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Item No. 12.3.1
Environment and Sustainability Standing Committee
May 12, 2016

TO: Chair and Members of Environment & Sustainability Standing Committee

SUBMITTED BY: **Original Signed**

Bob Bjerke, Chief Planner and Director, Planning and Development

DATE: April 21, 2016

SUBJECT: Update on the Solar City Program

INFORMATION REPORT

ORIGIN

March 31, 2015 Regional Council – 11.1.7 Solar City Pilot Program Summary, Staff Recommendation Report dated January 14, 2015.

October 1, 2015 Environment and Sustainability Standing Committee (ESSC) 9.1.1 Update on the Solar City 2.0 Program, Information Report dated September 18, 2015.

LEGISLATIVE AUTHORITY

Under the HRM Charter:

- Section 79(1)(ada) The Council may expend money required by the Municipality for providing for, financing and installing energy-efficiency equipment on private property including, without restricting the generality of the foregoing, solar panels.

By-law Number S-500 (Solar City by-law) Respecting Charges for Solar City Program.

BACKGROUND

On March 31, 2015, after a successful two year pilot project, Halifax Regional Council approved the creation of a three-year Solar City program.

11.1.7 Solar City Pilot Program Summary

Motion passed that Halifax Regional Council:

1. Approve the continuation of the Solar City program for three years at no direct net cost to HRM;
2. Increase the budget for project account CD990001 Solar City program by \$13,112,700.00 with funding as indicated in the Financial Implications section of the January 14, 2015 staff report;
3. Endorse the project initiation to include solar photovoltaic, solar air, and solar thermal technologies;
4. Direct staff to supply an annual report on the Solar City program; and
5. Direct staff to implement the recommendations from the Grant Thornton report on the pilot project.

On October 1, 2015, an Information Report was provided to the ESSC detailing the status of the Solar City program.

DISCUSSION

Solar City Pilot Program Wrap-up

Reporting for the Federation of Canadian Municipalities (FCM) was submitted in September 2015. On November 30, 2015, HRM received its anticipated grant of \$254,136.40 through the Green Municipal Fund (GMF) Combined Loan and Grant Agreement based on a total loan of \$2,541,364.00. This funding was secured to finance the pilot phase of Solar City. The loan payment obligations are to be met from the annual payments received from program participants who financed their installations through Local Improvement Charges (LIC).

HRM partnered with Innovacorp, Dalhousie University, NSCC and Thermo Dynamics Ltd. to provide a set of Solar City data for use in Innovacorp's Hackathon: Smart Energy App Challenge. The event took place in Halifax on September 26 and 27, 2015. A number of teams created innovative apps using the Solar City data. The winning team, Sol Ops, took home \$6,000 to continue the development of their app. Two teams, PayRays and HFX Smart Solar, tied for second place and received \$1,000 each.

New Solar City Program Development

Stakeholder Consultation

The three-year Solar City program development has progressed significantly in recent months. Consultations with internal and external stakeholders continue as the program nears a launch this spring.

External stakeholder consultations are ongoing with Nova Scotia Department of Energy, Efficiency Nova Scotia, Clean Foundation, Nova Scotia Power, QUEST Nova Scotia, Solar Nova Scotia, NSCC, Dalhousie University and industry. This engagement has helped staff determine the new Solar City program offering.

Capacity Building

The Energy Specialist position (full time, permanent) was filled February 1, 2016. An eighteen-month term position for a Solar City Program Officer closed for competition April 5, 2016. The position will be filled prior to the launch of the Solar City program. Depending on program uptake and demands on resources, a second, approved Solar City Program Officer position will be considered to ensure program success.

Energy & Environment staff has engaged all key internal staff from procurement, legal services, finance, accounts payable, corporate communications and others to discuss project scope, responsibilities and timelines.

Staff has incorporated lessons learned from the pilot project to ensure the Solar City program remains cost neutral to the general tax base. Staff will meet regularly to ensure collaboration continues across the various internal departments and to work on continuous process improvements, ensuring efficiencies for program administration.

Solar City Program Design

Staff has determined that the best course of action to realize the target of 1,350 installations over three years is to offer a ten-year, low interest loan to property owners through the LIC financing structure based on a set of Terms and Conditions that meet HRM's requirements. This financing mitigates the burden of the upfront capital costs of a solar system and allows for broad market participation within the local solar industry.

The program must be cost neutral to the non-participating tax payer. The financing rate will be set at 4.75% rather than the suggested 3.5% that appeared in the report on March 31, 2015. The change in the proposed interest rate is required to recover HRM's cost of administering the program. In the pilot program, administration costs were recovered by adding a set amount to the cost of each installation. Including the administration costs in the interest rate, instead of adding it to the installation cost, simplifies the program and payment structure for applicants.

Included in the project budget is \$60,000 annually to cover staff costs for administering the program over three years. The program may require 2.0 term FTEs if the program uptake meets the expected demand once the program is operational. Marketing, communications, and quality control will be required in various forms for which \$41,200 has been budgeted annually as part of the total cost for administration.

The program is designed to be cost neutral with the costs for the Solar City Program Officer(s), marketing and communications, and quality control over three years being recovered from the interest rate. The interest rate of 4.75% considers the risk that program uptake could be lower than expected. Conservatively, staff estimates that at least 500 solar installations will be financed through the Solar City Program over three years (the three-year goal is 1,350 installations). Even if uptake is approximately a third of what is expected and lower than the annual uptake of the pilot project, HRM will cover its costs for program administration, debenture payments, carrying charges and early repayments by participants, ensuring the cost neutrality of the program.

An interest rate of 4.75% adds flexibility to hire a second Solar City Program Officer pending strong uptake and minimizes the risk of future increases in borrowing rates from the Municipal Financing Corporation (MFC). An annual review of the Solar City Program will include the financial state of the program, the total amount of financing provided, staffing requirements, total solar installations for the year, projected solar installations, the proportion of properties that repaid their loan early, and the cost of borrowing through the MFC. The annual review will include an estimate of the total energy avoided through the program.

After exploring the cost of having a third party assessor complete the required solar suitability assessments, it became apparent that the costs to the program would be significant. Industry regularly performs assessments at no cost to property owners interested in solar installations. Staff has determined that HRM cannot keep the Solar City program cost neutral and provide an attractive interest rate if the cost of a third party assessor is required.

With the option to install three solar technologies (photovoltaic (PV), hot air, and thermal), a property owner may benefit from one technology over another or a hybrid approach depending on the opportunity for solar integration at the property. This approach enables existing programs offered by industry to improve their offering by combining it with HRM's low-interest financing. Available rebates for solar installations will improve industry's offerings even further.

To access HRM's Solar City LIC financing, specific criteria will need to be met and information provided in accordance with program Terms and Conditions that include, but are not limited to:

- Property owner is in good standing for all property taxes and LICs;
- Feasibility report indicating the total cost of the proposed system with supporting calculations and avoided costs from the installation of the solar system;
- The solar system, as designed, is expected to achieve a minimum annual return on investment (ROI) for the property owner;
- Contractor requirements such as adequate third party and liability insurance, is not insolvent or in the process of bankruptcy, etc.;
- Solar panel and associated hardware specifications and confirmation of compliance with Canada Standards Association (CSA), Underwriters Laboratory of Canada (ULC) or other industry recognized standards to ensure safety and quality of the panels and its components;
- Data monitoring specifications for the solar system, if applicable;
- For a PV solar installation, all requirements must be met for Interconnection Agreement through Nova Scotia Power;
- Professionally engineered systems that have been signed off by a Professional Engineer and are ready for a solar city permit application (permit application to be handled by the contractor);
- Potential rebates identified for the property owner (e.g. for electrically heated properties can receive a rebate through Efficiency Nova Scotia).

The HRM Charter enables solar system installations through a voluntary LIC because of section 79(1)(ada), section 71(2) of the HRM Charter states: "*The Municipality may not grant a tax concession or other form of direct financial assistance to a business or industry*". Staff has engaged legal services to determine whether Solar City financing may be offered to business entities. Cooperatives and not-for-profits remain eligible for participation in the Solar City program regardless.

A communications plan is under development to provide program messaging and marketing. The Solar City website will be revised to educate property owners on the requirements to participate in the program and clearly communicate that the Solar City financing is not repaid on a participant's property tax bill, but rather through installments to HRM. Similar to the pilot, the Solar City charge is provided as a separate invoice to the participant with a variety of payment options.

Registration from interested property owners will take place online and through various public engagement events. The Solar City Program Officer will be able to track the interest based on registration and compare this to actual installations through our application for financing. Interested property owners will be guided through the eligibility requirements for financing and will be offered support to help them navigate the process with industry.

Once the program is launched, key metrics will be tracked to ensure that the program is performing as expected. This will help inform the Solar City program's annual report on any recommendations that may be required to ensure or improve the program's success. Key Performance Indicators (KPIs) include but are not limited to:

- Total registrations
- Total applications received for LIC financing
- Total applications for LIC financing granted
- Total financing provided
- Total installations per solar technology
- Total financing per solar technology
- Total energy avoided per solar technology
- Total GHG emissions avoided per solar technology
- Total solar permits issued through Solar City
- Total solar permits issued in HRM
- Cost per solar technology
- ROI per solar technology
- Cost neutrality to HRM
- Feedback survey

Next Steps

Spring 2016

- Hire an 18 month Solar City Program Officer to administer the program
- Complete Solar City website
- Complete communications plan
- Begin outreach plan
- Registration
- Public launch

Summer 2016

- Installations begin
- Review program uptake and Key Performance Indicators
- Consult with internal departments on process and identify improvements or redundancies

Fall 2016

- Review program uptake and KPIs

Winter 2016

- Review 2016 program and prepare for annual report before the launch of the second year.

Spring 2017

- Enter second year having implemented recommendations for improvement.

FINANCIAL IMPLICATIONS

There are no financial implications from this information report. The Solar City program has been approved with a total budget of \$13,112,700 in project account CD990001. The program will not require any tax funding, as long as a minimum of 500 solar installations are financed through the Solar City Program over three years (of the program goal of 1,350 installations). Costs and revenues will be monitored over the life of the project and, if necessary, changes recommended at annual review periods.

COMMUNITY ENGAGEMENT

Community engagement was not required for this information report. Staff is engaging with key stakeholders for the development of the Solar City program. A launch and celebration of the new Solar City program will take place late spring or summer 2016.

ATTACHMENTS

None.

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.php> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 902.490.4210, or Fax 902.490.4208.

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