



**KINGSTON SOLAR LP**

**WELCOME**

**SOL-LUCE KINGSTON SOLAR  
PV ENERGY PROJECT**

**INTERIM COMMUNITY  
SESSION**

Invista Centre  
1350 Gardiner's Road  
Kingston, Ontario

3:00 pm to 8:00 pm


Tuesday, April 17, 2012



# **WELCOME**

**Thank you for coming to our Interim Community Session. We are happy to share our enthusiasm for this clean, renewable energy Project with you.**

**We also understand that you have questions about the Project and how it will be built in your community. As such, we invite you to view the display boards, speak to members of the study team, participate in a roundtable discussion and leave us with your questions and comments.**



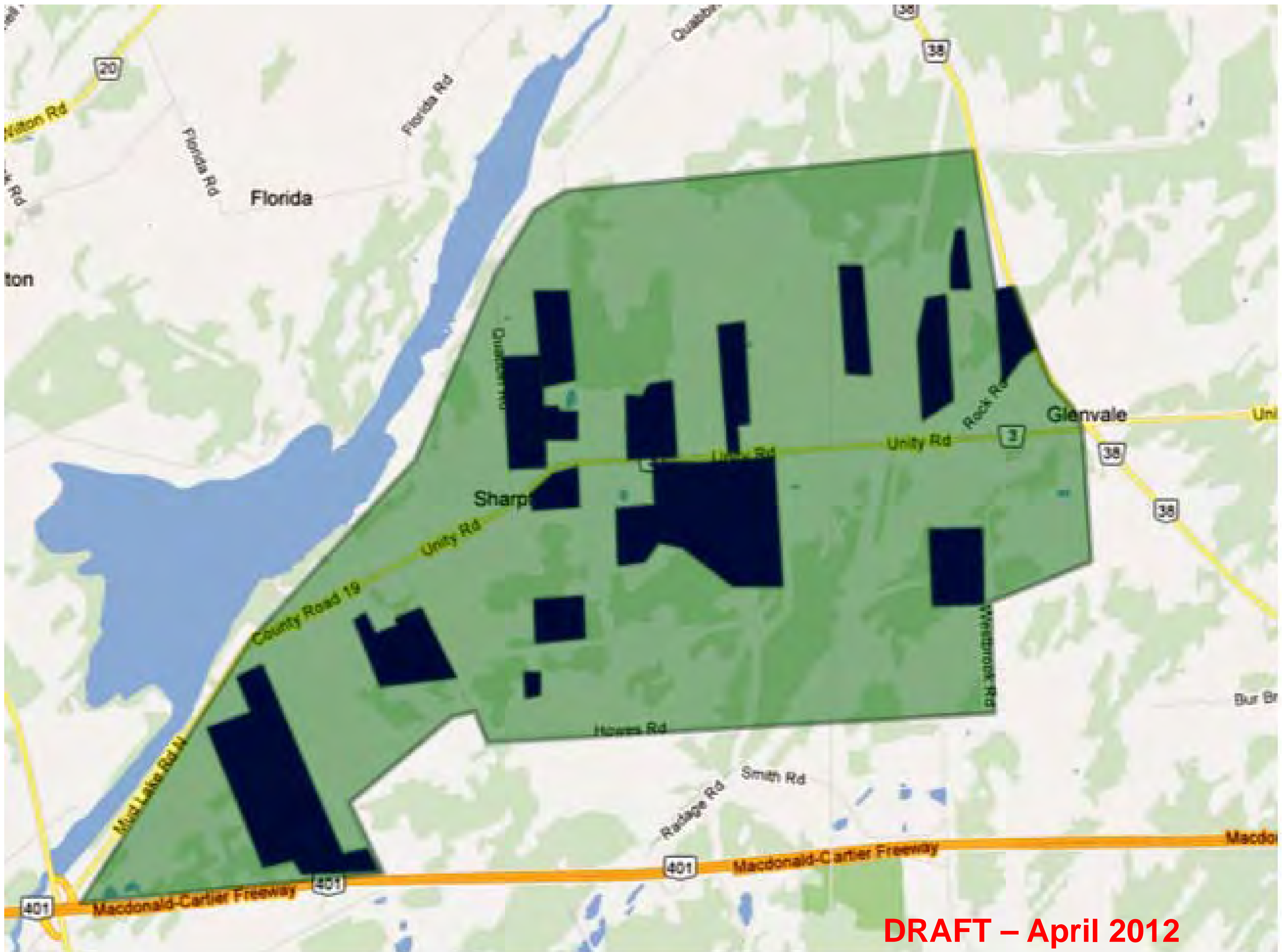
## WHO ARE WE?

- Samsung C&T Corporation was founded in 1938 and is the parent company of the SAMSUNG Group, which has been the driving force behind the astonishing growth of the Korean economy.
  - Samsung C&T Corporation plan to build and operate the world's largest renewable energy clusters in Ontario. Samsung C&T Corporation is proud to be part of this Project in the City of Kingston and Loyalist Township that will bring renewable energy, investment, and new jobs to the Province of Ontario.
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## PROJECT INTRODUCTION

- The proposed facility is to be known as the *Sol-luce Kingston Solar PV Energy Project*
  - Sol-Luce Kingston will be built, owned and operated by Samsung Renewable Energy Inc. (a subsidiary of Samsung C&T Corporation). Sol-Luce Kingston will have the capacity to generate up to 100 megawatt (MW) of solar renewable energy in the City of Kingston and Loyalist Township. Samsung C&T will invest significant resources to build this Project thus playing an important role in revitalizing Ontario's economy, creating hundreds of jobs not only locally but throughout the Province.
  - This proposed facility will convert solar energy into electricity. The power generated by the Project will be collected through existing distribution lines and connected to a 230 kilovolt (kV) Hydro One transmission line.
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## PROJECT LOCATION



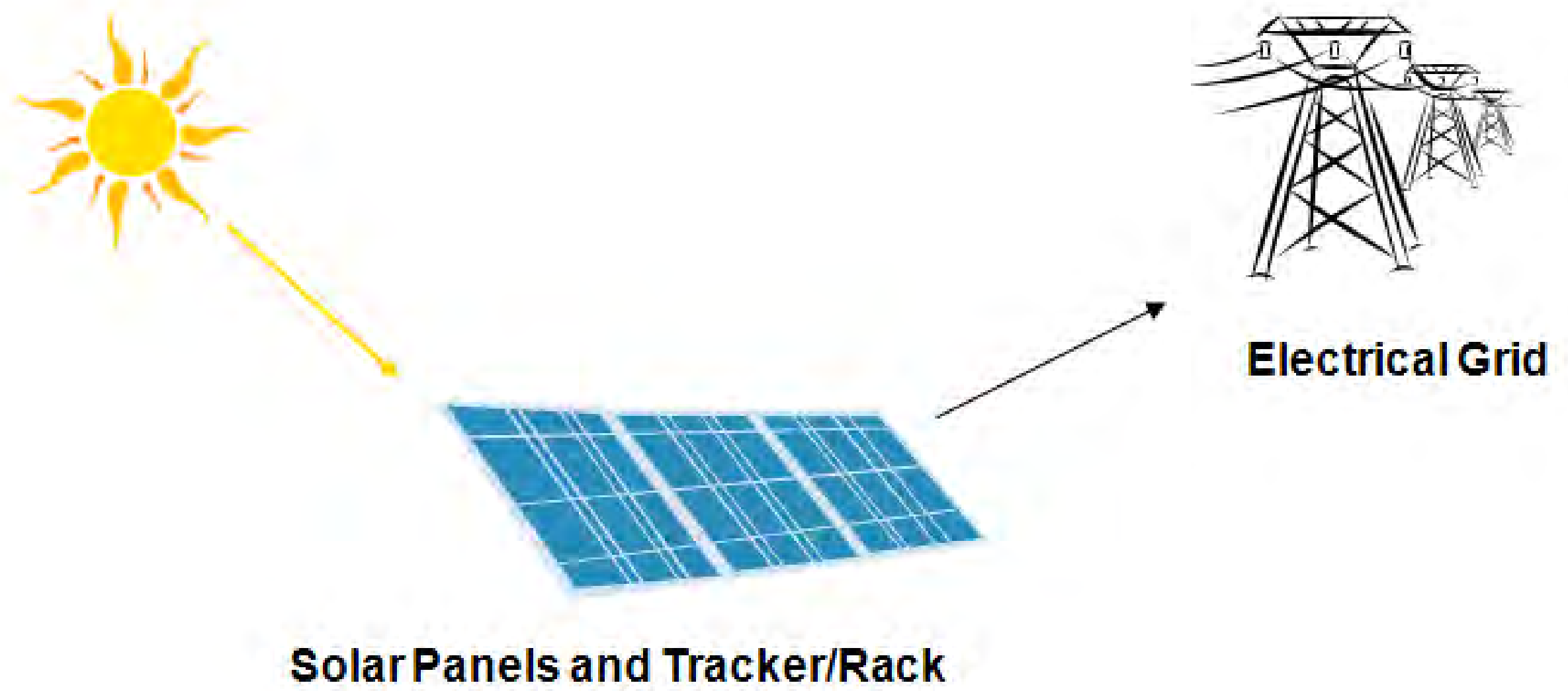
■ Area Proposed as of August 2011

■ Area Proposed as of April 2012

- The study area is situated within two communities: City of Kingston (Countryside District) and Loyalist Township.
- Based on ongoing studies the study area has been refined.

## SOLAR TECHNOLOGY

- Solar Power involves harnessing energy from sunlight and converting it into electricity.

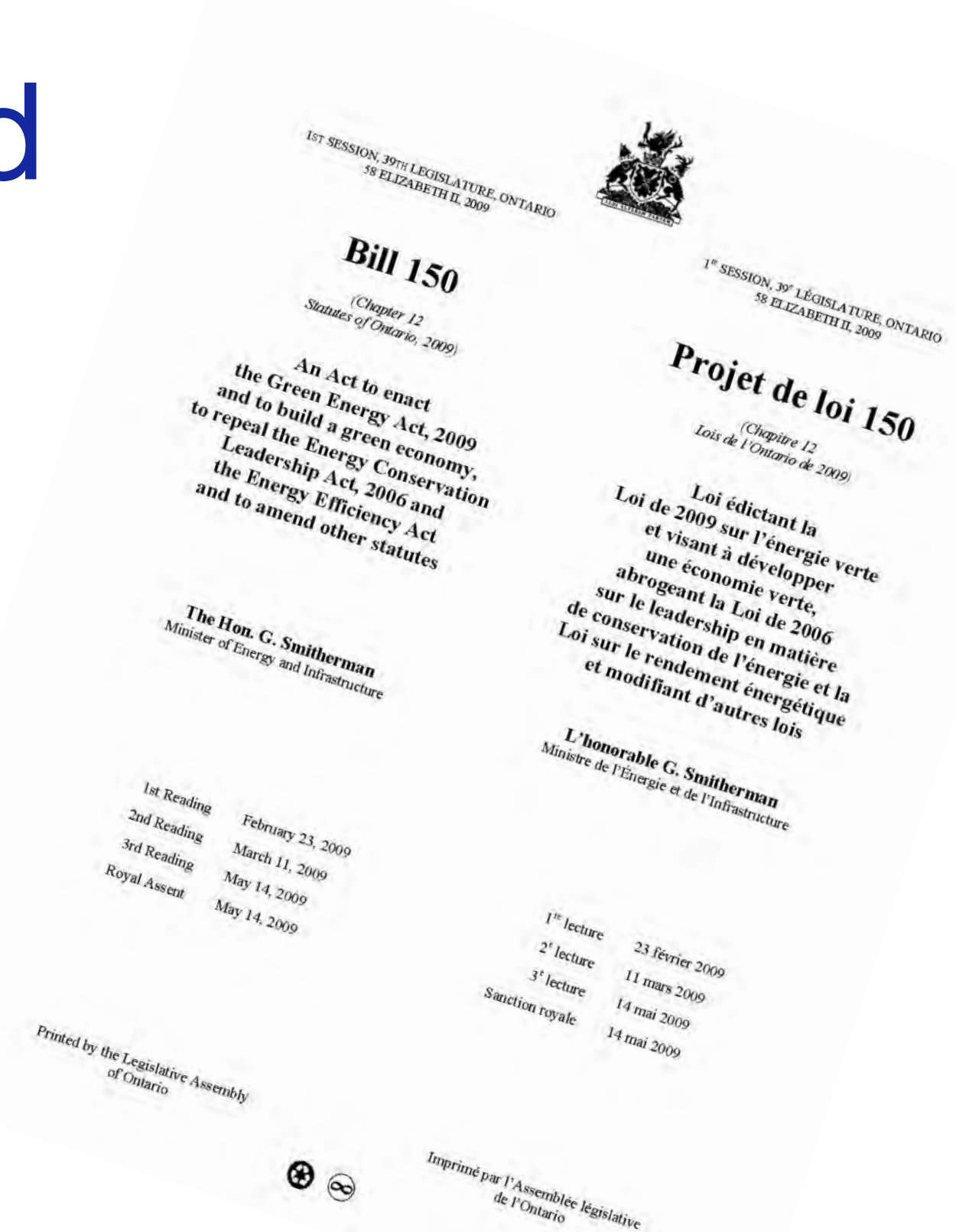


- Photovoltaic cells, distributed in a solar panel, convert sunlight into electric current.
- Solar panels can be installed on rooftops, as free-standing structures, or as rows of mounted panels.



## ONTARIO'S GREEN ENERGY ACT

- The *Green Energy Act* received Royal Assent in the Ontario Legislature on May 14, 2009. According to the Government of Ontario, this legislation is part of Ontario's plan to become a leading green energy centre in North America.
- This Act is intended to:
  - Spark growth in clean and renewable sources of energy like solar, wind, hydro, biomass and biogas.
  - Reduce energy consumption and create savings for households.
  - Create 50,000 jobs in Ontario in its first three years.
- Samsung C&T is developing the Sol-luce Kingston Solar PV Energy Project in response to the policies and programs created through the Act.

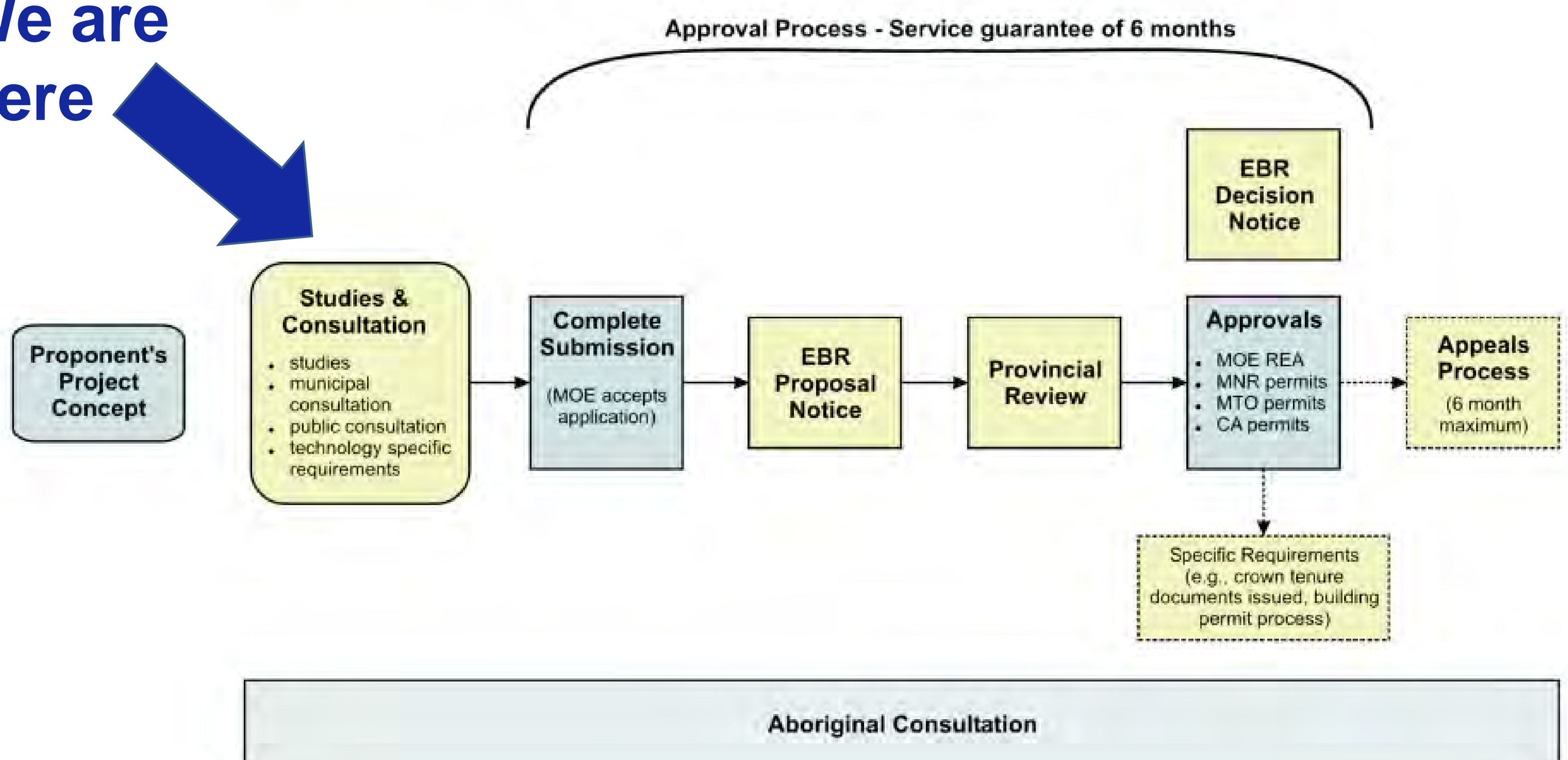


## RENEWABLE ENERGY APPROVAL

- The Renewable Energy Approval (REA) is issued under the *Environmental Protection Act* under Ontario Regulation 359/09 (Renewable Energy Approvals under Part V.0.1 of the Act).
- The REA process is a detailed environmental approval process that Samsung will satisfy before constructing the Project.
- The REA approval will specify how this Project will be designed, built, operated, and decommissioned to ensure that the local community and environment are protected.
- **CURRENT STATUS:** consultation activities are ongoing and the detailed studies, analyses, and work required to obtain a REA for the Project are being completed.

### Renewable Energy Approval Process

We are here






## REA REQUIRED REPORTS

- The following reports will be prepared and submitted as part of the REA application:

Reports	Summary
Project Description	Outlines the Project boundary, generation equipment, capacity, development activities, land ownership and environmental effects.
Construction Plan	Provides further details on construction and installation activities including their location and schedule, as well as environmental effects and mitigation measures.
Design and Operations	Provides maps and plans for detailed project location, design, operation, environmental monitoring, and emergency response (including stormwater management plan).
Decommissioning Plan	Outlines procedures for dismantling the facility, restoring the land and managing waste.
Consultation	Summarizes all communication with the public, municipalities, Aboriginal communities and other interested stakeholders.
Natural Heritage Assessment	Provides an assessment of potential impacts on natural heritage resources (including birds and bats, Species at Risk, wildlife habitats, vegetation and sensitive features).
Archaeological and Heritage Assessment	Describes archaeological and heritage resources, potential impacts and mitigation.
Water Assessment and Water Bodies	Describes waterbodies, fish and fish habitat, potential impacts and mitigation.
Environmental Impact Study	Describes any impacts, positive or negative, that the Project may have on the natural environment. Includes the following Environmental Studies: Birds and Bats, Species at Risk, Fish and Waterways, Wildlife and Habitats, Vegetation and Sensitive Features.
Noise Study	Environmental Study- Noise Assessment.

All reports, with the exception of the Consultation Report, will be made available in draft form for public review and comment at least 60 days prior (tentative: July 2012) to the Final Public Open House (tentative: September 2012). Notification of the release of the draft reports will be provided.

## **PROJECT DESCRIPTION REPORT**

- Describes the Project (facilities, equipment or technology to be used)
  - Outlines the activities that will be engaged as part of the Project
  - Identifies any negative environmental effects resulting from Project
  - Identifies required permits and approvals
  - Provides an overview of the consultation activities
  
  - Draft available on the Project website
  - Final Report will be available 60 days prior to the Second Open House
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## CONSTRUCTION PLAN REPORT

- Details the construction or installation activities (e.g. site preparation, materials brought on site, construction equipment used, site restoration)
- Provides the location and timing of any construction/installation activities for the duration of the construction
- Identifies any negative environmental effects that may result from construction/installation activities
- Identifies mitigation measures in respect of any negative environmental effects

***Public Health and Safety will be incorporated into all phases of the Project including: development, construction, operation and decommissioning.***


- Implementing transportation planning and safety measures during construction will minimize the potential for traffic related safety concerns.
- Built-in safety measures and standard procedures help protect physical safety.

## DESIGN & OPERATIONS REPORT

- Provides:
  - Site Plan
  - Facility Design Plan
  - Facility Operational Plan
  - Environmental Effects and Monitoring Plan
  - Emergency Response and Communications Plan



## NATURAL HERITAGE ASSESSMENT REPORT

- ***Protecting habitat from being lost.*** Studies on natural heritage and environmental impact were completed prior to ploughing the fields. Findings were reviewed with Ministry of Natural Resources who then provided conditions under which the ploughing could occur.
  - All biological studies were conducted following very strict Ministry of Natural Resources protocols.
  - A Records Review and Site Investigation were undertaken to identify:
    - Wildlife species and wildlife habitat types present.
    - Natural features including rare vegetation communities, woodlands, wetlands, and valleylands.
  - The final Project layout will be determined based on these results and was designed to protect as much habitat and natural features as possible.
  - An application for an Overall Benefit Permit under the Endangered Species Act is in progress; the outcome of overall benefit actions is more than steps to minimize negative impacts but rather is meant to improve the relative standing of a species.
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## ENVIRONMENTAL IMPACT STUDY REPORT

- An Environmental Impact Study (EIS) identifies and assesses potential impacts on the natural features found within the Project location, and within 120 metres (m) of the proposed Project location.
  - Mitigation measures aimed at avoiding or minimizing the recognized potential effects associated with all Project phases.
  - Prescribed mitigation measures are expected to result in minimal to no net residual effects on the wildlife, wildlife habitat, and significant natural features identified and assessed.
- ***Mitigating Risk to the Environment.*** Baseline studies in the area have been completed to identify any potential risks or impacts to the environment and wildlife. Working with Ministries of the Environment, Natural Resources, and Tourism, Culture and Sport, efforts will be made to eliminate, minimize and/or mitigate for identified risks or impacts.
- ***Minimizing Tree Removal.*** Tree removal within the proposed Project footprint will be minimized as the vast majority of the proposed paneled areas are open fields. Removal will largely include minor hedgerows and regrowth areas. No riparian buffer areas will be removed and no changes in groundwater patterns are expected. While some vegetation removal is proposed this only represents a small portion of tree cover in the area and is not expected to measurably affect local or regional climate.
- ***Effects on Endangered Species.*** A couple of Species at Risk have been located in the Project footprint. The Endangered Species Act Permit currently being prepared will detail post-construction monitoring requirements for Species at Risk. Further follow-up environmental monitoring may be required following regulatory review of the REA reports.

## ARCHAEOLOGICAL & HERITAGE REPORT

- Stage 1 and partial Stage 2 archaeological investigations were completed on participating properties within the study area to identify any archaeological resources. Stage 2 will be finalized during Spring 2012.

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**Stage 1** - Background research of to gather physiographic, historical and land use information

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**Stage 2** - Two methods:

1. Ploughed fields were walked and visually inspected fields at 5-metre intervals

2. Elsewhere, shovel test surveys at 5 to 10-metre intervals where the soil from hand dug test pits was processed through 6-millimetre mesh screening in order to facilitate artifact recovery

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### ***Why are fields ploughed and when is this done?***

The Ministry of Tourism, Culture and Sport's standards state that current/former agricultural fields must be ploughed and disced, wherever possible, and then allowed to weather through at least one substantial rainfall or several light rainfalls prior to being subjected to a walking survey at closely spaced intervals. This is because the most effective way of identifying an archaeological site is to conduct a visual inspection for artifacts that have been brought to the surface by the plough.

The first round of ploughing was conducted in October and November of 2011. A second round of ploughing will occur in April 2012.

## ARCHAEOLOGICAL & HERITAGE REPORT

- Stage 2 investigations resulted in the identification of six previously undocumented archaeological sites:

- Five sites represent mid-nineteenth century to early/mid twentieth century farmsteads. Further work has been recommended at these locations.



- The sixth site consisted of a single projectile point dating to between circa 1,000 B.C. and 400 B.C. This isolated artifact is thought to have been lost during a transitory hunting event and, as such, no further archaeological work is required at this location.



- Further Stage 2 investigations are planned for April/May 2012.

- All assessments were conducted to Ministry of Tourism, Culture and Sport's standards and the resulting reports have been accepted by the Ministry for inclusion into the Provincial Registry of Reports.





## WATER ASSESSMENT & WATER BODIES REPORT

- Summaries the results of records review and site investigation to determine the presence and boundaries of water bodies within 120 metres of the Project study area.
  - Records review completed by consulting with the Ministry of Natural Resources, Cataraqui Region Conservation Authority, Fisheries and Oceans Canada, and Natural Resources Canada.
  - Site investigations were completed in October 2011.




## GROUNDWATER

- No groundwater reports or studies are required for solar projects under REA.

### *How will the Project address local community concerns related to groundwater?*

- Based on the final layout, the plan is to prepare a report on well water conditions.
- While no impacts to well water quality are expected, a well water quality assessment will be conducted pre- and post-construction, under the guidance of local ministry offices.
- Materials used in panels are silicon-based and do not contain liquid chemicals that can leak. They are also designed not to melt in the event of a grass fire.
- Grass cutting or herbicides are not planned to control plants. Instead the area around the panels will be seeded with native species which only grow to a limited height. This has been successfully done at other solar panel sites in Ontario. In other locations, this has led to the area around the panels to become a naturalized habitat for native species pushed out by agriculture.
- Simple steps to backfill holes around the posts with concrete grout will effectively seal the holes, while securing the panels to the ground. The same technique can be used when the posts are removed at the end life of the Project.
- Only limited areas will have gravel roads and the potential for affect will only be slight. The use of gravel will allow more rain into the ground than a grassed area, resulting in slightly higher recharge of rainwater.
- A stormwater management plan is a requirement of the planning process.

## **NOISE STUDY REPORT**

- Completed to ensure that the transformers and inverters associated with the solar panels are located in strategic areas (i.e., final locations determined by this report).
  - Sound levels were modeled using an industry standard and Ministry of the Environment accepted noise modeling program.
  - Predicted sound levels were determined to not exceed the Ministry of the Environment guideline limits at the points of reception (i.e., nearest residences).
  - Modern transformer and inverter design has significantly reduced the noise levels associated with the units.
  - Construction noise will primarily come from mobile equipment. Work is expected only between the hours of 7:00 AM and 7:00 PM.
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## DECOMMISSIONING PLAN REPORT

- Identifies procedures for dismantling or demolishing components of the facility.
- Outlines activities related to the restoration of any land and water to bring the site into a condition consistent with the probable future use.
- Identifies procedures for managing (i.e., recycling) excess materials and waste.
- Anticipated Project lifetime is 20 years.
- After 20 years, Kingston Solar LP will decide whether to:
  1. Continue to operate the Solar installation depending upon several factors including but not limited to power purchase agreements as well as the operations and maintenance costs, or
  2. Alternatively, Kingston Solar LP will fully decommission the Project which will involve removal and clean up of the Project site and restoration of the lands to their original conditions.
- All potentially affected stakeholders will be notified prior to decommissioning activities.
- Kingston Solar LP will be responsible for the decommissioning.

## OTHER KEY REQUIRED PROJECT APPROVALS

- Building a project such as the Sol-Iuce Kingston PV Solar Energy Project requires significant planning and work to obtain all relevant approvals and permitting. Some of the key approvals and permits are listed in the table below:

Permit/Authorization	Issuing Authority/Point of Contact	Regulated Activity
Renewable Energy Approval	Ministry of the Environment	Environmental approval of all Project works and activities.
Connection Approval System Impact Assessment	Independent Electricity System Operator	Required to register with IESO and meet requirements for grid connection.
Generator Licence	Ontario Energy Board	Permission to operate.
Customer Impact Assessment	Hydro One Networks	Effects of grid connection.
Certificate of Inspection	Electrical Safety Authority	Construction or modification of electrical systems.
Notice of Project Construction	Ministry of Labour	Required to meet labour codes and regulation.
Interference with Wetlands, and Alterations to Shorelines Permit	Conservation Authority	Development of works within floodplains such as water crossings.
Work permit/ agreement for municipal Right-of-Way	Municipality	Work within road allowance and use of road allowance for power lines.
Building Permit		Need to meet local and provincial codes.
Entrance Permit		Permission to connect to municipal roads.

## TENTATIVE PROJECT SCHEDULE

Notice of Proposal	July 2011 (Completed)
First Public Open House	August 2011 (Completed)
Interim Community Session	April 2012
Draft REA Notice (Municipality)	June 2012 (Tentative)
Draft REA Notice (Public)	July 2012 (Tentative)
Final Public Open House	September 2012 (Tentative)
REA Approval	November 2012 (Tentative)
Start of Construction	2013
Commercial Operation	2014
Decommissioning	2034



## **WE WANT YOUR FEEDBACK**

Please share your thoughts with us by filling out a feedback form.

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