

**Environment and Sustainability Standing Committee  
July 5, 2012**

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



**SUBMITTED BY:** \_\_\_\_\_  
Peter Stickings, Acting Director, Planning & Infrastructure

**DATE:** April 16, 2012

**SUBJECT:** Progress Report on the Community Energy Plan

**INFORMATION REPORT**

**ORIGIN**

- July 7, 2011, Environment and Sustainability Standing Committee, Motion 8.3: Status of Community Energy Plan;
- March 1, 2012, Environment and Sustainability Standing Committee, Information Report: Status of Community Energy Plan.

**BACKGROUND**

As per the Terms of Reference for the Environment and Sustainability Standing Committee (<http://www.halifax.ca/council/agendasc/documents/110315ca1131.pdf>), Energy Choice and Security is within the Committee's mandate.

In 2007, Regional Council approved the Community Energy Plan (<http://www.halifax.ca/environment/energyplan/>) as a Functional Plan of the Municipal Regional Planning Strategy.

It was recommended in the March 1, 2012, Environment and Sustainability Standing Committee (ESSC) Information Report "Status of Community Energy Plan" that staff completes a Progress Report on the Community Energy Plan (CEP) and return to the ESSC with the results in the spring.

## **DISCUSSION**

The Regional Plan directs that the Community Energy Functional Plan (CEP) should include:

1. Programs and measures for Halifax Regional Municipality (HRM) to use cleaner energy which may include using co-generation and district energy infrastructure development as well as natural gas distribution networks;
2. Energy efficiency measures that HRM could employ in its buildings, utilities and vehicle fleet;
3. The viability of using renewable energy sources, including biomass, methane, wind, photovoltaics and solar;
4. A program to educate citizens to encourage energy efficiency in the design of buildings, site plans, subdivisions and communities; and
5. In cooperation with the Province, citizens and industry stakeholders, use appropriate measures, including the provision of a formal public consultation process, for the siting of wind turbines.

The CEP was approved by Regional Council in 2007. The CEP vision states “In partnership with other agencies, HRM intends to achieve the most significant improvement to energy sustainability, security, renewable technology, and environmental emissions among similar sized cities in Canada over the next 10 years.” We are now 5 years in, so it is important to assess our level of accomplishment and make decisions for the next 5 years towards achieving this vision.

The CEP consists of eight main goals:

- Improve the energy efficiency of buildings;
- Increase transportation choice and efficiency;
- Increase industrial energy efficiency;
- Encourage energy efficient land use planning and neighbourhood site planning;
- Increase efficiency of infrastructure;
- Increase energy security and diversify energy supply;
- Educate and engage residents and businesses; and
- Demonstrate local government leadership.

The status of each action listed in the original CEP is provided in the table below, in order to assess progress on the CEP’s vision and goals.

Goal 1: Improve the Energy Efficiency of Buildings	
ACTION	STATUS
<b>Corporate Actions</b>	
<p>Retrofit existing HRM buildings for energy efficiency improvements and the use of renewable energy technologies such as solar water heating. Focus on large energy users: arenas, community centres, libraries, etc.:</p> <ul style="list-style-type: none"> <li>• Utilize demand side management (DSM) programs as a resource tool to reducing energy consumption;</li> <li>• Create a capital reserve fund for energy efficiency projects, replenished by part of savings from retrofit projects.</li> </ul>	<p>Many successes in this area. Building retrofits since 2009 include:</p> <ul style="list-style-type: none"> <li>• 18 solar installations on municipal buildings, showcasing a range of available technologies for domestic hot water or space heating;</li> <li>• Dartmouth Sportsplex retrofit and conversion to natural gas;</li> <li>• Metro Transit facility, 200 Ilsley Ave.;</li> <li>• Alderney 5 – geothermal, district energy, lighting retrofit, boiler retrofit;</li> <li>• Conversions to natural gas;</li> <li>• Lighting upgrades (large initiative underway with the help of Efficiency Nova Scotia);</li> <li>• Geothermal used in several buildings, including the Alderney 5 complex, East Dartmouth Community Centre, New Dutch Settlement Station (# 40), Fall River;</li> <li>• District Energy projects completed for Dalhousie University complex, VG and QEII Hospitals, DND, Halifax Police Headquarters and Centennial pool, and Alderney 5 complex;</li> <li>• District Energy project planned for new central library in downtown Halifax;</li> <li>✓ DSM is being used – HRM is tracking energy consumption, which will be used to inform the recapitalization plan.</li> <li>✓ HRM’s energy efficiency reserve has been established and is very successful in enabling energy efficiency projects. Currently about \$300,000 goes in annually from savings.</li> </ul>
<p>Require higher standard of energy efficiency and environmental design in new HRM buildings.</p>	<p>All new HRM buildings are built to LEED silver standards; two are certified to LEED silver to date – Gordon R. Snow Community Centre and East Dartmouth Community Centre.</p>

<b>Community Actions</b>	
<p>Support existing programs to increase energy efficiency and consumption reduction in the residential sector:</p> <ul style="list-style-type: none"> <li>• EnerGuide for houses;</li> <li>• R-2000 Home by NS Home Builders Association.</li> </ul>	<ul style="list-style-type: none"> <li>• HRM went beyond support by creating an innovative program called Solar City, to encourage and enable home owners to install solar panels for domestic hot water. HRM has achieved approval from the Province of Nova Scotia to amend the HRM Charter to allow participants to be billed as part of their annual tax bill. This remains a pilot project under development.</li> <li>• HRM participated in the development of the Model National Energy Code. The Province and the federal agent EnerCan are conducting surveys of market places and governments to measure status and develop a strategy for implementation in all provinces and territories.</li> </ul>
<p>Adjust the building permit fee structure to provide incentives for new high efficiency homes based on achieving an EnerGuide 77 and/or R-2000 standard.</p>	<p>Nova Scotia applies energy performance regulations in Part 9 of the Code and requires compliance to EnerGuide 80 for all dwellings; R2000 at 78 and EnerGuide 77 are therefore moot in the circumstance. All dwellings must and do meet 80 by either prescriptive or performance means.</p>
<p>Promote incentives currently available to support energy efficiency in buildings, in particular:</p> <ul style="list-style-type: none"> <li>• NSE's 10% rebate on solar water heating systems;</li> <li>• CMHC's 10% premium refund on its mortgage loan insurance premiums;</li> <li>• Federal Eco Energy Retrofit Program and the associated provincial program;</li> <li>• Utilize existing Conserve Nova Scotia energy efficiency programs.</li> </ul>	<p>Not an HRM mandate</p>

<p>Use municipal code by-law changes as lever to require EnerGuide ratings on all existing homes, at time of sale, with involvement from the realtors association and the Province.</p>	<p>Not HRM authority.</p> <p>Provincial related goals in EGSPA are:</p> <ul style="list-style-type: none"><li>• All new residential dwelling units constructed in the Province will be required to achieve an EnerGuide rating of 80 or meet energy conservation measures adopted in the Nova Scotia Building Code Regulations made under the Building Code Act after January 1, 2011;</li><li>• All new residential dwelling units constructed in the Province that are within the scope of Part 9 of the National Building Code of Canada will be required to display an EnerGuide rating by the year 2008:<ul style="list-style-type: none"><li>○ Following consultation with stakeholders, mandatory labeling of new homes has been replaced with a choice of either performance based or prescriptive energy efficiency requirements that were adopted in the Provincial Building Code on December 31, 2009. These requirements apply to both new single family homes and all small buildings built under Part 9 of the National Building Code.</li></ul></li></ul> <p>Note these goals do not relate to existing homes at the time of sale.</p>
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<b>Goal 2: Increase Transportation Choice and Efficiency</b>	
<b>ACTION</b>	<b>STATUS</b>
<b>Corporate Actions</b>	
Right-size the municipal fleet, assign vehicle use appropriately and designate more vehicles for multi-use.	Ongoing activities include: <ul style="list-style-type: none"> <li>• Replacement of gas with efficient diesel units;</li> <li>• Investigation of alternative fuels;</li> <li>• Smart Cars for employee use;</li> <li>• Fleet driver training program;</li> <li>• Use of a vehicle Right Sizing Filter and Life Cycle Analysis for new vehicle purchases;</li> <li>• Fleet Usage Policy.</li> </ul>
Continue and support HRM's Commuter Trip Reduction program.	<ul style="list-style-type: none"> <li>• HRM SmartTrip</li> </ul>
Implement driver training for HRM's fleet drivers.	<ul style="list-style-type: none"> <li>• HRM and Clean NS Partnership Agreement to deliver a 2012/2013 HRM Fleet Fuel Consumption Reduction Program in support of HRM's greenhouse gas reduction objectives;</li> <li>• Internal policy to restrict idling to a maximum of one minute and to prohibit HRM staff from using drive-through services while operating HRM vehicles.</li> </ul>
Purchase and showcase alternative fuel vehicles, i.e. CNG, Propane, Electric or Hybrid.	HRM has purchased 5 Smart cars for employee use for work purposes and 2 hybrid SUV vehicles
<b>Community Actions</b>	
Expand public transit services	<ul style="list-style-type: none"> <li>• Metro Transit Strategy approved in 2009;</li> <li>• 5 Big Moves</li> </ul>
Encourage implementation of the Active Transportation Plan.	Ongoing
Look into the possibility of restructuring HRM's taxi zoning for greater efficiency (i.e. fewer taxis having to leave the airport without passengers).	HRM proposed a by-law to eliminate taxi zoning; however, the recommendation was not approved by Council. The estimated energy savings were debatable and the issue was contentious.

<b>Goal 3: Increase Industrial Energy Efficiency</b>	
<b>ACTION</b>	<b>STATUS</b>
<b>Community Actions</b>	
Encourage industrial process heat recovery in industries such as breweries, dairies and others.	Not HRM mandate.
Encourage activities to focus improvement on efficiencies in HRM-based industrial processes, and for businesses in partnership with organizations such as the Eco-efficiency Centre and CIPEC.	Not HRM mandate.
<p>Conduct an inventory of sources of industrial waste heat that can be used by others (e.g. cooling water from Tuft's Cove).</p> <ul style="list-style-type: none"> <li>• Encourage the development of new buildings that can be heated using low grade thermal energy</li> <li>• Explore feasibility for district cooling opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• District cooling at Alderney 5 complex</li> <li>• Dalhousie to provide district heating to new library</li> <li>• HRM encouraged a new condominium development to use waste heat from the Bedford sewage treatment plant, however this proposition was rejected.</li> <li>• Cogswell Street Interchange Master Plan - HRM has an objective to preserve the option to use waste heat from the sewage treatment plan.</li> </ul>
<b>Goal 4: Encourage Energy Efficient Land Use Planning and Neighbourhood Site Planning</b>	
<b>ACTION</b>	<b>STATUS</b>
<b>Community Actions</b>	
Include energy considerations in the Urban Design Guidelines as a mechanism for leading development within the Capital District toward more sustainable models.	Incorporated in HRMByDesign for downtown Halifax
Influence the community visioning exercises and the resulting guidelines for community development to include energy considerations.	Yes with RP+5. Energy considerations are throughout RP+5's five major themes, such as solar orientation, reducing barriers to renewable and energy efficient solutions, etc.
Provide an inventory and plan for opportunity sites within HRM including brownfields and under-utilized areas within Business Parks.	<ul style="list-style-type: none"> <li>• Completed information reports to Council on brownfield site redevelopment.</li> <li>• Province just released new Contaminated Sites Regulations, effective beginning July 2013. This will likely decrease some of the barriers for redevelopment.</li> </ul>

Provide opportunities for local food production and small scale food retail through urban agriculture and preservation of agricultural land within rural areas of HRM.	Not completed
<b>Goal 5: Increase Efficiency of Infrastructure</b>	
<b>ACTION</b>	<b>STATUS</b>
<b>Corporate Actions</b>	
Create a Street Lights Efficiency Strategy including standards, inventory, energy reduction action plan, and partnerships. Work toward bringing all streetlights in HRM under municipal control.	<ul style="list-style-type: none"> <li>• About 2,500 streetlights had been converted by 2011.</li> <li>• Province has legislated all streetlights must be converted to LED. Regulations are in development.</li> </ul>
Restore the commitment to LED Traffic Signals Program and set a program completion date.	Completed. All HRM traffic lights are now LED, completed by 2011.
Ensure implementation of the greenhouse gas emission reduction plan for pumping stations including items such as energy consumption monitoring, regularly scheduled maintenance, end of life motor upgrades to high efficiency units, and variable frequency drives on pumps with high flow variability.	No longer HRM's mandate (Halifax Water).
Explore options to encourage additional water conservation among water consumers.	Water consumption will begin to be tracked in our buildings this year, through our energy tracking/greenhouse gas emissions inventory.
<b>Goal 6: Increase Energy Security and Diversify Energy Supply</b>	
<b>ACTION</b>	<b>STATUS</b>
<b>Corporate Actions</b>	
Participate in expanding natural gas availability in HRM.	<ul style="list-style-type: none"> <li>• HRM has embarked on a pilot program with Heritage Gas in an attempt to improve uptake by existing residential homes (versus new developments) by looking at improvements to construction process and coinciding with existing roadwork;</li> <li>• HRM is conducting an economic analysis of purchasing fleet vehicles that run on natural gas (new vehicles only), which would require the construction of a service station for natural gas.</li> </ul>



Pursue Green Power Purchasing opportunities for HRM.	Note – this is not green procurement. Green power purchasing refers to purchasing blocks of renewable energy. HRM does not have the authority to execute contracts directly from wind providers.
Assess the risk of setting up a municipally owned energy utility with authority over power generation and/or energy purchase.	Completed
Consider co-sponsoring renewable energy projects with other NS municipalities that have better access to renewable resources (i.e. tidal projects in West Hants, Kings and Colchester).	Not an HRM mandate
<b>Community Actions</b>	
Biomass or MSW residuals for cogeneration plants or district heating	There are a number of residual waste/energy from waste projects under consideration. However, the province is clear that waste is not biomass and therefore cannot be used for incineration projects.
Anaerobic digester (AD) plant for processing of organic ICI and septage waste.	The council directed waste strategy review will include full business case development of the AD compost plant, which is being considered.
Utility size wind turbines independently or in cluster approach – and continue with the Wind Energy Master Plan process.	Wind Energy Master Plan is completed
Encourage installation of solar panels to heat process water in industrial processes such as breweries and dairies.	Not an HRM mandate
Assess the feasibility for mini (run-of-the-river) hydroelectric plants on Musquodoboit River at Crawford Falls, Middle and Upper Musquodoboit, Sheet Harbour River at Malay Falls, Half Way Brook and Little West River.	Not completed: Run-of-the-river hydroelectric projects are eligible under Nova Scotia's COMFIT program.
Encourage natural gas conversion of industrial boiler plants including Capital District Health Authority, Dalhousie, SMU, DND and Olands.	Not an HRM mandate
Assess potential for Harbour water cooling for buildings near the harbour.	Completed for Alderney 5 Complex, lots of potential. HRM staff is contemplating planning and policy initiatives for piping, etc., to create a structured process and ensure there are no barriers to access Harbour water cooling going forward.

<p>Increase the allowable NSPI net-metering limit to 800kW.</p>	<p>Not an HRM mandate: NSPI now has an Enhanced Net Metering Program, which has an increased limit of 1 megawatt (MW) or 1000 kilowatts (kW) from 100 kW. Class 1 for customer-generators up to 100kW, Class 2 for 101 kW up to 1 MW.</p>
<p><b>Goal 7: Educate and Engage the Community</b></p>	
<p><b>ACTION</b></p>	<p><b>STATUS</b></p>
<p><b>Community Actions</b></p>	
<p>Create recognition of the CEP by:</p> <ul style="list-style-type: none"> <li>• Well planned and timed launch campaign, website and opportunities for engagement throughout the process;</li> <li>• Maintaining the CEP brand in future energy programs resulting from the CEP;</li> <li>• Promoting the CEP and its concepts to NS at large;</li> <li>• Continuing support and promotion of the Naturally Green campaign.</li> </ul>	<ul style="list-style-type: none"> <li>• Not completed, except for continuing with the Naturally Green campaign;</li> <li>• Clean energy initiatives are messaged through the Energy &amp; Environment office.</li> </ul>
<p>Work with the development and construction sectors to identify target markets for new education programs.</p>	<p>Not an HRM mandate</p>
<p>Work with local industrial and institutional large consumers of energy to expand their commitment to reduce energy use, for example through:</p> <ul style="list-style-type: none"> <li>• An industrial energy conservation pledge;</li> <li>• A coalition-building session organized by the Mayor and involving CEOs and top managers.</li> </ul>	<p>Not an HRM mandate</p>
<p>Work with local NGOs in promoting their educational programs, especially within schools.</p>	<p>Ongoing working relationships with Clean NS, EAC, YNC, and SENSE.</p>

<p>Encourage implementation of public awareness programs using creative strategies such as:</p> <ul style="list-style-type: none"> <li>• Displaying the “carbon footprint” of moving treated water to the users on the civic water bills;</li> <li>• Neighbourhood canvassing program to promote EnerGuide;</li> <li>• A large ad campaign on carpooling.</li> </ul>	<p>Not an HRM mandate:</p> <ul style="list-style-type: none"> <li>• Idle-free campaign was conducted;</li> <li>• Climate Change mapping in Eastern Passage &amp; Cow Bay;</li> <li>• RP+5 and Center Plan community engagement.</li> </ul>
<b>Goal 8: Demonstrate Local Government Leadership</b>	
<b>ACTION</b>	<b>STATUS</b>
<b>Corporate Actions</b>	
<p>Implement all other Corporate Actions under all the previous 7 goals to clearly demonstrate HRM’s commitment to “walk the talk”.</p>	<p>HRM has completed most of the corporate actions within its mandate, showing that we are walking the talk. HRM is progressive in GHG reductions work, energy efficiency measures and demonstrating the economic viability of these types of projects.</p>
<p>Use HRM’s influence to lobby for the legislative priorities identified in the shortlist of actions in the Community Energy Plan, thus getting “our own house in order”.</p>	<p>HRM submitted comments for the EGSPA review</p>
<p>Push for the municipal voice at the table in formulating Nova Scotia’s Energy Strategy, particularly the formation of an Energy Advisory Committee.</p>	<ul style="list-style-type: none"> <li>• HRM is represented on the Demand Side Management (DSM) board at Efficiency NS;</li> <li>• HRM has regular meetings with NS Energy and the NS Climate Change Directorate.</li> </ul>

While HRM has had great success with the corporate actions listed above, the CEP did not maintain momentum once completed and engagement with the community ended. The idea of the CEP at its inception was for HRM to work and collaborate with other community stakeholders in order to champion the CEP and to progress energy efficiency and reductions at a community level. While there are examples of HRM working with partners on energy, there is no structured approach. The CEP recommended a branding and promotion strategy to encourage the community to engage on energy, as well as a structured monitoring/evaluation program. The CEP was intended to be a living document so that it could adapt over time to changing technologies, communities, knowledge, etc.

The community actions listed in the table above and recommended in the CEP are just those, community actions, and are not within the mandate (and sometimes even the authority) of HRM. While HRM could potentially assist in some of these actions, for example ensuring no municipal barriers to implementation, they must primarily be undertaken by various energy stakeholders throughout the municipality.

HRM Energy & Environment proposes to re-examine the structure and intent of the CEP through stakeholder consultation this year, and to propose a revision to be completed in 2013/14.

The primary staff observations and conclusions of this review are:

1. Actions not within the mandate and authority of the Municipality need to be reconsidered, or responsibilities need to be clarified;
2. With substantial Provincial performance and progress on the sustainable and renewable energy file, we have a much clearer direction on the future of energy in Nova Scotia. It is important that the municipal role to enable and foster the objectives of the NS Renewable Energy Strategy is identified to ensure:
  - a. Any municipal performance expectations are identified;
  - b. Any current municipal barriers are targeted.
3. With profound impact on economic development, clear objectives in the Economic Strategy around municipal energy efforts must be identified; and
4. Focus on execution of municipal energy efficiency and fuel reduction efforts needs to be articulated.

### **CEP and QUEST**

The Quality Urban Energy Systems of Tomorrow (QUEST) Nova Scotia caucus began in May 2010, of which HRM is a member. The purpose of QUEST NS is “to provide an informal forum where members interested in managing energy related issues consistent with QUEST principles and the Integrated Community Energy Solutions (ICES) vision can meet, exchange information, communicate success stories, propose implementation strategies and develop partnerships for the routine adaptation of said QUEST principles and ICES vision.”

QUEST NS may be the most appropriate venue for HRM to collaborate with key stakeholders in the community on energy-related matters.

### **BUDGET IMPLICATIONS**

There are no implications to the 2012/2013 Operating or Project Budgets.

### **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**

Community engagement was not required for the Progress Report on the Community Energy Plan.

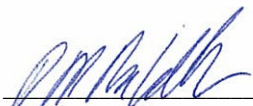
**ATTACHMENTS**

None

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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.

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