

September 21st, 2012

Mr. Bill Campbell

Division Manager - Facilities Design & Construction Division
Corporate Asset Management
CAO's Department
City of London
A.J. Tyler Operations Centre
663 Bathurst St
London ON N5Z 1P8

Dear Mr. Campbell,

**Re: City of London Solar Rooftop FIT 2.0 Strategy and Implementation Recommendations
– Phase 1; Projects sized greater than 10kWAC to 500kWAC in Nameplate Capacity**

Ameresco Canada Inc. (Ameresco) was formally requested by your department on Tuesday September 11th to deliver a Solar FIT 2.0 Strategy and Implementation Recommendation document that addresses all solar opportunities that may be available to the City of London (COL) to create income for the city, jobs within the city, and reduce Greenhouse gas emissions created by COL assets. This, and associated attachments, represents the requested document.

Limitation of Scope of Current Document

While we have been asked to provide a document that covers the entire opportunity, this document only provides recommendations that pertain to projects greater than 10kW and up to 500kW in AC nameplate capacity. The reasons for this are:

1. The procurement window for MicroFIT projects (0 – 10kW AC in size) is currently open to procure 50MW of projects; almost half of this capacity is yet to be procured and insiders indicate contract applications are slowing; time is not of the essence to deal with this opportunity.
2. The procurement window for Small FIT projects (>10kW and <=500kW AC) is scheduled to open on October 1st of this year and competition to acquire a share of the 200MW to be procured within this window will be significant. Time is of significant essence.
3. The procurement window for FIT projects (>500kW) is currently not scheduled to open and industry stakeholders believe that this procurement window will not open until the spring or fall of 2013.
4. All of these programs have different timing and rules that apply to the permitted project ownership and financing along with Application processes; each will require a different approach and strategy by the city in order to maximize the objectives for the COL.

Ameresco, subject to the cities approval, will provide Phase 2 - a second “microFIT focused” (for Projects $\leq 10\text{kW}$) Strategy and Implementation document by October 19th, 2012.

Ameresco, subject to the cities approval, will also provide Phase 3 - a third “FIT focused” (for Projects $> 500\text{kW}$) Strategy and Implementation document by December 21st, 2012.

The Rules of the FIT Program have Changed Significantly

The evolution of the Ontario Power Authority’s Feed-In-Tariff program from what was launched in December of 2009 (FIT 1.0) to what is now in place (FIT 2.0) is significantly different.

The key differences in the FIT program with respect to rooftop solar ($>10\text{kW} \leq 500 \text{ kW}$ name plate capacity in size) are:

1. Prices paid for electricity produced have been reduced and the price levels changed to reflect decreased equipment costs.
 - Projects that are $>10 \text{ kW} \leq 100 \text{ kW}$ now get 54.8 cents per kilowatt hour of energy produced
 - Projects that are $>100 \text{ kW} \leq 500 \text{ kW}$ now get 53.9 cents per kilowatt hour of energy produced
2. Prices will be reviewed annually, with prices published in November that will take effect January 1 of the following year.
3. Applications will now be accepted during specific application windows, rather than on an ongoing basis, and the OPA, as a first step, will award 200 MW of small FIT contracts.
4. All project applicants will now need to submit a \$20 per kilowatt or, in the case of a community or aboriginal project, \$5 per kilowatt application security fee.
5. Applications will now be prioritized with points awarded based on project type (community participation, Aboriginal participation, or public university, publicly funded school, public college, hospital or publicly owned long-term care home participation or where they are a host), municipal support, Aboriginal support, project readiness and electricity system benefit.
6. Applications with greater than 50-percent equity participation from Aboriginal or community (co-ops) participants (contract capacity set-aside projects) will be prioritized above all other applications in an application window.
7. Projects must reach commercial operation within 18 months of receiving a contract, compared with three years previously. An exception is for proponents who have a portfolio of more than 15 MW of projects contracted from the same application window, in which case they can choose to have 36 months to reach commercial operation.
8. Ground-mounted solar projects may not be located on residential property or on property abutting residential property. However, for property where the lawfully permitted use is agricultural, the above projects are permitted on the property or on an abutting property only if residential use is permitted on both properties as ancillary to the agricultural use.
9. A ground-mounted solar project is permitted on commercial or industrial property as long as the project is not the main, primary or only use of the property.
10. There are now restrictions on assignments and changes in participation level for projects that receive priority points based on the participation of certain types of entities (i.e.,

community, Aboriginal community, public university, publicly funded school, public college, hospital or publicly owned long-term care home participation or where they are a host).

Maximizing Opportunities to Received FIT contract Offers

As a result of these changes and the procurement limits that have been put in place the strategies employed to get a FIT contract are significantly more onerous than before. In addition the competition will be fierce. According to the latest information from the OPA (August 7th, 2012) reflected in the table below there are over 5,700 applications representing just over 1,000 MW of capacity that will have existing time stamps when the application window opens for the small FIT window in October. In addition there will be new applicants as well all competing for the 200 MW that are available.

CAPACITY ALLOCATION EXEMPT PROJECT STATUS SUMMARY			Contract Stage									
Count of Applications			Application Stage			Not Executed		Executed				Grand Total
Energy Groups	Source Type	Submitted	Under Review	Rejected/Withdrawn	Contract Offered	Offer Expired	Terminated	Pre-NTP	Post-NTP	Commercial Operation		
Bioenergy	Biogas	9	1	2	0	1	1	3	4	5	26	
	Biogas (on Farm)	7	0	3	0	5	0	12	3	3	33	
	Biomass	7	0	0	0	0	1	3	0	0	11	
	Landfill	2	0	0	0	0	0	0	0	0	2	
Solar PV	PV Rooftop	4,709	67	679	0	406	239	747	380	311	7,538	
	PV Groundmount	908	2	44	0	6	1	36	4	1	1,002	
Hydroelectric	Hydroelectric	5	0	1	0	0	0	5	0	0	11	
Wind	Wind On-Shore	6	1	1	0	3	1	7	1	0	20	
	Wind Off-Shore	0	0	1	0	0	0	0	0	0	1	
Total Count of Applications		5,653	71	731	0	421	243	813	392	320	8,644	

Note: Each status is mutually exclusive (i.e. a single application will only be counted in one of the statuses).

Sum of Applications (MW)			Contract Stage								
Application Stage			Not Executed		Executed				Grand Total		
Energy Groups	Source Type	Submitted	Under Review	Rejected/Withdrawn	Contract Offered	Offer Expired	Terminated	Pre-NTP		Post-NTP	Commercial Operation
Bioenergy	Biogas	3.9	0.5	0.7	0.0	0.5	0.5	1.3	2.0	1.7	11.1
	Biogas (on Farm)	1.6	0.0	0.6	0.0	1.1	0.0	3.0	0.4	0.6	7.3
	Biomass	2.6	0.0	0.0	0.0	0.0	0.1	0.6	0.0	0.0	3.3
	Landfill	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Solar PV	PV Rooftop	779.7	10.8	114.6	0.0	77.6	46.6	132.7	73.4	47.0	1,282.5
	PV Groundmount	237.6	0.8	23.2	0.0	0.9	0.1	9.8	1.5	0.1	273.9
Hydroelectric	Hydroelectric	1.0	0.0	0.1	0.0	0.0	0.0	1.0	0.0	0.0	2.0
Wind	Wind On-Shore	0.3	0.5	1.5	0.0	0.3	0.0	1.9	0.5	0.0	5.0
	Wind Off-Shore	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Sum (MW)		1,027.7	12.6	140.9	0.0	80.4	47.3	150.1	77.9	49.4	1,586.4

Note: Each status is mutually exclusive (i.e. a single application will only be counted in one of the statuses).

As a result of the impending competition Ameresco recommends that for any projects the COL wishes to move forward with, it does so using the following point and priority setting strategy:

1. Make all applications priority-set aside projects through partnerships with applicable community groups or aboriginal communities. This will put the projects at the front of the “OPA consideration” line.
2. Ensure the projects have a legitimate “OPA approved” community support resolution from COL council with a confirming by-law.
3. Have the proper site control documents prepared.
4. Resubmit applications with existing time stamps.

Based on the following table this strategy will provide COL applications with 6 points where time stamps are not used and potentially 7.5 when time stamps are used.

PROJECT TYPE	PRIORITY POINTS
Community Participation Project	3
Aboriginal Participation Project	3
Education or Health Participation Project	2
NON-PROJECT TYPE	PRIORITY POINTS
Municipal Council Support	2
Aboriginal Support	2
Project Readiness	1
Pre-Existing Application Time Stamp is on or prior to July 4, 2011	1
Pre-Existing Application Time Stamp is on or after July 5, 2011	0.5
Education or Health Host	2
System Benefit	1

It should be noted that even with this strategy it is possible the COL may not have all, or in fact any, of their applications offered FIT contracts. The reason for this is due to the points that Education or Health Hosts get. These points will not be available for COL asset sites. In addition it is widely known throughout the industry there could be substantially more than 200MW of applications that come from Educational institutions within the small FIT window, many with existing time stamps. If these applicants use a strategy similar to what we are suggesting they will get first look by the OPA and it is possible that they will exhaust the procurement capacity.

Community Group Partnership Opportunities

The COL's Mayor's Sustainable Energy Committee (MSEC) has seeded a new cooperative in London which will meet the requirements of the OPA to be a legitimate energy cooperative that the City, or another party should the city decide to lease its space as opposed to owning the projects, could partner with in order file set-aside project applications. While this organization is in its very early stages it plans to be operative and available for the small FIT window. MSEC keeps City staff apprised of its developments and Ameresco recommends that staff continue to monitor the progress of this organization on a weekly basis.

Aboriginal Partnership Opportunities

Aboriginal Communities, both First Nations and Metis, are becoming very organized around the opportunities that are now available to them under FIT. Ameresco has retained the services of McLeod Wood (www.mcleod-wood.com) to assist it in its evaluation of Aboriginal activities on behalf of its clients. There are many Aboriginal groups throughout the province who would be interested in partnering with the COL. What is interesting to observe is the unification of bands around this opportunity to make it easier for project developers to partner with first nations.

Community Support Resolution

The OPA has posted the standard form for the community support resolution. It is important that the COL provide its support for projects through this form without making any changes, along with having the confirming by-law take place at the end of the council meeting where the resolution is passed. So far the OPA is standing ground on this issue; any changes made in the resolution by city council will result in the 2 points not being assigned.

Resubmitting Existing Projects with Time Stamps

London Hydro, wholly owned by the COL, took the initiative to try and secure a small number of rooftop opportunities for the City of London during FIT 1.0 and submitted 8 applications pertaining to city rooftops. While the City of London and London Hydro have not signed any formal agreements with respect to these contract applications, London Hydro has funded the \$500 application fee and a preliminary engineering study of some of the COL building asset portfolio. These project applications have the highly valuable “time stamps” associated with them so, providing the buildings pass final detailed engineering scrutiny, it is highly recommended that these applications remain “in play” for this next window and are resubmitted using the above strategy.

London Hydro is concerned that this may not be possible as an existing OEB staff opinion letter suggests that LDCs must have a minimum 51% interest in a generating facility in order to have any interest at all. With set aside projects requiring greater than 50% interest by the community or aboriginal group this notion supports London Hydro’s view at first look.

However the OPA has crafted the wording in this area to separate control and economic interest in order that initial contract applicants who want to make their applications capacity set-aside projects still remain in control of the projects. Ameresco’s view is that one of the reasons this was done was so that LDCs can be involved in these types of projects.

As part of our ongoing work on this project Ameresco proposes to get clarity on this issue with London Hydro and its contacts at the OEB. Should an opinion letter from staff be received that states we are correct on this matter we will work with London Hydro to resubmit these applications on terms that are acceptable to both the COL and London Hydro.

Preliminary Potential Solar Opportunity for COL

Ameresco conducted a both a high level and “representative” spot check review of COL building assets as background for this strategy document. This was conducted during a compressed time frame and as such the numbers we are presenting are conservative in nature. As part of this process Ameresco also evaluated the recommendations of London Hydro’s consultant to confirm agreement with their analysis.

Ameresco used the ReCAPP database to acquire most of its rooftop information and has relied on its accuracy to some degree. Where possible, Google Images were also checked to confirm ReCAPP information and to plot preliminary conservative system layouts. In general our conservative system sizes are used in order to ensure no shading of the system or to reduce overall weight bearing issues.

Appendix “A” contains the schedule of COL buildings that made our final study. The financial performance of solar systems on a building by building basis is included and the results are as follows:

Total Buildings that should have detailed engineering studies completed:	19
Potential Net Present Value if built by City of London with set-aside partners:	\$1.2 Million
Potential Net Present Value if rooftop space leased:	\$1.2 Million
Potential Total annual Energy Production:	1.75 MWhours

There are 16 other buildings, 3 of them with existing FIT Time Stamps, which need further study before moving to detailed engineering studies

The figures in Appendix “A” assume no interruption in solar system electrical generation and no required roof repairs or upgrades to host the system safely or to deal with standard deterioration issues; this should be done as part of the detailed engineering and business case for each roof. COL might find that the income generated from the PV system may assist the funding of some nondiscretionary rooftop improvement capital funding requirements.

During our recent spot check we found that the structural members of the facilities visited - namely a few arenas, a community centre and one of the fire stations – were all good, and could have potential to hold a solar PV system which would add a load of 3-5 lbs./sq.ft. Most of the arena roofs were re-done in the last 3 years and thus should be in good condition to hold a solar PV system. Unfortunately, the visual inspection does not give any indication of the actual capacity. A detailed study of structural drawings is required to determine the designed load capacity of all of the roofs.

Given that all of these buildings are potential candidates for solar systems in this upcoming FIT window, focus should be spent on completing the due diligence to see if they are able to move ahead with projects. Those that are able to take systems should have applications prepared.

Ontario and London area Electrical Connection Availability

The London area has recently experienced both transformer upgrades and movement of other area projects that has freed up electrical connection for London projects. The following table illustrates electrical connection currently available for London projects.

Station Name	Station Capacity (MW)	Approximate Reserved Capacity (MW)	Approximate Available Capacity (MW)
Clarke TS	70.8	3.5	66.7
Buchanan TS	110.3	52	58.3
Wonderland TS	68.3	1.6	66.7
Nelson TS	43.2	5.25	37.95
Talbot TS	128.5	23.92	104.58

Given that the maximum potential of the current solar PV opportunity as identified under this exercise is 2.7 MW (2.5% of available capacity) it is unlikely that executing on this opportunity,

taken in isolation, will adversely affect any future plans the city may have with respect to other energy projects.

Connection studies will still need to be done, however, to ensure that local feeder short circuit, thermal, and electrical capacity is available to the individual connection points. This will be done as part of the detailed engineering study.

Recommended Implementation Plan

There is no material difference in Present Values of this initiative for either the COL owning the projects or leasing the roof space to an outside party for the purposes of installing a rooftop PV facility. The main reason for this is under the ownership plan the city will only be half owner in the projects so the economic interest portion is half of what its full potential would be. In the lease option the city would receive the same lease payment no matter what the ownership structure of the lease proponent is.

However to go through the required procurement process now to find an acceptable roof leasing proponent would kill the cities chances of getting any projects given the time constraints of the applicable OPA procurement window.

Given this information Ameresco is recommending that the COL should strongly consider a plan to build these projects under the existing Ameresco energy partnership agreement using Infrastructure Ontario borrowed funds to implement and construct the projects and bring them to their Commercial Operation Date (COD). Once constructed the COL can set up a long term debenture with IO should it wish to own their portion of the projects or, if the desire is to monetize its cash values in the project, it can then tender out the opportunity to purchase the city's portion of the portfolio. It could look for a portfolio purchaser that would pay an ongoing annual stream of income to the City or one lump sum that the city could use as a onetime cash infusion.

Should the city accept this recommendation Ameresco suggests that it undertake the following action plan in partnership with the COL starting immediately;

1. Conduct a detailed technical and business case evaluation for each building listed in Schedule "A" that the COL would like to include an application in the Small FIT window. The detailed technical plan will include a signed engineering report and preliminary connection assessment that will meet the OPAs burden for the required documentation that needs to be filed to the OPA with the application, should one be made.
2. Begin outreach to applicable Aboriginal and Community Co-ops that have the potential to partner with the City of London and then formalize a relationship and agreement with one party so that these applications qualify as set-aside projects. The communication with these partners will indicate that the COL may decide to sell its interest in the projects following COD. The Aboriginal or Community entity may be very interested in being the take-out partner at a later date but the process would still need to go through the COL procurement process to insure maximum value is received.
3. Work with London Hydro and the OEB in order to use these applications. If we are successful with this, London Hydro will need to be the partner with the Aboriginal or

Community Group. Following COD, depending on the wishes of the COL, ownership of London Hydro's portion may be transferred to the COL or to the winning tender proponent.

4. Collect all relevant materials to be able to file all appropriate applications as soon as possible after the FIT window opens. For projects that are submitted without the benefit of old time stamps there is a benefit to file as early as possible within the procurement window as new applications also get time stamps.
5. Once all applications have been submitted Ameresco will work with the COL to define its equipment and labor procurement plans for city facilities that are awarded contracts to ensure they are vendor neutral, comply with COL procurement policy and maximize job opportunities within the city of London.