



TO: Wayne Jackson, Director of Utility Services/Deputy CAO –
City of Peterborough

FROM: Mike Owen, Director Projects and Risk Management - PUI

DATE: August 27, 2014

SUBJECT: Proposal
Two 500kW Ground Mount Solar Projects – Bensfort Landfill

PURPOSE

To propose two 500kW ground mount solar projects on land parcels located at the Bensfort Landfill, provide estimates for revenue sharing of these projects, and request council support to move forward with more detailed site investigations.

BACKGROUND

Feed-In-Tariff Review

In January 2014, the Ontario Power Authority (OPA) performed another detailed review of FIT program pricing. The review introduced a new program pricing table reflective of the lower equipment costs. The OPA has indicated that these rates will again be reviewed in the fall of 2014.

Table 1 details January 2014 FIT pricing, which has decreased substantially over the original solar rates.

Table 1
FIT Pricing for Solar Applications¹

Project Type	Project Size	Original FIT Price (cents/kWh)	New FIT Price (cents/kWh)	Change in Price
Rooftop Solar Projects	<= 10 kW	80.2	39.6	-50.6 %
	10 to 100 kW	71.3	34.5	-51.6 %
	100 to 500 kW	63.5	32.9	-48.2 %
Ground Mount Solar Projects	<= 10 kW	64.2	29.1	-54.7 %
	10 to 500 kW	44.3	28.8	-35.0 %

Note 1 – FIT pricing anticipated to change fall 2014.

The OPA has indicated that the upcoming FIT 4.0 program will launch towards the end of 2014. Peterborough Utilities is in the process of preparing a new portfolio of solar applications for this upcoming project submission. As such, PUI had identified two possible project submissions based on the five Bensfort Landfill sites proposed below.

500 kW Ground Mount Solar Opportunities

Peterborough Utilities has performed a high level desktop screening of the Bensfort Landfill lands reviewing the property zoning classifications, agricultural land usage, landfill land usage, topography, environmental features, electrical grid connection and residential abutments. Minimal land space would be required to construct a 500 kW ground mount facility. Three acres would be required to located the solar module array, with an additional two acres required for site access from existing roads.

The property surrounding the landfill is shown in Appendix A & B. Bensfort Road divides the lands into three distinct sections. West of Bensfort Road is parcel PIN#28147-0281, outlined in light blue. On this parcel is located the Peterborough Waste Management Facility (X1) and Closed Landfill Site (X2). East of Bensfort Road is parcel PIN#28148-0115 outlined in green, and parcel PIN#28148-0117 outlined in red (site of decommissioned communication tower). As the two eastern parcels abut each other, only one ground mount solar project can be developed on one of these two properties. A second ground mount project can be developed on the western parcel due to the parcel division provided by Bensfort Road.

Canada Land Inventory maps were reviewed for the area (Appendix B). PUI has identified two good site candidates for a 500kW ground solar facility on the western parcel, being either site A1 or A2. Please note that these two sites are proposed sites, with the final determination of the one best site on the west land parcel subject to further due diligence on the property by PUI.

As mentioned previously, solar development can only occur on one of the two eastern parcels. Developing projects on both eastern parcels would result in abutting projects, which is not allowed under FIT 3.0 rules. Therefore, PUI proposes three site options for developing one solar project east of Bensfort Road (sites B1, B2 or C1 shown in Appendix A & B). These three sites either surround or are located on the parcel of land which used to reside a communication tower which has recently been decommissioned. Please note that these three sites are proposed sites, with the final determination of the one best site on the two east land parcels subject to further due diligence on the property(s) by PUI.

It is PUI's desire to obtain the City of Peterborough's approval to perform a more detailed site review of the lands being discussed. Preliminary site screening indicates that the five proposed sites are on Class 4 to 7 non-agricultural lands and in close vicinity to the 27.6kV feeder that runs alongside Bensfort Road. These sites have flat topographical features with cleared southern exposure for good solar irradiation. All sites could be visually screened to hide solar facility from residential homes in the area. No significant environmental concerns have been found in the early stage screening exercise.

PUI is open to feedback from the City regarding alternative site locations to accommodate future expansion of the Peterborough Waste Management Facility.

500 kW Ground Mount Solar Project Economics

Using current FIT pricing shown in Table 1 above, PUI estimates land owner revenue sharing for a 500 kW ground mount solar project:

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	One Project		Two Projects	
Revenue	\$/yr	\$/20yrs	\$/yr	\$/20yrs

Sharing*				
12%	\$12,917	\$258,345	\$25,834	\$516,690
10%	\$10,764	\$215,287	\$21,528	\$430,574
8%	\$8,611	\$172,230	\$17,222	\$344,460

Consistent with other revenue sharing programs proposed by PUI in the past, this ground mount proposal would require zero capital contribution from the land owner. PUI would develop, construct, finance, operate and maintain the ground mount projects over the 20 year FIT timeline. PUI also assumes all risk relevant to the ground mount projects in its entirety. For granting land usage for a 20 year term, the land owner would be paid their revenue sharing percentage quarterly.

Note * - Revenue sharing is estimated on current FIT pricing. Rates may be altered by the OPA in the future. As such, revenue sharing percentages are indicative only and will be determined to the satisfaction of both parties upon confirmation of the FIT4 rates and project economic review.

SUMMARY

PUI proposes two 500kW ground mount solar projects on land parcels located at the Bensfort Landfill. Based on current FIT pricing, PUI estimates revenue sharing for land owners to range from \$344,460 to \$516,690 over the 20 year project timeframe. Peterborough Utilities requests council support to move forward with more detailed site investigations of the site locations proposed.

Submitted by,

Mike Owen

Director Projects and Risk Management
Peterborough Utilities Inc.

Appendix A – Bensfort Road Landfill Parcels



Appendix B – Agricultural Land Usage

