

Clause 9 in Report No. 1 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on January 18, 2018.

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Installation of Rooftop Solar Photovoltaic System
for York Region Transit Facility in the City of Vaughan

Committee of the Whole recommends adoption of the following recommendation contained in the report dated December 6, 2017 from the Commissioner of Environmental Services:

1. Council authorize the Commissioner of Environmental Services to negotiate and execute an agreement with ENGIE Services Inc. to design, supply, install and commission a rooftop solar photovoltaic system with a contract value not to exceed \$1,200,000, excluding HST and to amend the existing operating contract for the Transit West Operations & Maintenance Facility in the City of Vaughan for the maintenance and operation of the rooftop solar photovoltaic system with a total increase value not to exceed \$15,000 per year.

Report dated December 6, 2017 from the Commissioner of Environmental Services now follows:

1. Recommendation

It is recommended that:

1. Council authorize the Commissioner of Environmental Services to negotiate and execute an agreement with ENGIE Services Inc. to design, supply, install and commission a rooftop solar photovoltaic system with a contract value not to exceed \$1,200,000, excluding HST and to amend the existing operating contract for the Transit West Operations & Maintenance Facility in the City of Vaughan for the maintenance and operation of the rooftop solar photovoltaic system with a total increase value not to exceed \$15,000 per year.

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2. Purpose

This report seeks Council authorization for the Commissioner of Environmental Services to negotiate and execute a purchase agreement and to amend the existing maintenance agreement with ENGIE Services Inc. for installation and maintenance of a solar photovoltaic system at the Transit West Operations & Maintenance Facility pursuant to Section 3.3 of the [Purchasing Bylaw](#). Section 3.3 allows Council to authorize any purchase or method of procurement where to do so would be in the best interest of the Region.

3. Background

Region demonstrates energy management leadership through greater use of renewable energy sources

The Ontario Feed-In Tariff program was launched in 2009 to encourage and promote greater use of renewable energy sources including solar photovoltaic systems for electricity generation in Ontario. The Feed-In Tariff program is administered by the Independent Electricity System Operator (IESO), the statutory corporation responsible for operating the electricity market and directing the operation of the bulk electrical system in Ontario.

York Region, as part of its sustainability strategy, has five facilities under contract with the Independent Electricity System Operator participating in the solar photovoltaic Feed-In Tariff and micro Feed-In Tariff programs. A summary of the Region's existing five solar photovoltaic systems is provided in Table 1.

Table 1
York Region Solar Photovoltaic System Summary

Facility Name	System Size (Kilowatt)	Commercial Operation*	Revenue Generated to Date
Transportation Operations Centre	90.0	March 2015	\$192,889
Georgina Water Treatment Plant	75.0	March 2015	\$119,562
Bill Fisch Forest Centre	37.9	December 2016	\$11,212
EMS Operations Centre	10.0	May 2014	\$49,061

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Facility Name	System Size (Kilowatt)	Commercial Operation*	Revenue Generated to Date
Stouffville Zone 2 Pumping Station	4.8	February 2011	\$39,398
Transit West Operations & Maintenance Facility	500.0	N/A	N/A
TOTAL	717.7		\$412,122

*Note: Commercial Operation is the date at which the Region, as the supplier having met all terms and conditions, begins generating revenue.

A 500-kilowatt array will triple the Region’s electricity generation capability

The proposed 500-kilowatt solar array is twice as large as all of the Region’s current photovoltaic systems combined and has the potential to reduce annual greenhouse emissions by 143 tonnes of carbon dioxide. This is equivalent to 32.5 acres of forest-absorbing carbon.

Approval for system installation requested at three facilities

In 2016, the Region submitted applications for three facilities to the Feed-In Tariff program. The Region was notified in October 2017 that it was successful in obtaining a 500-kilowatt Solar (PV) (Rooftop) Feed-In Tariff Offer Notice for only the Transit West Operations & Maintenance Facility located at 8300 Keele Street in Vaughan. The two other sites, 18110 Yonge Street (Newmarket) and 55 Orlando Avenue (Richmond Hill), were denied by the IESO due to insufficient capacity on the transmission grid.

Project deadline for completion is March 2019

The Independent Electricity System Operator imposed an 18-month deadline from the acceptance date of the Feed-In Tariff contract offer to have the system commissioned. The contract offer was accepted in October 2017 resulting in a required completion date of March 2019. This provides a limited time period to complete procurement of the rooftop structural evaluation, system design and installation of the photovoltaic system.

Facility management services contract in progress until 2027

The Transit West Operations & Maintenance Facility is currently operated and maintained under contract by ENGIE Services Inc. installation of the rooftop solar

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photovoltaic system must be carried out without causing disruptions to the normal operation and maintenance of the facility. Installation of the system by another third-party contractor increases the risk of operational disruption impacts on the bus facility. Furthermore, engaging multiple contractors to undertake work concurrently in one facility places the Region in the potential position of being designated as the constructor under the *Occupational Health and Safety Act*.

The Region mitigates risk by engaging ENGIE Services Inc.

In the event that the Region becomes the constructor, the Region would be responsible for health and safety of the entire project site, and would ultimately be responsible for the health and safety of all workers. The Region is not in an optimal position to manage health and safety on site and reduces this risk exposure by engaging ENGIE Services Inc. to undertake the installation as ENGIE Services Inc. will remain sole contractor on site.

4. Analysis and Implications

Executing and amending agreements with ENGIE Services Inc. is the most expedient way to meet stringent deadlines

The risk of not meeting the Independent Electricity System Operator's timelines is reduced by directly retaining ENGIE Services Inc. to deliver this project. Expedited procurement of services from ENGIE Services Inc. is in the best interest of the Region as this will allow work to begin quickly, reducing the risk of not commissioning the solar system within the time frame imposed by the Independent Electricity System Operator. It is important to note that the Feed-In Tariff program has now been cancelled by the Minister of Energy with only existing approved installations remaining eligible for this opportunity.

Incorporating system maintenance into existing ENGIE Services Inc. contract assures compatibility with facility operations and maintenance practices

The solar photovoltaic system contemplates a 20-year project life, and proper maintenance is required to ensure optimal performance. Under the existing contract, ENGIE Services Inc. is engaged to provide facility management services at the Transit West Operations & Maintenance Facility until January, 2027. The Region, in its sole discretion, may extend this contract for an additional term of up to 10 years. Amending the existing facility management contract to incorporate the operation and maintenance of the photovoltaic system

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will ensure efficiency and alignment with the operation and maintenance service contract for the entire facility.

Present in Canada since 1998, ENGIE Services Inc. is a global energy player, operating its full range of electricity, natural gas and energy production. With a staff of nearly 900 employees and a 680-megawatt portfolio of renewable energy in wind and solar, ENGIE Services Inc. is one of Canada's largest energy companies. It is fully capable of implementing and maintaining the photovoltaic system.

Negotiations will be focused upon ensuring that the payback return period is achieved

Having completed previous Feed-In Tariff initiatives and rooftop solar projects, staff understands the project scope and costs, and consequently is positioned to negotiate both the installation contract and an increase to the existing maintenance contract. Negotiations will be focused upon ensuring the 10-year payback period is achieved. The cost for maintenance and monitoring is based on a conservative industry estimate of \$30 per kilowatt hour annually.

Participation in the Feed-In Tariff program supports several York Region initiatives

Participating in the renewable energy market through the Feed-In Tariff program solidifies the Region's role as a champion of sustainable green energy while complying with corporate policies, plans and strategies. Some of these are listed below:

- Corporate Energy Conservation and Demand Management Plan Update (2016) Section 5.5: Renewable Energy Generation
- Sustainability Strategy (2007)
- Corporate Clean Air Strategy (2008)
- York Region Official Plan (2009)
- Environmental Services Energy Management Action Plan (2013)

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5. Financial Considerations

Feed-In Tariff program facilitates revenue generation for York Region

The Feed-In Tariff program allows the facility owner, the Region, to generate renewable energy and sell it to the province at a guaranteed price yielding a 20-year revenue stream. These revenues can be re-invested in the Corporation's Green Energy Reserve Fund, which will support future sustainable energy initiatives. The expected revenue from this system is \$2.7 million over the term of the 20-year Feed-In Tariff agreement.

Based on expected revenue of \$2.7 million, this project yields a net benefit of \$1.2 million and a return of the investment within the 10-year requirement. The photovoltaic systems are expected to continue generating valuable green energy beyond the 20-year Feed-In Tariff contract term.

Capital Plan has adequate capital spending authority for installation

The project has approved Capital Spending Authority in the 2018 Capital Budget.

The estimated upset capital cost for implementing a 500-kilowatt solar system is \$1.2 million including system design and engineering, permits, grid connection costs, equipment, installation and online system monitoring capability. The system will fulfill the 10-year payback requirement at this cost. Based upon current market pricing, staff foresees successfully negotiating a contract cost below this amount. The estimated cost for maintenance and operation is \$15,000 per year, which amounts to 0.6% increase to the existing operating contract and will be fully offset through the Feed-In Tariff program revenue. This system cost estimate is exclusive of the connection impact assessment needed to satisfy the IESO's requirement. The cost to perform the connection impact assessment will be paid from the 2018 approved Environmental Services budget.

6. Local Municipal Impact

Regional energy management activities benefit residents and local municipalities by reducing operating costs, mitigating environmental impacts, and promoting sustainable practices, which promote a healthier York Region.

With the installation of this renewable power generation initiative, the Region will continue its leadership toward, and contribution to, a cleaner environment.

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7. Conclusion

It is recommended that Council authorize staff to negotiate an agreement with ENGIE Services Inc. to undertake the design, supply, installation and commissioning of a rooftop solar photovoltaic system at the Transit West Operations & Maintenance Facility.

In consideration of the existing facility management services contract for this facility, authorization for staff to negotiate an amendment to incorporate the maintenance and operation of the rooftop solar photovoltaic system into the contract's scope of work is also recommended.

Approval of these recommendations will enable York Region to take advantage of the Feed-In Tariff opportunity to produce clean renewable energy and generate revenue for a 20-year term.

For more information on this report, please contact Mike Rabeau, Director, Capital Planning and Delivery at 1-877-464-9675 ext.75157.

The Senior Management Group has reviewed this report.

December 6, 2017

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