Additionally to the sustainability filter, municipal governance is clearly embracing Environmental Sustainability with Regional Council's approval to adopt a Standing Committee Structure, which will result in 6 committees overseeing all other board and committee work:

- Administrative Committee
- Community Planning and Economic Development Committee
- Environment and Sustainability Committee

- Transportation Committee
- Audit and Finance Committee
- Appeals Committee

This committee reform further embeds environmental sustainability in the governance of HRM.

**3. Is the municipality measuring its own performance in key sustainability areas (including, but not limited to, emissions, waste diversion, citizen engagement, green space, homelessness, conservation, etc.)?**

Yes, performance reporting is important in the business planning and management side of HRM. As demonstrated in the Corporate Plan (<http://www.halifax.ca/budget/CorporatePlan/index.html>), Clean and Healthy Environment has a number of measures that are indeed reported on annually. Aside from the corporate plan, there are a variety of other measurements that the team of Environmental Performance Officers and other HRM staff use to monitor performance. An example of a larger effort is the completion of the 2008 Corporate GHG Inventory (<http://www.halifax.ca/council/agendasc/documents/100803cai01.pdf>).

**a. If yes: Does the city corporation (e.g. City of Winnipeg) have a greenhouse gas emissions target? What is it (please express in baseline year, target year, and % reduction) and what progress (% reduction, initiatives, etc.) has been made towards reaching this target?**

**Measuring greenhouse gas emissions**

As a coastal city, HRM has already seen first-hand the consequences of global climate change; we are becoming increasingly familiar with strong tropical storms and hurricanes that will only hit us harder as sea levels rise. We are therefore very committed to reducing our contribution to greenhouse gas emissions that cause climate change. In late 2009, HRM's Sustainable Environment Management Office hired two new Environmental Performance Officers. One of the Air/Energy EPO's primary tasks is to conduct annual corporate and community GHG inventories and monitor our progress toward our GHG reduction targets.

**a. Corporate greenhouse gas emissions reduction**

Corporately, we are aiming to reduce GHGs by 20% below 2002 levels by 2012. In 2005, we developed a Corporate Local Action Plan (LAP) to Reduce Greenhouse Gas Emissions (<http://www.halifax.ca/environment/documents/HRMCorporateClimateLocalActionPlan.pdf>) that laid out how to achieve our target. Five years after the LAP's conception, we are well on our way to implementing many of the actions it called for and more. Significant GHG savings have come from initiatives such as converting municipal buildings from oil to natural gas heating, replacing older transit fleet vehicles with new, cleaner vehicles, and switching incandescent traffic signal bulbs to efficient LED lamps. Earlier this year, we completed a 2008 Corporate GHG inventory, which revealed several challenges to directly comparing our emissions from 1997, 2002 and 2008. In light of this inventory, we are now updating our Corporate.

**b. If yes: Does the entire municipality (including the community, businesses, etc.) have a greenhouse gas emissions target? What is it (please express in baseline year, target year, and % reduction) and what progress (% reduction, initiatives, etc.) has been made towards reaching this target?**

**b. Community greenhouse gas emissions reduction**

Similar to our corporate target, we have a Community Local Action Plan to Reduce GHGs (<http://www.halifax.ca/environment/documents/CommunityLocalActionPlan.pdf>) and we are aiming for community reductions of 20% below 2002 levels by 2012. Some initiatives that have moved us toward this target include new Bus Rapid Transit services (Metro Link and Metro Express), which have attracted a great number of former car-commuters, and methane gas recovery at the Sackville Landfill, which avoids more than 100,000 tonnes of GHGs per year. We are also currently developing a Community Solar Program to encourage HRM homeowners to install solar panels for heating domestic hot water. In 2011, we expect to complete a community GHG inventory and update our LAP.

**Municipal solid waste:**

**c. If yes: Does the municipality have a waste diversion target? What is it (please express in baseline year, target year, and % reduction) and what is the current level of waste diversion? If possible, please separate waste diversion levels into residential and non-residential.**

The HRM diversion target of 60% was set in 96/97 by Council and at that time there was no composting program, our diversion was only 38%. Using fiscal reporting 2010, that would be for the period 01 April 2009 - 31 March 2010 we have achieved 60 % in diversion success. This is comprised of both residential and insitutional, commercial and industrial (ICI) material streams. The residential diversion rate is 51% while ICI is at 65% due in large part to the HRM construction and demolition (C&D) diversion strategy unique to HRM where there are 75% recycling targets set for diversion of C&D debris. There is some 93,000 tonnnnes of ICI C&D material that is processed at the C&D sites with 75% of this being diverted away from HRM disposal.

In accordance with EGSPA introduced in 2007, there is a provincial target to reduce disposal to 300 kg/pp/yr(provincial average) by 2015. Municipal units, including HRM, report to the province annually on their progress towards reducing disposal and to date HRM per capita disposal is 412 kg/pp ( 08/09 last reporting) with 09/10 to be finalized by the province in the next month. We are doing better at reducing waste for disposal below the provincial average of 417 kg/pp/yr. We accomplish this with full scale composting and recycling diversion programs applicable to both the residential and commercial sector and mandated by municipal by-law as well as C&D recycling targets set into by-law as part of a comprehensive solid waste resource management strategy.

**4. Please describe any efforts that your government has made to create or develop regional networks for local trade and/or self-sufficiency (for food, transportation, economic, social, energy, water, waste, etc.)**

### **Local Agriculture**

In November, Regional Council approved a report to provide Municipal Support to local agriculture with a focus on increasing the current mix of local food in the average grocery basket from 13%. See Attachment Three.

### **District Energy / QUEST**

In 2010, HRM was signatory to a memorandum of understanding in the QUEST Canada Initiative. HRM is a leader in the local collaboration (Quality Urban Energy Systems of Tomorrow), focusing on the realization of renewable energy projects with the development industry.

### **SeaPort Farmers Market**

2010 marks the opening of the LEED Gold Halifax Seaport Farmers Market. HRM was a major funding contributor incubating the entire project.

### **5. Does the municipality have a climate change adaptation strategy (i.e. a strategy to mitigate the negative impacts of changing weather patterns on tourism)? If yes: Briefly describe the strategy, targets, and progress.**

Yes. In response to concerns caused by **Global Climate Change**, HRM initiated **Climate SMART** (Sustainable Mitigation and Adaptation Risk Toolkit) in 2005. The Climate SMART initiative is an ongoing, leading edge partnership between HRM, the Province of NS, the Government of Canada, and private companies. Its goals are to develop and maintain management and planning tools in preparation for climate change impacts and to develop strategies to reduce practices that contribute to global warming in the first place. Below are some of the tools and studies that were created as part of this initiative:

#### **Climate Change Risk Management Strategy for Halifax Regional Municipality**

This strategy is intended to guide HRM in achieving its goal of being a leader in the mitigation of pollutants to the environment and adaptation to climate change by providing direction on the incorporation of climate change risk management and adaptation in corporate business unit planning. At this time, the 2007 Strategy is being reviewed by the Sustainable Environment Management Office, and interviews are being conducted across the organization to further update what steps have been undertaken since the Climate SMART Program was initiated to move forward with managing our risks. Work has been completed across the organization to achieve the objectives of the actions required as part of this guide.

#### **Halifax Harbour Sea Level Rise Study**

One of the biggest threats to Halifax related to Climate Change is sea level rise. As part of our Risk Management Strategy, a detailed examination of potential sea level rise over the next 100 years in Halifax Harbour was undertaken to provide HRM and harbour front property owners with a range of future climate change adaptation scenarios to consider. This study examined the



potential future effects of sea level rise and storm surges in the harbour. HRM partnered with Natural Resources Canada (NRCan), the Province of Nova Scotia, the Halifax Port Authority, the Waterfront Development Corporation, Dalhousie University and the Applied Geomatics Research Group on this project. The study used digital ground elevation mapping, trends in sea level rise, climate change science, and various storm events to point to potential effects on harbour front properties. The next steps for this project will include public and harbour front stakeholder consultations, and the development of appropriate climate change adaptation measures for incorporation into the Halifax Harbour Plan. HRM is providing this valuable information to those developers developing lands within the Halifax Harbour boundary, and they are then required to consider the findings in their design and development agreement process. In the future, HRM will be undertaking studies for other coastal areas within the municipality to build on this information. This information will also be used to finalize a land use vulnerability assessment for the Halifax Harbour Boundary.

HRM is part of the Atlantic Climate Adaptation Solutions (ACAS) project. Under this program, each region of Canada is developing solutions for region-specific issues related to climate change. More specifically, the provinces are partnering with communities, organizations and universities in delivering projects. HRM specifically has a number of projects funded to build on the sea level rise work completed for Halifax Harbour and to work towards our long term goal of developing a systems based approach to adaptation to climate change in HRM.

### **The Climate SMART Community Action Guide to Climate Change and Emergency Preparedness**

The guide was updated in November 2010 and is intended to be used as a practical guide for residents to mitigate and adapt to climate change in the difference communities in HRM. It does the following:

- The guide provides information on climate change and its risks.
- The guide suggests actions we can all take to reduce GHG emissions that cause climate change.
- The guide provides the knowledge and the steps to help us organize our neighbourhoods to prepare for extreme weather events.
- The guide will help us to develop a Climate Smart Community Action Plan.
- The guide will help you provide valuable information to EMOs and HRM to help them better respond to your community in an extreme event situation.

HRMs goal has been to disseminate this guide to the community in a number of forums, whether it is our website, community presentations, or related projects. The intent of disseminating this guide is to initiate discussion within communities to work together to combat and prepare for climate change impacts. HRM has presented the contents of this guide at a number of community forums including churches and community centres. In August 2010, HRMs SEMO teamed up with our Emergency Management Organization to work with the Joint Emergency Management Teams (made up of community volunteers, with a mandate: The mission of JEM Teams is to promote awareness of local community resources, to train local agencies to work together and

provide a structure for coordinated local emergency response). We worked the JEMS in rural HRM to present the guide and hold discussions regarding the impacts of climate change in these communities and also to engage these groups to work within these communities to get information on the guide out. In October 2010 we received funding from the Nova Scotia Climate Change Adaptation Fund to work with five pilot communities within HRM to prepare for climate change emergencies by taking them through a process to identify and map community vulnerabilities and risks. By directly working with the communities in this exercise it will allow HRM to strengthen community preparedness for potential Climate Change related impacts and to gain a better understanding of potential threats, impacts and ways to protect and prepared themselves for weather related emergencies.

### **Developers Guide**

In order to address climate change impacts and reduce related economic and social risks, the development industry and HRM need to implement a *risk management approach* to address the impacts from climate change in a consistent manner. This Guide provides a framework for users to address climate change risk in planning for new developments, and provides a decision-making tool to assist in the selection of preferred strategies using a systematic and defensible process. This Guide will assist the developer and HRM staff with:

- assessing the risk associated with climate change on a proposed development activity;
- identifying the significance of the risks; and,
- identifying appropriate adaptation (i.e., risk reduction) measures.

This guide was completed in 2007, and HRM is planning to review and update the guide in 2011.

### **Climate Change Impacts in HRM Temporary Public Art Project**

As part of our goal to educate and engage the community around issues related to Climate Change, in late May HRMs SEMO teamed up with our Public Art Coordinator to issue a public art call. We sought proposals from artists and creative professionals of all disciplines to submit proposals for an education through public art initiative aimed at highlighting the impacts of climate change specific to HRM. HRM felt that by articulating the projected impacts of climate change on Halifax Harbour with Public Art, we could impress upon casual viewers the effects of climate change and its real impact. By extension, HRM hoped to generate interest in the root causes of climate change and to present effective ways of adapting and mitigating our impact.

The Winner of the Climate Change Impacts in HRM Art Competition was José Luis Torres project: "The Observatory" which had the following concept:

Taking into account the concept of a city within an ocean, and an ocean within a city, this project proposes to investigate Halifax Harbour and to link Halifax and Dartmouth, creating a poetic dialogue between the "two coasts". A series of lookouts and buildings have been created as part of this observatory as a means of inviting people to (re) discover the landscape and to observe and consider our surrounding environment. The Observatory encourages us to take a

look around from higher, poetic viewpoints in order to create an awareness of the ocean our city exists within and to think specifically about how climate change impacts, including sea level rise, could affect our local environment.

**6. Does the municipality have a disability or old-age accessibility initiative currently in place for public infrastructure (i.e. ramps on public buildings, transportation)? Are there plans to implement one in the future?**

Firstly, Physical Accessibility has been identified as an overarching theme, along with environmental sustainability, in the Council Focus areas for this current council's mandate. As such, there is a Capital Project dedicated to improving physical accessibility on existing HRM building stock which has been funded to \$150,000 in 2010/2011 and \$200,000 for each of 2008/2009 and 2009/2010.

In 2010, Sustainability Staff worked with Facility Development staff to successfully apply for NS Department of Senior Grants to supplement two outdoor projects (a community garden near a seniors complex in Eastern Passage and an outdoor gym near another seniors complex in central Dartmouth).

**Metro Transit Accessibility**

Improving passenger accessibility is a key focus of Metro Transit's 5-Year Strategic Operations Plan approved by Regional Council in the fall 2009. This fall, Metro Transit is embarking on a Universal Accessibility Study of its conventional fixed route bus and ferry system. The study will include a complete review of the accessibility of all trip elements such as: planning a trip, traveling to a transit stop/terminal, boarding and riding a vehicle, disembarking or transferring, and traveling to a final destination.

Metro Transit currently operates 33 accessible low floor (ALF) conventional routes, in addition to fully accessible MetroLink, MetroX and ferry services. Future improvements are also planned for some of our major terminals to improve accessibility and customer information amenities, including the Dartmouth Bridge Terminal, Highfield Terminal and Lacewood Terminal. Additionally, larger font destination curtains and yellow railings/markings have been added for increased visibility.

An Access-A-Bus Study was also recently completed which will guide the implementation of a new Strategic Plan for this door-to-door subscription bus service for persons with disabilities. Seventeen new Access-A-Bus vehicles are currently on order, with 11 scheduled to be replacement vehicles and six designated as expansion vehicles. Additionally, the study recommends reducing the booking window timeframe, utilization of new software and the development of online capability to accept passenger trip confirmations and cancellations.

**Parks and Recreation:**

**7. How many hectares of public green space (parks, wooded areas, gardens – any area that is predominately vegetated) does the municipality have?**

<b>Crown Lands in HRM</b>		<b>% Of Total Area of HRM</b>
Total Area of HRM Including Watercourses	591130 ha    5911.3 sq. km.	100
Total Area of HRM Excluding Watercourses	545370 ha    5453.7 sq. km	92.3
Total Area of Watercourses in HRM	45760 ha    457.6 sq. km.	7.7
NS Crown Lands in HRM Including Watercourses	230650 ha    2306.5 sq. km.	38.9
NS Crown Lands in HRM Excluding Watercourses	184930 ha    1849.3 sq. km.	33.9
Forested Crown Lands in HRM	151730 ha    1517.3 sq. km.	27.8
Non-Forested Crown Lands in HRM	33200 ha    3320 sq. km.	6.1
Forested Crown Lands in HRM	151730 ha    1517.3 sq. km.	82.1 ( % of Total Area of Crown Lands)
Non-Forested Crown Lands in HRM	33200 ha    3320 sq. km.	17.9 (% of Total Area of Crown Lands)

Total Area of Other Ownership in HRM Excluding Watercourses	360440 ha	3604.4 sq. km.	66.1
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**a. How many hectares of community food-producing gardens does the municipality have?**

Halifax Regional Municipality has worked in partnership with the Ecology Action Centre and Nova Scotia Environmental Network. The collaboration does not monitor the exact hectares of food producing gardens, however there are approximately 30 Community Gardens in HRM. Collaboration in this partnership has resulted in a municipal process enabling groups access to HRM property for starting community gardens.

**8. Does the municipality or its designate (such as a regional conservation authority) monitor urban biodiversity?**

**a. If yes: Briefly describe the monitoring program, indicators, targets and progress.**

**b. If no: Are there plans to initiate a monitoring program?**

Not a municipal service delivery, but through partnerships with Ecology Action Centre, Sierra Club, etc, we get observations that influence action and planning activities. The municipal staff meet with local environmental NGO's on a monthly basis to discuss environmental issues. Urban biodiversity is regularly an element of discussion. Biodiversity is important in the Municipal Regional Plan, and these regular dialogues and observations with the environmental groups provide excellent feedback loops on actions and opportunities to promote and protect urban biodiversity.

Additionally, with HRM being a centre of education, with a number of local universities, the academic community is also particularly engaged with HRM staff with observations and studies related to urban biodiversity. For example, during work on the Urban Forest Master Plan, academic leaders have been vocal about the importance of natural species in capital tree planting programs.

HRM Sustainable Environment Management Office staff continue to entrench our partnerships and relationships and urban biodiversity is an issue that is included in that work.

**Water and Sewage treatment:**

**9. Does the municipality have separate storm water and sewage sewer systems?**

HRM has areas of our service area that have combined pipes(ie.storm and sanitary into the same pipe) and separate areas where there is separate sanitary and stormwater water pipes. Generally speaking older areas such as downtown Halifax and Dartmouth have combined systems. Areas such as Bedford, Sackville, Cole Harbour etc...(newer areas) have separate systems.

There has been separation of systems in downtown Halifax and Dartmouth as an off shoot of the Harbour Solutions Project. Further separation also took place recently with the Freshwater Brook Project in the area of Fenwick/Barrington/Inglis/South Park St area

**10. Does the municipality have a source water (drinking and non-drinking water) protection plan in place? If so, what is it (web link is fine)?**

Halifax Water has Source Water Protection plans for each of its 11 water sources. We could give you copies of the plans themselves, however, the attached document is a good overview of the program.

There is a link to the report on our web site at: <http://www.halifax.ca/hrwc/Publications.html>

**Buildings:**

**11. Does the municipality have any residential or commercial green retrofit programs for buildings? Please describe.**

**Solar City**

In November, Halifax Regional Council approved for staff to develop a large scale Community Solar Project. Information is available at [www.halifax/solarcity](http://www.halifax/solarcity) . The concept is to incubate the installation of approximately 1000 solar panels on 500 homes by providing a financing mechanism which allows residents to pay as a supplement to their tax bill and annual amount estimated to be lower than their annual energy savings. Staff has commenced the community engagement process and the pre-screen process starts December 15<sup>th</sup>.

**HRM by Design**

Yes – through passage of special provincial legislation supporting a capital district design plan (HRMbyDesign), HRM has implemented a suite of incentives for land developers in this regard. These incentives are documented immediately below. Pursuant to these interests, HRM has hosted several workshops on LEED Standards for public and private sector participants. All Land Use by-laws require bicycle parking for multi-unit residential developments, Regional Council June 27/06.

**Excerpt from HRMbyDesign (Municipal Planning Policy):**

**... 3.4.5 Sustainable Building Design**

Sustainable design is defined as architecture, landscaping and engineering (the built environment) that establishes the conservation of energy, materials, and natural resources and systems as a primary consideration in their planning, design, construction and life cycle. This includes public as well as private development, and encompasses streets, parks, and buildings.

This Plan supports principles of sustainable building design as part of the design program for downtown Halifax development by encouraging the use of sustainable design practices. While there are many initiatives promoting and developing standards for sustainable design, Leadership

in Energy and Environmental Design (LEED™) is the most highly recognized system currently being used in North America. HRM is committed to the concept of sustainable design and construction, and has therefore adopted the requirement that all new municipal buildings across the Municipality must achieve a minimum rating of LEED silver. This requirement will build LEED capacity amongst the local design and construction community. As this capacity grows, it is expected that the minimum requirement will be raised to gold and ultimately to platinum.

At the adoption of this Plan, mandatory requirements for energy conservation and sustainable design standards such as LEED are not enabled under the provincial Building Code Regulations, which regulate construction practices throughout the province. The province, under the leadership of the N.S. Department of Energy, is currently reviewing its policies and legislation in this area. It is HRM's intent to work with the province to advocate for stronger regulation in the areas of energy conservation and sustainable building design. In the interim, the Land Use By-law will include requirements to maximize sunlight penetration and minimize wind impacts on sidewalks, particularly in relation to high-rise developments. Beyond these requirements, HRM and other levels of government can lead the way in achieving sustainable and energy efficient design in tendering of development projects for publicly owned lands.

#### **Policy 19**

HRM shall in the Design Manual section of the Land Use By-law establish sustainability design guidelines to encourage downtown development projects to incorporate sustainable building practices as part of the design review process enabled by this Plan. Additional heights may be considered through the bonus zoning provisions of the Plan in exchange for development projects that reflect significant investment in sustainable building design.

#### **Policy 20**

HRM shall in the Land Use By-law establish provisions to mitigate the impacts of development by including requirements to maximize sunlight penetration and minimize wind impacts on sidewalks, particularly in relation to high-rise developments. HRM shall through the Land Use By-law require all proposed developments for buildings taller than 60 ft. to be subject to a wind impact assessment. Rooftop landscaping shall also be a requirement.

#### **Policy 21**

It shall be the intention of HRM to ensure that all new municipal facilities within downtown Halifax are designed to show leadership in sustainable building design and at minimum achieve a LEED silver standard in the LEED or an equivalent certification system.

#### **Policy 22**

It shall be the intention of HRM to negotiate an agreement with provincial and federal levels of government and agencies including the Waterfront Development Corporation Limited, to

establish LEED standards for the development of public lands throughout downtown Halifax pursuant to Policy 44 of this Plan.

### **Economic development:**

#### **12. How is the municipality attracting green and clean technology businesses? Does the municipality support any certification schemes aimed at green or clean technology businesses?**

1. Through the Greater Halifax Partnership, the municipality supports Nova Scotia Business Inc in its targeted attraction strategy for the Clean tech sector, in this role the municipality is able to direct potential investors and businesses to the initiatives and tools of the Province of Nova Scotia. Specific tools that the province has created that help with the attraction of green tech include:
  - Nova Scotia's [Renewable Electricity Plan](#) sets out a detailed path for achieving the target of 25% renewable electricity supply by 2015 and establishes an ambitious goal for 2020 to have 40% of Nova Scotia's electricity supply (sales) produced from renewable resources.
  - Nova Scotia is also guided by its [Environmental Goals and Sustainable Prosperity Act](#), which puts into action 21 goals to be achieved by 2020.
2. The municipality takes the lead position in the retention and expansion of clean tech businesses that are already within Halifax, for example:
  - Greater Halifax Partnership, through its Smartbusiness (BRE) initiative has proactively consulted with various local companies within this sector including: Thermodynamics, Scotian Windfields, Shift energy and LED roadway lighting.
  - HRM has purchased \$1.6million or 2,137 LED street light fixtures from a local company, LED Roadway lighting, this effort will ensure that the Halifax Regional Municipality is about to become the first major Canadian municipality to convert to LED street light fixtures.
  - In the development of the new Economic Development strategy for the city, the Partnership and its partners engaged over 30 members (public, private and NGO) of the green tech industry to include their input into the process.
  - Sustainability is a guiding principal identified in the Redeveloped Economic Strategy for the city.
  - HRM is embarking on a pilot program for solar domestic hot water heating which, pending approval, should spur demand for related local green tech industries and sustainable building construction practices.

### **Energy production and consumption:**

#### **13. Does the municipality support or have any incentives for household or business renewable energy production? Consumption? If renewable energy is available for consumption in the municipality, please indicate who the providers are and, if possible, the**



**annual consumption of renewable vs. non-renewable energy (note: hydro is not considered a renewable energy source for the purposes of this survey). If necessary, please direct us to the provider.**

With Nova Scotia power having a monopoly on the power supply in Nova Scotia, aside from personal power generation (which is limited in Nova Scotia), opportunities for alternative energy are minimal. However, HRM has been progressive and pushing on establishing non- NSPI power opportunities for quite some time.

### **Solar City**

On November 24<sup>th</sup>, The Province of Nova Scotia gave HRM the municipal authority to enable homeowners to finance solar panel installations as a supplement to their tax bills. This is the first municipal authority in Canada. HRM is modeling a program for offer, which Regional Council has approved staff to assemble for them to look at, that essentially would enable homeowners to simply sign up and HRM would arrange to install 2 solar panels, and charge a repayment schedule where the payment is less than the estimated annual savings. Additionally, HRM will bundle all the available grants and rebates for homeowners. The key to the program: to make the complex simple.

### **BullFrog Power**

HRM has worked with BullFrog Power to BullFrog power the Adventure Earth Centre and the 2011 Federation of Canadian Municipalities Annual Conference. Working with Bullfrog Power is helping raise awareness for renewable opportunities to residents in HRM. After signing the Bullfrog contract, a communications plan was executed to share the Adventure Earth Centre action with the community.

### **Alderney 5 Energy Project**

2010 marked the first year of operation for the Alderney 5 Energy Project. The worlds first Geothermal cold storage system. Providing cooling to the primary municipal building complex, HRM did not have to operate coolers / chillers in the facility – putting nature to work. This project was also designed with capacity to sell District Energy to neighbouring development. It is anticipated that plans for distribution will be realized within the next year or two.

### **District Energy**

HRM is committed to incubating District Energy projects. In 2010, substantial effort was made to offer opportunities to development to partner with District Energy opportunities from waste heat recapture from Halifax Water operations.

### **Other initiatives:**

**14. Is there anything else your city is doing that you consider to be a “sustainable” initiative (i.e. pesticide bans, local food requirement in grocery stores, etc.)?**

### **Municipal Operations DriveWiser / Fleetwiser**

In 2010, Halifax Regional Municipality offered a blended Drivewiser / FLleetwiser program to Municipal Operations With the blended HRM program, Clean Nova Scotia will be:

- Providing equipment for 12 vehicles to measure fuel consumption and conducting baseline

and post training testing using Scan Gauge

- 12 Lunch and Learn training sessions for Municipal Operations staff (one per month at various locations throughout the municipality)
- Performing Fleet operator surveys
- Providing Idle Free Signs to HRM Fleet and Municipal Operations Buildings
- In Car Eco-Driver Instruction for about 4 fleet leaders
- Providing a Train the Trainer messaging for HRM Municipal Operations supervisors to deliver at frequent tool box or tailgate meetings about driving behavior.

### **Walking Charter**

On Earth Day, 2010, Halifax Regional Council endorsed a number of activities. A profound action taken on this date was the adoption of a Halifax Walking Charter. (See Attachment Four)

### **Bike Rack Design Competition**

As per Attachment XX, in the Spring of 2010, HRM partnered with local interests to promote a Bike Rack Design Competition in support of Bike Week. The competition was tremendously successful and positive.

### **LED Street Lights**

The Halifax Regional Municipality has approximately 40,000 street lights, the vast majority of which are low pressure sodium technology. Approximately 14,000 of these fixtures are owned and maintained by the municipality. Through support from the province's ecoNova Scotia energy efficiency funding, HRM is in the process of converting 2,100 of these fixtures to LED technology. This conversion commenced in October of this year and will be completed in February of 2011. It is anticipated that the LED street lights will save the municipality approximately \$120,000.00 annually due to energy and maintenance cost reductions. In addition, utilizing the more efficient fixtures will result in a greenhouse gas emissions reduction of approximately 1000 tonnes/year.

### **LED Traffic Lights**

The Halifax Regional Municipality has been actively converting incandescent traffic signal systems to LED lamps for the last 4 years. Through support from Conserve Nova Scotia, HRM has been able to convert approximately 140 intersections. In addition, about 30 new LED traffic signal systems have been installed over that time. With the help of Nova Scotia Power's DSM program initiative and Conserve Nova Scotia's ongoing support, the remaining 109 intersections will be converted by February of 2011. This conversion project will realize an 85% reduction in energy consumption, and a reduced maintenance cycle. For the present project, the annual energy savings will amount to approximately \$130,000.00. In addition, another \$40,000.00 will be saved through reduced maintenance costs. This entire conversion project, when completed early next year, will see annual savings to HRM will be in the \$400,000.00 range with a greenhouse gas emission reduction of about 3500 tonnes.

### **Canada Games Centre**

The Canada Games Centre is a major regional facility designed to meet the needs of high performance sport and be the showcase venue for the 2011 Canada Winter Games. The facility will serve residents of HRM as a central location for sport, recreational, cultural, and nature appreciation activities. The Canada Games Centre is an environmentally sustainable building, targeting LEED® Silver design standards. Take a peek at some of the “green” environmental design highlights.

**Solar Energy** - Solar panels are a simple and effective approach to hot water heating. Using the sun’s rays in place of more conventional hot water heaters cuts costs and is more environmentally sustainable. The 200 roof-top panels at the Canada Games Centre collect heat for domestic hot water, including sinks and showers. Also on the roof are innovative solar duct heaters that preheat ventilation air for the field house.

**Site Selection** - The facility is situated on a former Brownfield lot used as a dumping ground for concrete and asphalt. The site underwent an environmental analysis and was cleaned to meet current health and environmental standards.

**Saving Energy** - This facility has been designed with energy efficiency in mind. To reduce energy use, factors like orientation, window glazing, LED lighting, and shading techniques have been considered. Insulation levels exceed industry standards by 25%. By strategically positioning windows and glass in the design, the Canada Games Centre benefits from daylighting and is less dependent on traditional artificial indoor lighting. Not only does natural light lower energy costs, it creates a more enjoyable space to work and play. Indoor lighting is connected to occupancy sensors to reduce excess electricity use.

**Transportation** - Walking, biking and running are all healthy choices for people and the environment! To encourage active modes of transportation, the Canada Games Centre is accessible by bike, foot and bus. There will be bike racks on-site and showers facilities to refresh after a sweaty ride or run. A bus stop is close by and routes #4, #16, #21, #52 and #89 service the facility frequently.

**Recycled Material** - Some of the building materials at the Canada Games Centre contain recycled content. For example, the concrete and asphalt that were formerly dumped on this site were recycled and excavated rock was crushed and used for gravel fill. Try to guess some other recycled materials. A few that may not be obvious at first are: structural steel, gypsum board and window glass.

**Water Efficiency** - Using water effectively is key to sustainability. At the Canada Games Centre, low-flow sinks, dual-flush toilets and waterless urinals have been installed to reduce water-use. Toilets use water that is collected from the roof and stored in a cistern. Water from the cistern may also be used to irrigate the baseball field. The pool is equipped with an efficient water treatment system that minimizes water consumption. Outside, landscapers will design with plants

that are adapted to Nova Scotia's climate and do not depend on irrigation or sprinkling systems to survive.

### **Halifax Police Department and Centennial Pool District Energy and Solar Panel Project**

HRM Regional Council has approved a number of renovations for Centennial Pool. The facility, located in central Halifax, was built for the 1967 Canada Games and has not had any significant upgrades since its construction. Due to the age of the building's equipment, the facility is not energy efficient and will be undergoing a number of energy efficiency retrofit projects along with other renovations. HRM expects these upgrades will extend the "life" of the building for an additional 20 years.

District Energy – new natural gas boilers and solar panels are being installed at the Halifax Police Department (HPD). The buildings (Centennial Pool and the HPD) will have a shared heating system connected by an underground trench.

Solar hot water – 110 solar panels will provide domestic hot water for Centennial Pool and HPD.

Heat recovery – new mechanical system at Centennial Pool will minimize energy use, lower humidity levels and recover “waste” heat to warm the pool water. This will permit the removal of the old, inefficient mechanical system and boilers.

### **Bottled Water**

In October 2010, following a one year restriction on Bottled Water in the flagship building of City Hall, Regional Council approved the expansion of the restriction to other municipal administrative buildings. See Attachment XX

### **Adventure Earth Centre**

Since 1981, the [HRM Adventure Centre](#) has engaged more than 60,000 young people in award-winning, experiential programs at the cutting edge of environmental education, youth leadership and outdoor recreation in Canada. Each year, more than 2500 children and 200 youth leaders participate in experiential programs of a day or more. In 2003, the [HRM Adventure Earth Centre](#) received the Canadian Parks and Recreation Association national award for long-term excellence in service (based on a 20 year period) and the Canadian Environmental Education and Communication Network award for excellence in environmental education by a government organization. Appreciating, understanding and caring for ourselves, each other and the earth are basic skills as we move into the 21st century. The [Adventure Earth Centre](#) takes a positive, values-building approach to developing a rewarding and healthy lifestyle. Our programs use exciting, active experiences in the natural world that are filled with magic and adventure as the foundation for developing appreciation, understanding, and caring. These experiences then become a springboard for focused activities and reflection back at home and school in which young people begin making concrete changes in their lifestyles. This approach is based on the work of the [Institute for Earth Education](#), a non-profit educational organization working across the globe. Hands-on leadership opportunities for young people are a key element of everything

we do and create powerful experiential opportunities for young people to strengthen their personal leadership and gain confidence and skills.

### **Earth Adventures in HRM**

In 2010, HRM SEMO Office in collaboration with Recreation re-launched a youth activity book called Earth Adventures in HRM. The book takes youth onto many of the HRM trails and helps them explore nature. The book retails locally for about \$15 and proceeds help send youth to summer environmental camp.

<http://www.halifax.ca/mediaroom/pressrelease/pr2010/101013BooklaunchofEarthAdventuresintheHalifaxRegion.html>

### **Get Out Check It Out**

Again, in collaboration with Recreation Services, SEMO sponsored the printing of a 2010 edition of Get Out Check It Out, a series of HRM Trail information encouraging residents and visitors to use the trail system.

[http://www.halifax.ca/REC/documents/FW\\_GetOutCheckItOut.pdf](http://www.halifax.ca/REC/documents/FW_GetOutCheckItOut.pdf)

### **Mini Hybrids**

HRM Fleet Services has spearheaded an initiative to test and trial and adopt the usage of EMP miniHybrid thermal kits in the bus fleet. After testing and trial demonstrated a 10% reduction in fuel consumption, HRM has worked on retrofitting a number of Metro Transit buses with the green technology solution.

### **Hybrid Vehicles**

Hybrid Emergency Vehicles in 2010 / 2011, HRM purchased a Hybrid vehicle for both the Deputy Chief of Fire and Deputy Chief of Police. These units were identified as good candidates using the Green Vehicle Filter which showed high mileage and in city driving. Additionally, two hybrid buses were put into service with Metro Transit in 2010.

### **Vending Machine Energy Efficiency**

A progressive action that HRM took in 2010 resulted in the recent execution of a memorandum of understanding between the municipality and the vending industry (as per Attachment XX) for a 25% reduction in energy consumption in vending machines within 3 years.

### **Solar Hot Air**

In order to accomplish two things: 1. Improve Energy Consumption and 2. Provide Communication opportunity to the public, HRM installed Solar Hot Air Panels at six community operated community centres in the municipality – focusing on the more rural areas. This work accomplishes community capacity building around renewable opportunities (the installations are to be accompanied by a communications plan) and helps reduce the operating costs of the community groups – where a few hundred dollars per year in savings makes a big difference.

### **CPTED**

The Community Response Team (Halifax Regional Police Public Safety Office) is responsible for developing and delivering annually, a Crime Prevention Through Environmental Design (CPTED) course for HRM staff. CPTED is a tool used to reduce the possibility of crime and fear

of crime. A section on Environmental Sustainability has been incorporated within the training. What is the connection between Environmental Sustainability and Crime Prevention? Both Environmental Sustainability and CPTED promote healthy, sustainable, vibrant, livable communities. CPTED Practitioners are cognizant of the ability to maintain the qualities that are valued in the physical environment, when making recommendations on infrastructure in the development stage or existing infrastructure. Examples of recommendations could be no clear cutting - just limbing and trimming; use of recycled material for park benches; placement of mulch on pathways; environmentally friendly graffiti removal product; use of boulders as an access control tool; encourage the formation of Neighbourhood Watch/Vertical Watch groups so people get to know each other and therefore willing to keep an eye on each other.

**HRMSmarttrip.ca including Parking Smart** - HRMSmartTrip.ca is a state of the art ride matching system that allows commuters to quickly and securely find carpool partners. The system matches people based on proximity to origin, destination points and travel route as well as similar working hours and compatible carpooling preferences. The initiative was expanded in 2009 to include a parking match component. The enhancement is a permanent feature of the website which allows the public to find a parking partner. Residents needing or offering a place to park can log onto the website and register. This parking match registration is a free service supported by HRM, however all parking arrangements/costs are up to the discretion of participating individuals.

**HRM Corporate Smart Car Program** (Commuter trip reduction) In 2009, as part of the Commuter Options Program, HRM purchased three Smart Cars. This initiative works with staff to encourage the use of sustainable modes of transportation for commuting to work. The hope is that staff will choose more sustainable modes of transportation for commuting when they have the option of using the Smart cars to attend work-related meetings during the workday. HRM anticipates over the next few years there will be a reduction in personal local expense claims as well as a reduction in greenhouse gas emissions through the use of fuel efficient cars.

**Guaranteed Ride Home** - In 2009 HRM, with financial support from Transport Canada and Conserve Nova Scotia, launched a pilot program for staff and a handful of other local employers (Patterson Law, Dalhousie University, Nova Scotia Power and the Department of National Defense) called Guaranteed Ride Home (GRH). The GRH programs address the significant barrier of using sustainable transport for the commute to work: employee concerns about not having access to transport in the event of an emergency during the course of their work day. The GRH program may offer a taxi ride home, or to other relevant destinations (e.g. schools, medical facilities), for employees that used a sustainable travel option to commute to work on the day of the emergency. Acting essentially as an insurance program, GRH initiatives have proven an extremely cost-effective approach to attracting both new alternative transportation users and maintaining or increasing participation by existing users.

**Active Transportation Trail Enhancement** – Chester Spur Line Acquisition and Development. The Chester Spur Line has a paved active transportation trail 8.5 kms long and 4 metres wide. It is in an abandoned rail corridor that runs from Timberlea and branches off in two different directions ending at Joseph Howe Drive and the Armdale Rotary. This trail will create a connection from the suburban to the urban active transportation trail network. The bike trails will promote active transportation and provide alternative methods that will reduce the emission of GHGs.

**Feedback:**

15. CK appreciates your participation in the Sustainable Cities survey. We would like to make this metric a strong tool to help your municipality achieve its vision of sustainability. Do you have any suggestions about how this project could better address the sustainability planning needs of your municipality?

This survey is very helpful in keeping the municipality focused on the holistic approach to sustainability.