

Environment & Sustainability Standing Committee
November 13, 2013

TO: Chair and Members of Environment & Sustainability Standing Committee

SUBMITTED BY: Original Signed
Jane Fraser, Director, Planning & Infrastructure

DATE: September 23, 2013

SUBJECT: Update: Community Energy Plan Revision, Desired Outcomes

INFORMATION REPORT

ORIGIN

Environment & Sustainability Standing Committee (ESSC), May 2, 2013, Item 7.1.3

LEGISLATIVE AUTHORITY

HRM Charter, Purpose of Municipal Planning Strategy, 228

BACKGROUND

May 2, 2013, Motion: Environment & Sustainability Standing Committee direct staff to prepare a project framework and a Memorandum of Understanding (MOU) for a revision to the Community Energy Plan, which includes a staff lead project and engagement with QUEST and the Halifax Chamber of Commerce's Energy Advisory Committee.

On June 6, 2013, ESSC received an Information Report titled: Community Energy Plan Revision Activity: Regulatory Review, overviewing the Regulatory Review informing the project.

The next activity, as per the Project Framework, was to identify plan revision objectives.

DISCUSSION

The Project framework of the Community Energy Plan is:

Activity	Halifax Regional Municipality	QUEST & Halifax Chamber, Energy Advisory Committee	Time
Regulatory and Policy directional review and identification	Staff assembly of the framework of legislation, policy, and strategy that will form and contain the project	Informational Review	Year 1 Duration: 2 months (completed)
Development of Plan Objectives and Status Quo performance data	<ul style="list-style-type: none"> • Staff facilitation of input from QUEST & Chamber; • Staff review of submissions and survey; • Staff recommendation to ESSC of Plan objectives. 	<ul style="list-style-type: none"> • Member survey, input, submissions; • Assistance with identification and assembly of required performance data 	Year 1 Duration: 4 months (content of this report)
Opportunities Assessment	<ul style="list-style-type: none"> • Review of municipal authorities to impact approved objectives; • Presentation of deliverables to ESSC (Information Report) 	<ul style="list-style-type: none"> • QUEST Canada: Lead on National Best Practices scan; • Halifax Chamber: Host an Ideas Expo to identify made at home opportunities and solutions 	Year 1 Duration: 4 months (next activity)
Development of Action Plan	<ul style="list-style-type: none"> • HRM Staff development of proposed Actions; • Identification of Municipal and Stakeholder Roles; • Engagement and discussion with QUEST & Halifax Chamber; • Economic Impact Assessment of Proposed Actions 	<ul style="list-style-type: none"> • Input on Actions; • Member survey; • Informational Review of Economic Impact Assessment 	Year 2 Duration: 6 months
Development of Performance Metrics and Targets	Preparation of Performance Measurement framework	Identification of data sources	Year 2 Duration: 2 months

<p>Assembly of 2015 to 2020 Community Energy Plan</p>	<ul style="list-style-type: none"> • HRM assembly and development of final plan; • Presentation to QUEST & Halifax Chamber; • Recommendation to ESSC and Regional Council 	<ul style="list-style-type: none"> • Review of Draft Final Plan, comments to HRM; • Endorsement of Final Plan 	<p>Year 2 Duration: 2 months</p>
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The overview of consultation completed for this activity regarding objectives/desired outcomes:

Halifax Chamber: The January 2012 submission to RP+5 made eleven recommendations. Staff responded to the Community Design Advisory Committee that the input would inform the Community Energy Plan:

1. Energy to play a significant role in the MPS;
2. Use proven, integrated and systematic approaches to urban energy planning;
3. Leverage Nova Scotia’s advanced energy policies and legislation to aggressively deploy energy efficiency and renewable energy policies and by-laws in HRM and reduce the community’s carbon footprint;
4. Target significant reductions on HRM’s energy-related greenhouse gas emissions;
5. Support and promote energy efficient housing in HRM with advanced Energuide ratings as an initially voluntary target;
6. Utilize established best practices, protocols and tools to support and promote a transformative green building market in HRM;
7. Advance clean energy public transportation infrastructure in HRM;
8. Support the investigation and deployment of “Smart Grid” enabling technologies;
9. Identify, communicate, and enable economic benefits of sustainable energy strategies;
10. Launch a municipal energy awareness program; and
11. Establish advanced levels of energy awareness and energy literacy in HRM.

Business Survey (Summary of Results attached):

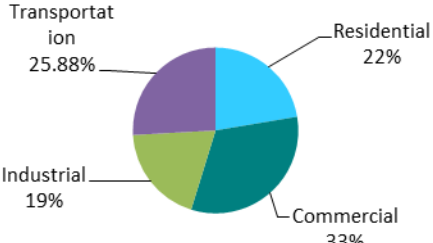
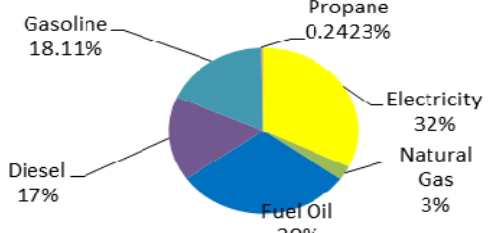
- 67% of responding businesses stated affordability of fuel for transportation is very or critically important;
- 85% of responding businesses stated affordability of energy for building uses is very or critically important;
- 85% of responding businesses stated that there are obvious energy opportunities that they do not have the time to address; and
- 89% of responding businesses stated that energy conservation is very or critically important.

Maritimes Energy Association: Reflecting the progression of the energy sector in Nova Scotia, in 2011, the Offshore Technology Association of Nova Scotia (OTANS) changed its name to the Maritimes Energy Association. The progression is reflective of the emergence of renewable and sustainable energy solutions in the commercial sector. The association serves members seeking opportunities and development in the supply chain of the energy sector. Progressive municipal leadership helps create and provide economic opportunity.

QUEST: Quality Urban Energy Systems of Tomorrow and the Halifax Chamber signed a memorandum of understanding with HRM to revise the Community Energy Plan. Following presentation of the survey results, and dissemination of preliminary data and discussion of the anticipated direction for the objectives, QUEST members concurred with the recommended desired outcomes and provided input into developing tangible objectives and improving the data acquired to date and required for the plan.

Some of the preliminary project data informing the community energy plan revision includes:

Stantec Quantification Study Results: Community Energy Inventory (2009 data): As a component of the five-year Regional Plan Review, Stantec were contracted to complete a quantification study to provide objective data for the community and Regional Council to base policy discussions on. A component of the study was a Community Energy Inventory. The most current data available is 2009, and the information provides the results as follows:

<p>Community Energy Breakdown by Sector</p>  <table border="1"> <caption>Community Energy Breakdown by Sector</caption> <thead> <tr> <th>Sector</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Commercial</td> <td>33%</td> </tr> <tr> <td>Transportation</td> <td>25.88%</td> </tr> <tr> <td>Residential</td> <td>22%</td> </tr> <tr> <td>Industrial</td> <td>19%</td> </tr> </tbody> </table>	Sector	Percentage	Commercial	33%	Transportation	25.88%	Residential	22%	Industrial	19%	<p>The Commercial sector remains the largest energy user in HRM. With 33% of energy consumption, this usage demonstrates the impact and importance of energy on the commercial competitiveness of local business.</p>				
Sector	Percentage														
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<p>Community Energy by Source</p>  <table border="1"> <caption>Community Energy by Source</caption> <thead> <tr> <th>Source</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Electricity</td> <td>32%</td> </tr> <tr> <td>Fuel Oil</td> <td>30%</td> </tr> <tr> <td>Gasoline</td> <td>18.11%</td> </tr> <tr> <td>Diesel</td> <td>17%</td> </tr> <tr> <td>Propane</td> <td>0.2423%</td> </tr> <tr> <td>Natural Gas</td> <td>3%</td> </tr> </tbody> </table>	Source	Percentage	Electricity	32%	Fuel Oil	30%	Gasoline	18.11%	Diesel	17%	Propane	0.2423%	Natural Gas	3%	<p>In terms of energy mix, furnace oil and electricity are the two top sources of Energy consumed in the Halifax Regional Municipality.</p>
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Fuel Oil	30%														
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Propane	0.2423%														
Natural Gas	3%														

Using the data from the Stantec report, and assuming current market pricing, the community of Halifax spends over \$1.7 Billion annually on energy. This includes estimates of:

- \$600 million on electricity
- \$450 million of furnace oil
- \$350 million of gasoline

Aside from consumption information, preliminary information regarding provincial energy strategy objectives on increased natural gas usage and energy efficiency includes:

Energy Efficiency:

- Saved to date: 469 million kilowatt hours (kWh) or 4.3%;
- Completed energy efficient upgrades in 28,397 homes, resulting in an average annual savings of \$182.00 per household, or over \$5 million in total; and
- Upgrades helped 163 industrial customers and 4,208 small businesses to be more profitable.

Natural Gas:

Total Activated Customers:

	Dartmouth	Halifax Peninsula	Halifax Mainland	Bedford
Commercial	1178	551	177	85
Residential	1433	271	19	159

Additional Data recommendation:

After meetings discussing the scope and goals of the Community Energy Plan revision and how to create a more actionable plan, it was recommended from the QUEST/Chamber project working group to include the following overall guiding performance metrics in the final Community Energy Plan:

- A Regional Energy Self Sufficiency Metric;
- Community Energy Cost and Stability Metric (current costs: \$1.7 billion); and a
- Local Energy Jobs Metric.

Staff will assess the ability to obtain the required data for these metrics during plan development. The Regional Energy Self Sufficiency Metric would compare: renewable energy, energy efficiency, and natural gas, to imported oil and coal. The Community Energy Cost and Stability Metric would compare the fixed cost of renewables (wind, solar, geothermal) to the variable costs of fossil fuels. The Local Energy Jobs Metric is information that staff are unclear on how to obtain and will seek input from industry and economic development agencies.

Desired Revision Outcomes:

The tangible objectives of the plan revision will emerge as the next project activity as per the approved project framework, titled: Opportunities Assessment which includes assessing Municipal Best Practices and an Ideas Expo, is progressed. However, the consolidated desired revision outcomes are as follows:

1. For HRM businesses to reduce cost of business;
2. For HRM business to have economic opportunity in the energy sector;
3. For HRM residents to have increased energy choices; and
4. For HRM to demonstrate community leadership.

Overview of desired outcomes:

For HRM businesses to reduce cost of business:
Reducing energy costs and increasing efficiency are current policy goals of the Community Energy Plan. Discussions regarding availability of natural gas and access to energy efficiency programs in HRM have been prime energy objectives in recent years.
For HRM business to have economic opportunity in the energy sector:
With Shell and BP announcing exploration programs, Deep Panuke producing gas, and the Sable project continuing, the Oil and Gas sector in HRM is rebounding. Renewable energy and Clean Tech business opportunities are growing in Nova Scotia as a result of ComFIT, the \$45 million Efficiency Nova Scotia programs, and other provincial energy policies.
For HRM residents to have increased energy choices:
Residential interest in being able to choose natural gas, energy efficiency, or consider renewable energy projects (such as Solar City) amongst traditional energy sources, has been increasing in recent years.
For HRM to demonstrate community leadership:
All parties contributing to the community engagement have indicated that it is important for the municipality to show leadership with respect to implementation of provincial energy policy, with respect to energy efficiency, renewable energy adoption, and helping provide choice to residents and business for energy decisions (such as Solar City or Natural Gas orphan pipe installations). As well, with the substantive energy sector, HRM has been deemed to be important to continue to support economic development. This includes economic development activities such as the Mayors attendance at Offshore Technology Conferences (in Houston or Aberdeen) or inclusion in future economic strategies.

FINANCIAL IMPLICATIONS

Staff and consultant resources anticipated for year one of the project, are available within the 2013/14 Energy & Environment operating budget.

COMMUNITY ENGAGEMENT

Environment & Sustainability Standing Committee approved a Memorandum of Understanding with the Halifax Chamber of Commerce/QUEST to progress this project. Part of the input in this phase of the project included a survey to Chamber members.

ATTACHMENTS

Summary of Survey Results



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, Energy & Environment, 490-6056
 Julian Boyle, Energy Manager, 476-8075





Summary Report

(Completion rate: 69.77%)




Were you aware of the Halifax Regional Municipality Community Energy Plan before you were contacted concerning this survey?

Response	Chart	Percentage	Count
Yes		52%	16
No		48%	15
Total Responses			31


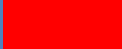


Affordability of fuel for transportation

Response	Chart	Percentage	Count
Not relevant at all		14%	4
Somewhat important		24%	7
Very important		48%	14
Critically important		14%	4
N/A Do not know		0%	0
Total Responses			29


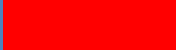

Affordability of energy for heating, lighting, production and other building related uses

Response	Chart	Percentage	Count
Not relevant at all		0%	0
Somewhat important		13%	4
Very important		60%	18
Critically important		27%	8
N/A Do not know		0%	0
Total Responses			30




Availability of natural gas

Response	Chart	Percentage	Count
Not relevant at all		14%	4
Somewhat important		34%	10
Very important		45%	13
Critically important		7%	2
N/A Do not know		0%	0
Total Responses			29

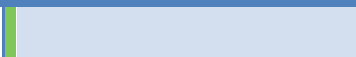



Has your company undertaken an analysis of fuel switching options for space heating/production or transportation loads? (ie oil to natural gas, diesel to natural gas, diesel to electric, etc.)

Response	Chart	Percentage	Count
Yes		40%	12
No		50%	15
N/A Do not know		10%	3
Total Responses			30


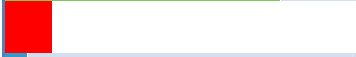
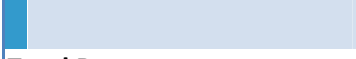
Conservation of energy through reduced consumption

Response	Chart	Percentage	Count
Not relevant at all		0%	0
Somewhat important		10%	3
Very important		31%	9
Critically important		59%	17
N/A Do not know		0%	0
Total Responses			29


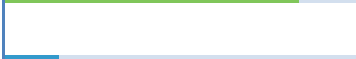
How would you rate your concerns about the security of energy supply of existing or future choices? (ie reliability or availability)

Response	Chart	Percentage	Count
Not relevant at all		3%	1
Somewhat important		13%	4
Very important		53%	16
Critically important		30%	9
N/A Do not know		0%	0
Total Responses			30


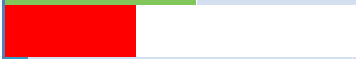
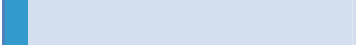
Encouraged employees or invested capital to reduce consumption of energy?

Response	Chart	Percentage	Count
Yes		79%	23
No		14%	4
N/A Do not know		7%	2
Total Responses			29

If Yes, would you do them again?


Response	Chart	Percentage	Count
Yes		85%	22
No		0%	0
N/A Do not know		15%	4
Total Responses			26

Does your business have an Energy Manager or “Energy Champion” on staff?


Response	Chart	Percentage	Count
Yes		55%	16
No		38%	11
N/A Do not know		7%	2

Total Responses	29
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If you had the time and resources to dedicate to energy costs are there obvious improvements/opportunities in your business?

Response	Chart	Percentage	Count
Yes		86%	25
No		3%	1
N/A Do not know		10%	3
Total Responses			29

If energy expenditures could be cut in half for your business, would you be able to increase the number of people you employ in HRM?

Response	Chart	Percentage	Count
Yes		48%	14
No		14%	4
N/A Do not know		38%	11
Total Responses			29

Do you have any additional comments on the Community Energy Plan, the importance of energy to the development of our economy, the municipality's role in energy management, or any other aspect of energy management that you would like addressed in the HRM Community Energy Plan?

The 14 response(s) to this question can be found in the appendix.

What type of business are you engaged in?

The 27 response(s) to this question can be found in the appendix.

How many employees currently work for your organization in Halifax Regional Municipality?

Response	Chart	Percentage	Count
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0-10

10-50

50-100

100+

0-10	32%	9
10-50	21%	6
50-100	18%	5
100+	29%	8
Total Responses		28

Appendix

Do you have any additional comments on the Community Energy Plan, the importance of energy to the development of our economy, the municipality's role in energy management, or any other aspect of energy management that you would like addressed in the HRM Community Energy Plan? |

#	Response
1.	More solar on HRM buildings
2.	Being a Energy/Environmental company I focus hard on internal and external consumption techniques from how to save energy to heating and transportation. We work very hard as a team and collaborate our ideas to grow as a company. We work very closely with the community and youth to promote environmental changes and our action plan is to get the local presence involved.
3.	As a small business, we would truly like to increase our energy efficiency but it can be difficult to approach alternatives and upgrades because of a lack of extra cash. Efficiency Nova Scotia has a great program for small businesses but if there was more funding available that would be helpful.
4.	Increased energy literacy through education of businesses and residents
5.	Fuel prices need to come down or small business owners will continue to struggle with fuel as their largest expense.
6.	HRM needs to do more to facilitate utilization of alternate fuels for transportation given their large fleet size. Infrastructure and early adoption is needed to kick start the market transformation - so HRM needs to lead by example.
7.	Switched from oil to heat pump. Use high efficiency heat pump. All lighting is LED and CFL. Rebates for geo-therma would be a good idea.
8.	We really need to de-couple energy from economic growth.
9.	Ensure the efficiency NS is included they are experts in the energy conservation field at all levels from residential to industrial
10.	Co-generation and district energy are key concepts for the peninsula that should be supported and explored.
11.	A community energy plan has the ability to open certain opportunities and reinforce positive energy behaviours, choices, and technologies. It is important that the plan outline general principles and is not overly prescriptive. There are many way to improve energy performance, as unique as each building or company. The goals of the plan however should be clear and measureable: how much energy savings do we want to see? How much CO2 savings. Etc. Please be aggressive with your planning!
12.	Why is this survey so focussed on natural gas? They're are many other options that are In the energy mix including propane, why are they not discussed?
13.	No

14. I'd like to see energy use reporting/benchmarking become mandatory for homes and businesses similar to several US cities. For businesses, this is normally done through the EnergyStar Portfolio Manager program. See <http://www.buildingrating.org/content/us-policy-briefs> for the list of cities. This would spur competition saving companies money, helping the environment and creating jobs. Its a win, win, win!

What type of business are you engaged in? |

#	Response
1.	Government
2.	Membership Organization
3.	Environmental Services
4.	sales and distribution
5.	Energy Management
6.	Supplying janitorial & sanitation products and equipment
7.	Public Service
8.	Environmental education
9.	Non-Profit
10.	Design Consultants
11.	Food service and Catering
12.	Landscaping / Trucking / Garbage removal
13.	energy
14.	Energy
15.	retail
16.	Public servants
17.	health
18.	Retail
19.	Telcom
20.	Academia
21.	Education, R&D, training
22.	NGO
23.	Delivery
24.	Renewable energy and energy reduction products
25.	Post Secondary Education
26.	Real estate sales

27. Engineering