



## STAFF REPORT ACTION REQUIRED

### Solar Photovoltaic Installations on City Facilities

<b>Date:</b>	August 26, 2013
<b>To:</b>	Parks and Environment Committee
<b>From:</b>	Chief Corporate Officer
<b>Wards:</b>	All
<b>Reference Number:</b>	P:\2013\Internal Services\E&E\Pe13004e&e- (AFS 18075)

#### SUMMARY

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The purpose of this report is to seek Council approval for revisions to the City's partnership program with Toronto Hydro Electric System Limited (Toronto Hydro), underway since 2010, to install solar photovoltaic (PV) systems on City facilities. The program is carried out via the provincial Feed-in Tariff (FIT) program, through which the electricity generated by the installations is sold under contract to the Ontario Power Authority (OPA). The installations will generate revenue for the City throughout the 20 year life of the OPA contract, and will pay back the City's original investment in approximately eight years. Council has approved \$8 Million for the City's portion of the program, of which \$3.2 Million has been spent or committed to date.

Recent changes to FIT will improve the likelihood that City projects will receive contracts from the OPA, but will require adjustments to the business arrangement between the City and Toronto Hydro. Under the current agreement, the City can own a maximum of 49% of the new installations. Under the amended agreement, the City will become the majority (51%) owner.

The report also seeks authority to reallocate \$4.4 Million from the original program to the new program, and \$400,000 to finance the installation of six small solar installations on City facilities under the OPA microFIT program. These installations will take place outside of the Toronto Hydro partnership program, and will be 100% owned by the City. Funding reallocation is required at this time to ensure timelines imposed by the microFIT program are adhered to.

## **RECOMMENDATIONS**

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### **The Chief Corporate Officer recommends that:**

1. City Council delegate authority to the Chief Corporate Officer to negotiate, enter into and execute on behalf of the City agreements with Toronto Hydro Electric System Limited and the Ontario Power Authority in respect of the photovoltaic solar program and Feed in Tariff Program on terms and conditions satisfactory to the Chief Corporate Officer, and in a form satisfactory to the City Solicitor.
2. City Council amend the approved 2013 Capital Budget and 2014 - 2022 Capital Plan for the Sustainable Energy Plan by creating two new Solar Photovoltaic Projects, the Solar PV Feed-In-Tariff (FIT) project and the Solar PV microFIT project, and re-allocating the remaining \$4.8 million from the existing Solar PV Program, funded through the Energy Conservation Reserve Fund. Annual capital budget requirement for the two new projects will be \$3.200 million in 2014 and \$1.200 million in 2015 for the FIT project and \$0.300 million in 2013 and \$0.100 million in 2014 for the microFIT project.

### **Implementation Points**

Further to the attached Term Sheet, Staff will negotiate agreements with Toronto Hydro substantially on the terms and conditions of Attachment 1 which will govern each solar installation. The agreements will govern the business relationship between the parties, including the use of and payment for roof space on City buildings for Toronto Hydro's portion of the PV installations.

Toronto Hydro, in the attached letter, has indicated general agreement with the revised Term Sheet and proposed changes in the ownership structure.

It is proposed that under the terms of the joint venture agreement, City staff will be responsible for assessing City buildings for suitability for PV installations, and submitting contract applications for selected sites to the OPA. Toronto Hydro will conduct procurement and manage project construction, along with the ongoing operation and maintenance of the systems.

### **Financial Impact**

This report is seeking approval to re-allocate the remaining funding of approximately \$4.800 million from the existing Solar PV Program to finance new PV installations under a revised partnership program with Toronto Hydro, and six small PV installations under the microFIT program that will be 100% City-owned. There are no additional financial implications arising from this report. This amount will be paid back in approximately eight years, through a 20-year contract for the purchase of the electricity by the OPA, within the terms of the original Solar PV program.

The Solar PV Program will provide the City with access to revenue from four sources:

- The OPA contract will provide a revenue stream for 20 years.
- Municipalities also receive an additional one cent per kWh generated, for all technologies with exception of solar PV rooftop.
- Toronto Hydro will pay the City a fee to be negotiated in exchange for the use of City roof space. Real Estate Services will assist with negotiations.
- The City will have access to provincial funding to offset project development costs. The amount available is not yet known.

Operating costs are anticipated to be minimal, and have been included in the calculation of the business case for the program. They will be paid for from the projects' revenue stream. After the 20-year OPA contract period, the installations are expected to operate for another 5 to 10 years, and will be able to provide free electricity to the City during that period.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

## **DECISION HISTORY**

On November 30, 2009, City Council adopted the report "The Power to Live Green: Toronto's Sustainable Energy Strategy". The report contained a recommendation directing the Deputy City Manager and Chief Financial Officer to ensure the installation of renewable energy technologies on all City buildings, where feasible, by 2020.  
<http://www.toronto.ca/legdocs/mmis/2009/cc/decisions/2009-11-30-cc42-dd.htm>

On July 6, 2010, City Council adopted the report "Solar Photovoltaic Program for City Facilities". The report approved a partnership program between the City and Toronto Hydro to install solar PV systems on City facilities.  
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2010.EX45.39>

## **ISSUE BACKGROUND**

To date, the City/Toronto Hydro Solar PV program has resulted in solar PV installations on nine City buildings, with a tenth currently under construction. Nine of the ten installations are on Parks, Forestry and Recreation facilities, while one is located on the roof of the Toronto Police College. The projects are built under Feed-in Tariff contracts with the Ontario Power Authority. Toronto Hydro owns 51% of the projects, and the City owns 49%. The business arrangement between the City and Toronto Hydro is governed by a Joint Venture Agreement.

When complete, these installations will total 1.2 megawatts (MW) in size. They will generate 1300 megawatt hours of electricity per year, equivalent to the amount of electricity consumed by over 100 homes. At a cost of \$3.2 million for the City's share, they will produce approximately \$400,000 in revenue per year for 20 years, including payments made by Toronto Hydro to the City in exchange for their use of City roof space.

## **COMMENTS**

Following the initial round of FIT contract awards, the OPA made a number of changes to the FIT program which made access to contracts more difficult for municipalities and their partners. Consequently, in spite of nearly 30 applications submitted by Toronto Hydro on behalf of the partnership, no further contracts have been awarded.

However, on June 12, 2013 the Minister of Energy issued a directive to the OPA to amend the FIT Program to give municipalities and their partners priority for FIT contracts, along with other public sector bodies, community organizations and aboriginal groups. Some of the features of the amended FIT program are:

- Projects where a municipality holds a majority ownership stake will receive priority access to electricity contracts;
- Municipalities will receive an extra 1 cent per kWh, for all technologies with exception of solar PV rooftop.
- Municipalities will be eligible for funding for project development costs;
- The program will offer contracts for fixed amounts of generating capacity each year for the next five years, making project planning easier than before.

Projects under FIT contracts will now have to be completed within 18 months, rather than the current limit of 36 months. This will require increased integration with State of Good Repair programs for roof work on existing City buildings, in order to ensure that the roofs are able to accommodate the PV installations for the life of the 20-year FIT contract. As a result of changes to the Toronto Green Standard approved by Council at its meeting of July 16-19, 2013, all new City buildings will be required to contain some form of renewable energy installation, where technically and financially feasible. This will provide additional opportunities for the solar PV program.

The agreements between the City and Toronto Hydro will be amended to reflect changes in the FIT program, and to reflect the experience to date in the partnership between the two parties.

Staff recommend continuing in a partnership arrangement with Toronto Hydro on amended terms to reflect the changes in the FIT program, rather than adopting a "go it alone" approach, or seeking other program partners to develop solar PV installations on City buildings. The working relationship between the two partners has been well established over the past 3 years. Staff from the two organizations provide complementary skill sets to the planning, construction and ongoing operation of the PV projects, and the interests of both groups are aligned as co-owners of the installations. A disruption in the relationship at this point would increase the risk of not meeting relatively short turnaround times for project completion.

### **Estimated Program Impact**

The combined impact of the revised Toronto Hydro partnership program and the microFIT installations is estimated as follows:

- 2.8 MW of generating capacity
- 3000 MWh of electricity generated per year (equivalent to 250 households consumption)
- Reduction of 670 tonnes of greenhouse gases per year
- 100 person-years of employment

The City's investment of approximately \$4.8 Million will generate revenues of about \$600,000 per year, representing a simple payback of eight years.

### **Potential for Youth Employment and Training**

In adopting the original report, "Solar Photovoltaic Program for City Facilities" in July 2010, Council directed that the General Managers of Toronto Employment and Social Services (TESS) and Economic Development, and the Chief Corporate Officer develop a pilot employment and training program as part of the City/Toronto Hydro PV program, and report back on lessons learned. The installation selected for the pilot is currently under construction at the Malvern Community Centre. TESS staff are working with the project contractor on the pilot, and will report further upon its conclusion.

### **The microFIT Program**

The OPA offers contracts for small solar PV installations less than 10 kilowatts in size through its microFIT program. This program presents opportunities for renewable energy on smaller City facilities outside of the partnership with Toronto Hydro, and offers a financial return similar to that of the larger FIT program.

After changes to the FIT program in 2011, noted above, the microFIT program offered the only funding opportunity for solar PV on City buildings. As a result, staff applied and received approval for six microFIT projects, to be 100% City-owned, from the OPA. Because the completion date for projects under this program is within six months of contract award, approval is being sought to reallocate funds in the amount of \$400,000 from the current City/Toronto Hydro program. These projects must be completed before Council is scheduled to consider the 2014 Budget.

## **CONTACT**

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## **SIGNATURE**

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Josie Scioli  
Chief Corporate Officer

## **ATTACHMENTS**

- Attachment 1: Commercial Terms of Solar Photovoltaic Installation Agreement on City of Toronto Facilities
- Attachment 2: Letter from Toronto Hydro on proposed changes to City/Toronto Hydro Solar PV program