



# **City of Peterborough Holdings Inc. (COPHI)**

500 kW Ground Mount Solar Projects Portfolio

Presentation to City of Peterborough Council

June 19, 2017

# Agenda

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# Today's Objective

- October 21, 2013 – City Authorized establishing a new entity, Peterborough Solar Projects Corporation (PSPC), as was requested by COPHI, to enable PSPC to seek long-term Provincial Government power contracts for several small solar developments;
- PSPC was successful in obtaining these long-term contracts;
- To obtain contracts – all landowner, and local government consents have been obtained and evaluated in the contract award process;
- For the Last 12-15 months – The project has been under pre-development preparation, economic and risk analysis;
- On May 23<sup>rd</sup> and 25<sup>th</sup> the PUI and COPHI Boards approved Management's recommendation to proceed for construction with fifteen of these small ground mount solar projects;
- Such approvals are conditional upon receiving City approval in accordance with the Shareholder Direction and completion of external project financing;
- Today's Objective - The City's Shareholder Direction requires that the City provide approval for all investments greater than \$20 million;
- We are seeking that approval;



# Background

- **Why?**

- These completed projects will provide further value to COPHI which supports the dividend distribution to the City (2016 - \$5.3 million);
- The projects contribute to risk diversifying the COPHI portfolio and risk adjusting the City's ultimate return from COPHI;

- **What and Where?**

- Per attached;

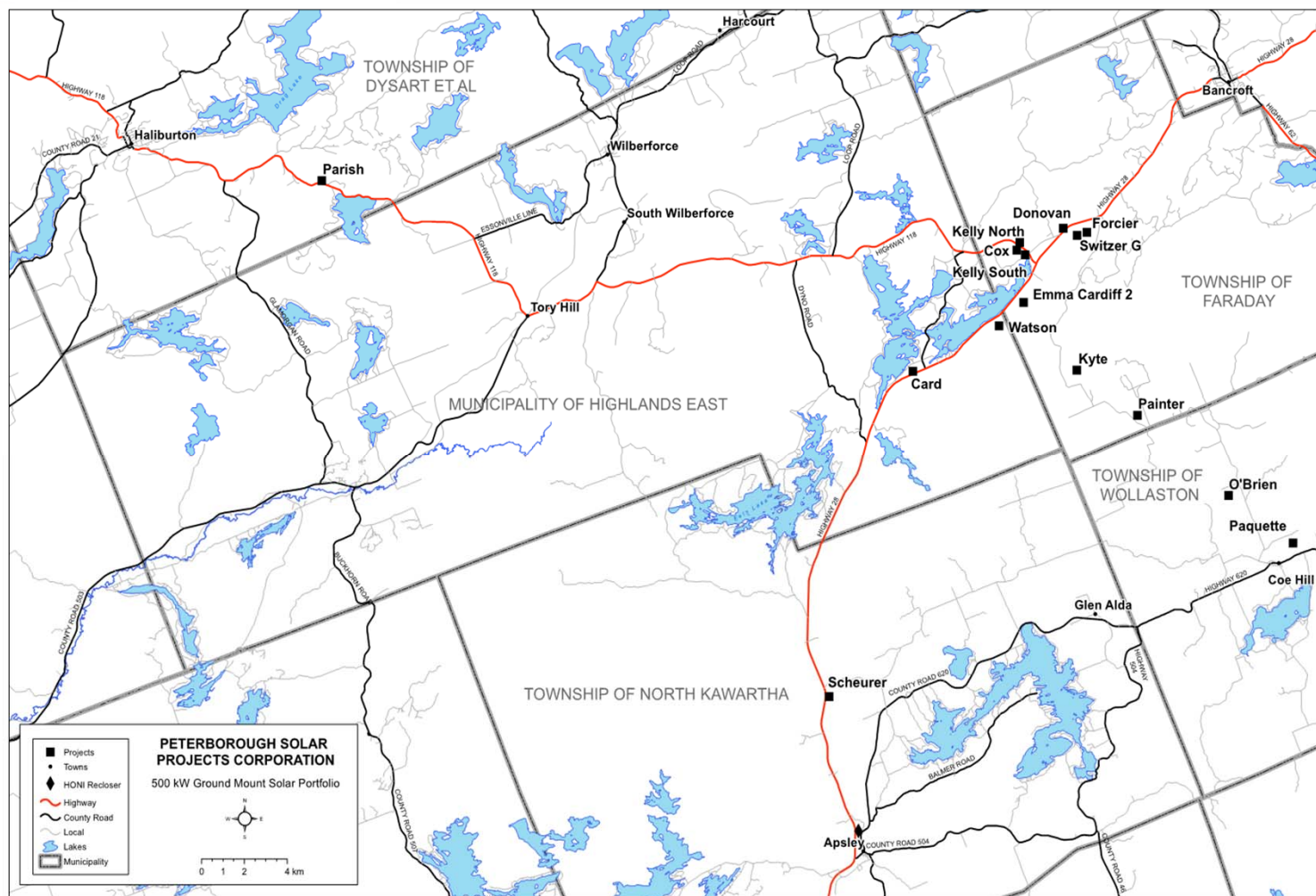
- **How?**

- COPHI through Peterborough Utilities Inc. (PUI) and PSPC will be responsible for project execution (structure as per attached);
- These projects will be financed in traditional fashion as other PUI projects with external lending under long-term fixed rates; and existing PUI equity;
- There is no requirement for City investment or funding;



# What and Where? - Portfolio Summary

Location Map: PSPC FIT 3 Ground Mount Solar Projects

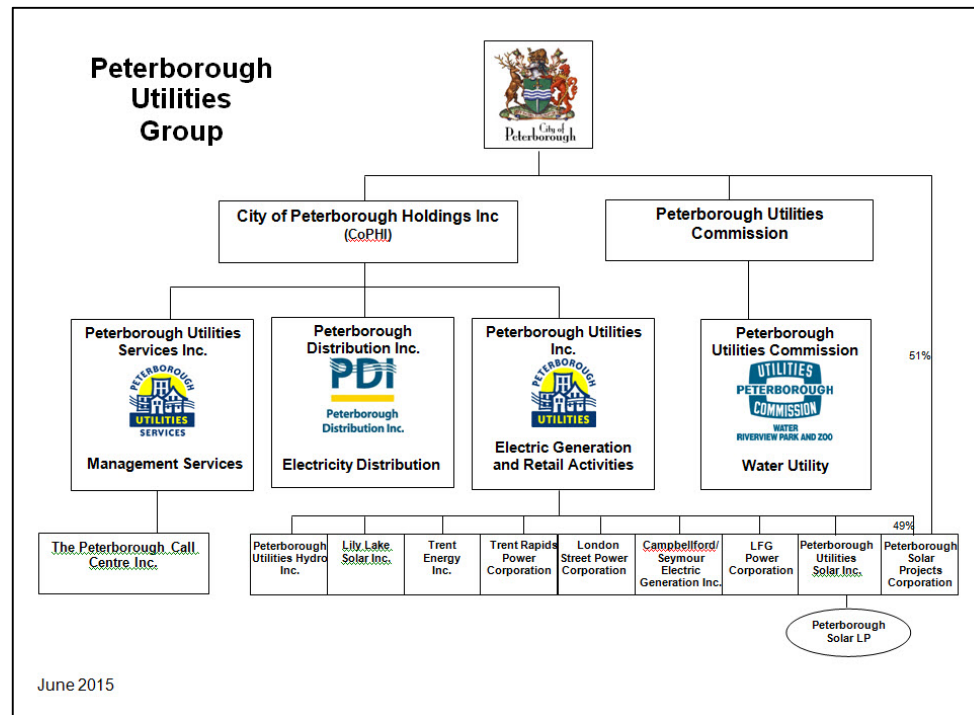
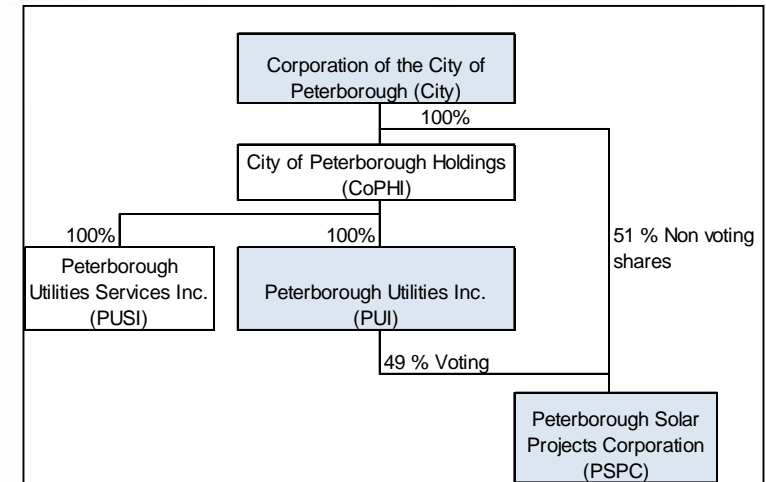


15 projects – 500kw each; ~3 acres each

## How? - Structure

Ownership structure supported power contract award, while enabling financial consolidation at the PUI level. It further enables financing and project development at the PUI level and the PSPC level to occur, as in other projects.

All project returns will route through PUI as a requirement of project lending. However, as in all projects, this contributes to the City return through the normal channel of PUI and COPHI to the City.



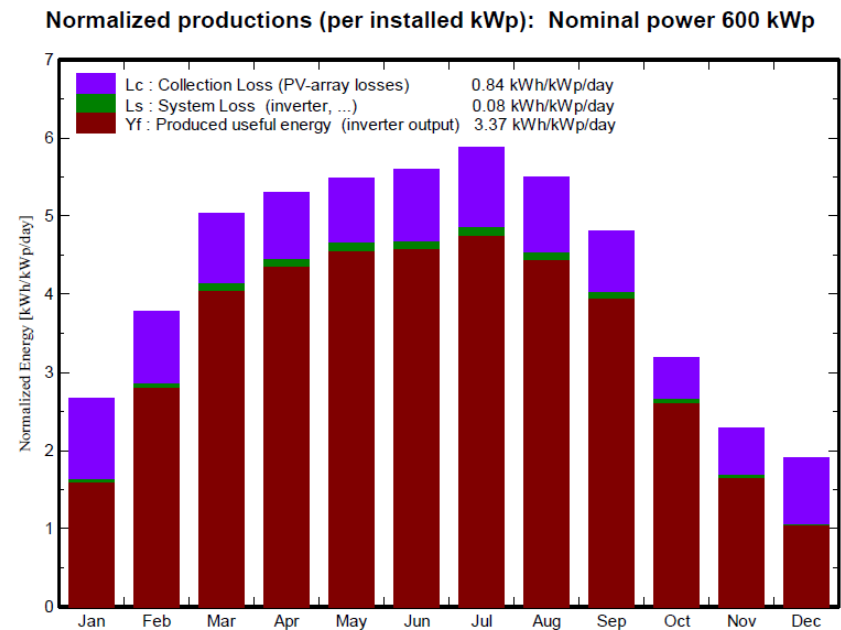
# How? - Design & Optimization

- The design approach for each project has been established to mitigate construction and operating risk and includes the following key elements:
  - drilled and grouted foundation piles on all but two projects (highest cost, lowest risk design);
  - fixed tilt racking system from one of three top tier vendors; SolarFlex, Cosma or Polar Racking (conservative, proven technology);
  - Polycrystalline solar PV modules, 330 to 340 Watts, from top tier suppliers and manufacturing facilities, either Hanwha or Jinko;
  - String inverters from one of two top tier suppliers, either Fronius or Huawei;
  - pre-fabricated, pad mounted E-Houses for the switchgear, P&C equipment, scada and telecommunications; and
  - Security fencing and cameras with real-time monitoring to mitigate production loss from vandalizism, theft or forced outages.



# How? - Design & Optimization

- Project layouts have been optimized for Production by establishing a standard to not allow shading of PV modules from 9:00 a.m. to 3:00 p.m. on December 21<sup>st</sup> (exceeds industry standards).
- However, Production has been conservatively estimated to ensure financial targets can be achieved:
  - Most conservative meteorological data used in assessment;
  - Conservative assumptions used for soiling losses (including snow cover); and
  - Adjacent shade trees and other obstructions modeled as a solid wall (i.e. assumes 100% shading at all times and seasons).





# How? – Schedule and Budget



- Schedule:

- Projects will generally be constructed in groups of four projects;
- Site mobilization and tree clearing for the initial projects will commence after August 15<sup>th</sup>;
- Group Commercial Operation of the projects is scheduled commencing in February, 2018 and completion in August, 2018

- Budget

- Total aggregate project budget – estimated at \$27 million;
- Expected project return is approximately 10%; which is consistent with equity market return rates and COPHI's project return thresholds.



# Conclusion and Q&A

- Projects will provide increased value to COPHI and the City
- We ask that the City support the COPHI recommendation, by providing the requisite shareholder approval to proceed;
- Questions and Comments

**End**

