



## Energy Storage Partnership Agreements

**Date:** November 1, 2017

**To:** Parks and Environment Committee

**From:** Deputy City Manager, Internal Corporate Services

**Wards:** All

### SUMMARY

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The purpose of this report is to seek Council approval for negotiating and entering into partnership agreements for the installation of Hybrid PV- Energy Storage systems at City facilities.

The Environment and Energy Division is collaborating with Facilities Management and Toronto Paramedics Services to develop two demonstration projects.

This innovative partnership supports the City's Transform TO strategy to "Lead by Example" to accelerate the investment in low-carbon technologies in City facilities to improve operations. The projects are also expected to generate utility savings as well as avoiding maintenance costs and capital replacement expenditures associated with owning conventional generator equipment.

### RECOMMENDATIONS

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The Deputy City Manager, Internal Corporate Services recommends that:

1. City Council approve the demonstration Hybrid PV Energy Storage projects term sheet as in Attachment 1 and authorize the Deputy City Manager, Internal Corporate Services to negotiate, enter into and execute the demonstration hybrid PV Energy Storage partnership agreement on behalf of the City with Toronto Hydro Electric System Limited with terms and conditions satisfactory to the City Solicitor.
2. City Council authorize the Deputy City Manager, Internal Corporate Services to negotiate, enter into and execute future energy storage partnership agreements on behalf of the City, with terms and conditions satisfactory to the City Solicitor.

## **FINANCIAL IMPACT**

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There is no immediate financial impact resulting from the approval of this report. Any future financial impacts identified from the hybrid PV Energy Storage partnership will form part of a subsequent report to Council and will be included in future Budget submissions for Council consideration.

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

## **DECISION HISTORY**

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At its meeting of October 2, 3, & 4 2017, City Council approved the recommendations in PE 21.5 "City of Toronto Energy Storage Strategy"

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.PE21.5>

This report directed the Chief Corporate Officer to identify energy storage partnership opportunities, negotiate an agreement and report back to Committee and Council to seek approval.

At its meeting of July 4, 5, & 6 2017, City Council, approved the recommendations in PE 19.4 "Transform TO - Climate Action for a Healthy, Equitable and Prosperous Toronto - Report 2",.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.PE19.4>

This report requested the Chief Corporate Officer to continue working and partnering with the City's Agencies and Corporations to advance the TransformTO low-carbon, long-term goals and implementation plans.

At its meeting of December 13, 14 and 15 2016, City Council adopted the recommendations in PE 15.1 "TransformTO: Climate Action for a Healthy Equitable, and Prosperous Toronto"

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.PE15.1>

This report recommended Strategy #4 "Leading by Example" - the Acceleration of investment in low-carbon technologies and processes across City facilities and operations.

At its meeting on February 3 and 4 2016, City Council approved the recommendations in PE9.3 "Amendments to Joint City of Toronto/Toronto Hydro Solar Program".

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.PE9.3>

This report authorized City investments in solar PV installations on facilities owned by City agencies and corporations.

## COMMENTS

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The Environment and Energy Division (EED) is collaborating with Facilities Management (FM) and Toronto Paramedic Services to develop two hybrid PV energy storage system demonstration projects at the following City sites:

- Waterfront Neighbourhood Centre - 627 Queens Quay West
- EMS Station 46 - 105 Cedarvale Avenue

The development of these two systems will demonstrate the technology's effectiveness in achieving the following goals:

- Greenhouse gas emission reductions
- Electrical resilience for the facility's critical loads
- Utility savings (estimated at \$35,000 annually) from demand management and net metering
- Capital cost avoidance associated with replacing conventional fossil fuel generators
- Reduced operations and maintenance costs
- Opportunity to modernize aging utility grid infrastructure
- Demonstration of the City of Toronto's first hybrid PV energy storage project
- Support energy conservation targets

### **Leading by Example with a Hybrid PV Energy Storage System**

The City will lead by example in securing partnerships to develop resilient low carbon hybrid PV energy storage systems to reduce emissions from City facilities. This innovative system design connects a lithium ion battery to a solar PV system reducing emissions associated with a facility's normal electrical usage and fossil fuel consumption from conventional back-up generators maintain operations and City services during a power outage. The system will also include an intelligent monitoring system to measure the stored energy and implement a predetermined electrical curtailment plan to extend the energy storage operation.

### **Hybrid PV Energy Storage Partnership Opportunities**

The City of Toronto currently has a partnership with Toronto Hydro to develop solar PV projects on City facilities. This program has demonstrated success with both parties bringing complementary skills and capabilities to the program. Toronto Hydro continues to deliver procurement and construction management supporting the City systems to manage costs and deliver projects within the planned time-frame.

On June 1, 2017 Toronto Hydro wrote to the Chief Corporate Officer expressing an interest in creating a partnership with the City of Toronto to develop energy storage projects. The proposed Hybrid PV Energy Storage partnership would support the demonstration projects at City facilities. Toronto Hydro would provide in-kind support to facilitate the implementation process, including but not limited to procurement, design, engineering and business support. The City will provide the project coordination support and engineering review.

The attached Term Sheet (Attachment 1) will form the basis of the first agreement to develop the demonstration projects. This agreement, as well as any future Energy Storage System agreements, will be negotiated and executed by the Deputy City Manager, Internal Corporate Services with terms and conditions satisfactory to the City Solicitor.

## **CONTACT**

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## **SIGNATURE**

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Josie Scioli  
Deputy City Manager, Internal Corporate Services

## **ATTACHMENTS**

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Attachment 1 - Term Sheet – Demonstration Hybrid PV Energy Storage Projects