



Decommissioning Plan Report Ernestown Wind Park

Submission to: Ministry of the Environment
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Project No.: 91035
8 pages

Date: October 2, 2012

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SUMMARY OF CHANGES – Decommissioning Plan Report

The following changes have been made to this report to update it from the report released in July of 2012.

1. The report format was retooled and its presentation was altered slightly, as a result some table and figure numbers have changed.
2. The report was updated to reflect the selection of the Enercon E92 Turbine. Additional clarifications have been added where necessary and references to the Vestas turbine have therefore been removed. The Enercon E92 has a transformer mounted inside the turbine tower, therefore all references to any other transformer type have been removed.
3. The proponent opted to construct a smaller less intrusive switching station instead of a substation; the location and footprint of this station remain unaltered. Minor editorial changes were made to reflect this change.
4. Sections of this report were updated to reflect the decision to carry the collector lines above ground, subsequently all references to below ground collector lines have been removed.
5. Figure 1: Site Plan was updated to reflect the above changes, **no turbines were changed.**
6. Minor typographical errors were corrected in the text.
7. Comments from the Loyalist Township were addressed regarding compliance with By-Laws enforcing decommissioning restrictions.

1. PROJECT INFORMATION

Ernestown Windpark LP is proposing the development of the Ernestown Wind Park (the Project) located in Loyalist Township, the County of Lennox and Addington, Ontario. The project is located on privately owned land, municipally zoned as agricultural and industrial.

The Project involves construction, operation and decommissioning of five Enercon E92 2.3 MW wind turbines modified to operate at 2 MW for a total name plate of 10MW. The Project requires construction of new access roads to the turbine sites and a new 44 kV overhead electrical connection line which will connect with an existing distribution line located along Taylor Kidd Boulevard.

The Project is subject to Ontario Regulation 359/09 under the Environmental Protection Act, and requires a Renewable Energy Approval (REA), as a Class 4 wind facility. The project was awarded a Feed-in Tariff (FIT) contract to operate for 20 years.

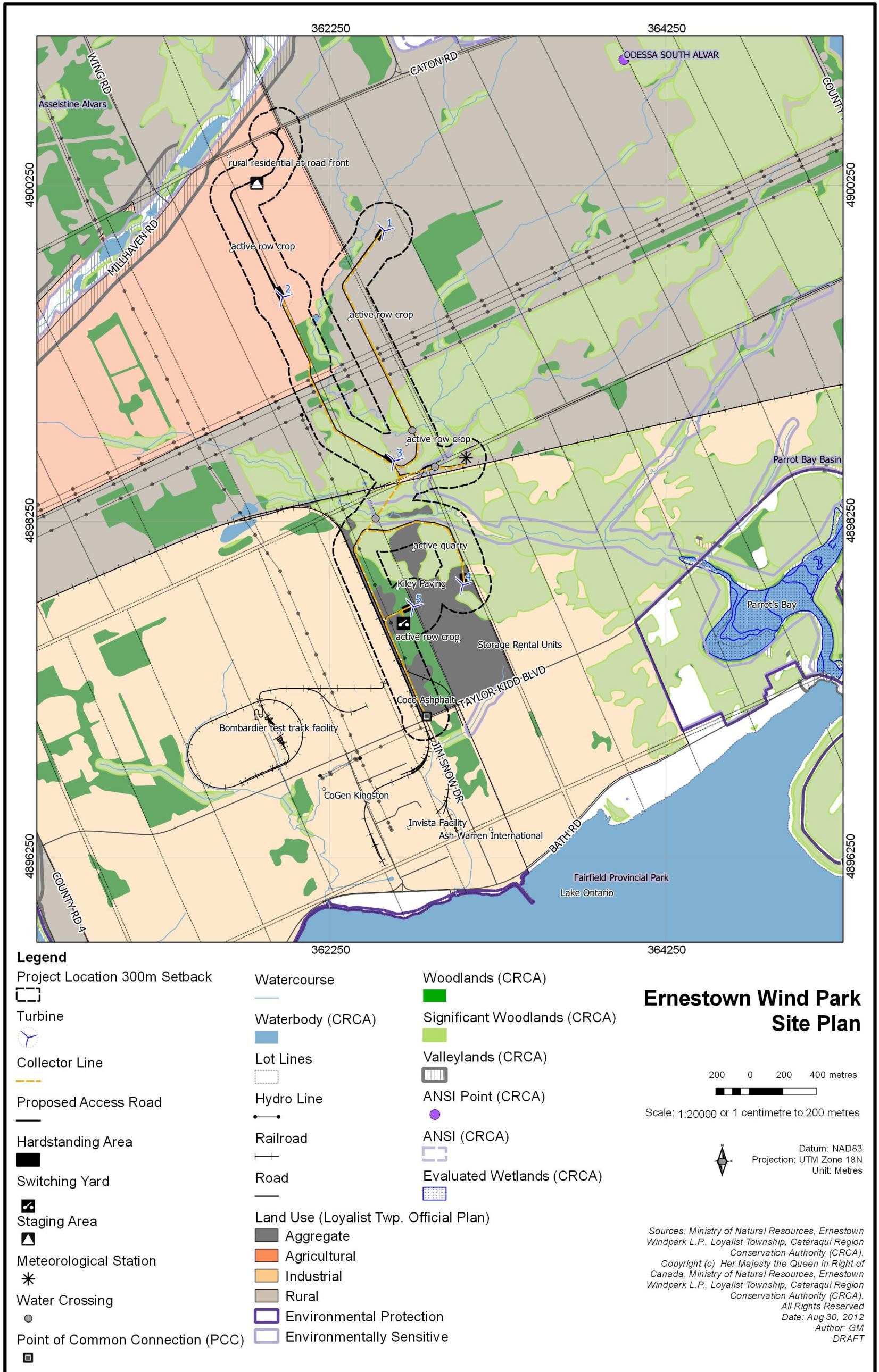
The lifecycle of the project involves three stages: construction, operation and decommissioning. The objective of decommissioning activities is to restore the project site to a level similar to the pre development condition. During the decommissioning stage, the turbines will be dismantled and the project area will be restored to pre-development conditions.

A Decommissioning Plan Report is a mandatory component of an application for the Renewable Energy Approval (REA). This report has been prepared in accordance to these requirements and Chapter 7 of the Technical Guide to Renewable Energy Approvals (MOE, 2011). In accordance with the guidance document, this report contains the following information:

- procedures for decommissioning during construction (abandonment of the project);
- procedures for dismantling or demolishing the facility;
- activities related to restoration of any land and water negatively affected by the facility; and
- procedures for managing excess materials and waste.

Figure 1 provides a map showing the project location and Figure 2 outlines project areas within 300 m from the project boundaries, as it relates to construction activities according to the REA requirements.

Figure 1: Site Plan



The Decommissioning Plan Report is a mandatory component of an application for the Renewable Energy Approval for Class 4 wind facilities. This report has been prepared in accordance with the requirements of the Ontario Regulation 359/09 and Technical Bulletin Four Guidance for Preparing the Decommissioning Plan Report (MOE, 2010).

2. DECOMMISSIONING & SITE RESTORATION

2.1 Probable Future Site Use

The project has been awarded a 20 year power purchase agreement under the FIT program by the Ontario Power Authority (OPA). After the 20 year FIT Contract expires the project may apply to the FIT program to have the Project re-powered which includes upgrading or replacing the turbines and other components with a newer technology to allow continued operation of the wind facility. This process would require additional permitting and approvals. Should re-powering not be an available or viable option, the project will be decommissioned and the proponent will cease operation and the project location would return to agricultural use.

2.2 Decommissioning During Construction (Abandonment of Project)

While it is very unlikely that the Project would require decommissioning or be abandoned during the construction phase, due to the large amount of investment required by the FIT Program, the project could be decommissioned at any point in the construction process without incurring additional environmental impacts as described under the report section “Procedures for Decommissioning After Ceasing Operations”. Additionally, landowner commitments as defined in pre-existing legal agreements will be honoured.

2.3 Procedures for Decommissioning After Ceasing Operations

Should decommissioning become necessary the site will be restored by the proponent to a level similar to the pre development condition. Any decommissioning activities will commence within one year of the FIT Contract expiration date and involve removal of above-ground and below-ground structures to a depth of at least 1.0 metre and restoration of topsoil and vegetation cover at the site. Any foundations which required blasting would be removed up to the depth of the mineral deposit. Above-ground structures include turbines, associated laydown areas, access roads, above ground electrical connection lines and the switching station. Below-ground structures include turbine foundations, a concrete slab for the switching station and all underground communications lines.

The following sections will outline the decommissioning and restoration activities recommended to restore the project site back to a level similar to the pre-development condition.

2.3.1 Above Ground Structure Decommissioning

Turbine Dismantling and Removal

Industrial wind turbines are designed and certified for a minimum expected operational life of 25 years. If the project is not re-powered, and decommissioning of the wind project at the end of the contract period is required, the wind turbines will be disconnected from the electrical grid and dismantled in reverse order to the procedures used for the wind turbine assembly. Mobile cranes will be used for disassembling the blades, nacelle and tower sections. Disassembled wind turbine components will be placed in the laydown areas used for erection of the turbines and cut into transportable pieces. The metallic components will be removed from the site and either sold as salvage items or recycled for their scrap value. Wind turbine blades manufactured from composite materials (fiberglass, carbon fiber, epoxy-based resins) will require disposal in a landfill. The fluids in the nacelle are self-contained and will not be removed on site. They will be removed at a designated salvage location. A waste generator permit may be required prior to transportation of fluids or other regulated waste materials off-site.

Transformers

In the Enercon E92 the transformer is mounted at the base of the turbine inside the tower. The transformer will be removed from the site and either sold as salvage items or recycled for their scrap value. All the fluids in the transformers are self-contained and will not be removed on site. A waste generator permit may be required prior to transportation of fluids off-site.

Staging Areas, Crane Pads and Laydown Areas

Each turbine will require one staging area (laydown area, crane assembly area and crane pad) located at each turbine site for the safe assembly and erection of wind turbines, descriptions of these items can be found in the Ernestown Wind Park: Construction Plan Report. The laydown areas will be composed of gravel and geotextile base materials. Following removal of all other on-site components (with exception of the Access Roads) the laydown areas will be removed. The gravel areas will be inspected for signs of staining and suspect areas separated and removed. This material will be disposed of in a secure landfill based upon material analysis results. The remaining material will be removed via wheel loaders or scrapers and loaded onto dump trucks. Based on the quality of the material, it may be reused either as road base material or inert fill on another project site. Provincial fill quality guidelines will be followed in the event of placement off-site. The topsoil at these sites will be restored after the removal of this material to allow future use of the land for agricultural purposes. Re-vegetation of the land will be carried out shortly after this period using native vegetation selected in consultation with the Cataraqui Conservation Authority, MNR and local landowners.

Access Roads

Following dismantling of the turbines, gravel material from access roads will be inspected for signs of staining and suspect areas separated and removed. This material will be disposed of via secure landfill based upon material analysis results. Based on the quality of the material, it may be reused either as road base material or inert fill on another project site. Provincial fill quality guidelines will be followed in the event of placement off-site. The remaining gravel from the access roads will be removed and sent to an aggregate facility for beneficial reuse. The underlying geotextile fabric will be removed and disposed of at a licensed landfill site. The project lands will be restored to pre-construction conditions in consultation with landowners. Any removed topsoil will be replaced from topsoil stockpiles located at the site, alternately imported topsoil of similar quality to the natural lands will be used if required to mitigate topsoil deficiency at some areas. Culverts installed for stream crossings will be removed after an evaluation determines it will not disrupt habitat to do so. Native vegetation selected in consultation with the Cataraqui Conservation Authority, MNR and local landowners will be used on areas which are not used for agriculture.

Electrical Connection Line

Wind turbines will be disconnected from the grid. Overhead lines and poles that have not become the property of Hydro One, or utilized by another utility will be removed and post holes will be filled in. Consultation with the Hydro One Networks Inc. (HONI) and the Municipality will determine what work is necessary. Soil at the disturbed areas will be restored to the original conditions and re-seeded using native species determined in consultation with landowners, Cataraqui Conservation Authority and the MNR. Work in and around water bodies will be done in accordance with the provisions established in the Construction Plan Report.

Switching Station

Decommissioning of the project switching station will occur following disconnection of the project from the grid. Removal of the access road will occur in the same manner as the access roads sited above, additionally the pole and switching equipment will be removed, dismantled and sent to an appropriate offsite salvage facility for recycling. Decommissioning of the station will occur in consultation with HONI.

2.3.2 Below Ground Structure Decommissioning

Turbine Foundations

The concrete turbine foundations will be demolished and partially removed to allow agricultural production at the site in the future. Heavy machinery will be used to break up the concrete foundation (e.g., hydraulic hammer, large excavator etc). Concrete will be disposed in a manner outlined by the existing regulatory requirements at the time of decommissioning. Removal of underground materials will be conducted to a depth of 1.0 m below the final site grade. This depth of removal will minimize further disturbance to the land and allow for agricultural use of the land to resume. Excavated areas will be backfilled with subsoil and topsoil matching the natural grade to ensure the nutrient content of the soil is restored. Upon completion of decommissioning activities, disturbed areas will be re-vegetated to minimize potential soil erosion.

Switching Station Foundation

The switching station will be built on a concrete slab foundation, the details of which can be found in the Ernestown Wind Park: Construction Plan Report. Following the removal of the above ground components as discussed above, the concrete foundation will be removed in the same manner as the wind turbine foundations and disposed at a landfill according the existing regulatory requirements. Excavated areas will be backfilled with subsoil and topsoil to complete the decommissioning activities and the area will be returned to agricultural production.

3. MANAGING EXCESS MATERIALS AND WASTE

All waste generated during decommissioning stage will be disposed according to the regulatory requirements at the time of disposal. Turbine components cut in pieces and removed electrical connection cables will be recycled at the proper salvage facility. Construction and demolition materials (e.g., concrete, wood, plastic, etc.) and gravel used for access roads will be delivered for recycling to a licensed facility or disposed at the local landfill. No lubricants will be removed from heavy machinery on site. Quantities of these materials which may require management are identified in the Construction Plan Report.

4. PUBLIC, MUNICIPAL & ABORIGINAL COMMUNITY NOTIFICATION

Notification of decommissioning will be provided to the Aboriginal communities, all stakeholders and interested agencies prior to commencement of decommissioning works. Additionally an updated decommissioning plan will be

provided for review to the MNR, Loyalist Township, District MOE office and the Cataraqui Conservation Authority. Notification may be in the form of newspaper notices, personal letters and updates on the Project website.

5. OTHER APPROVALS

Several permits will be required for the project decommissioning including the demolition permit obtained from Loyalist Township, special transportation permit from the Ministry of Transportation, a Record of Site Condition under the Ministry of the Environment's Records of Site Condition Regulation, O. Reg. 153/04 under the Environmental Protection Act (EPA). Other permits that may be required will be confirmed in discussions with the Loyalist Township and provincial agencies prior to decommissioning of the Project. Additionally any municipal bylaws or other Provincial or Federal Acts or Regulations that may be in force at the time of decommissioning will be complied with. Based upon the quality and quantity of designated materials a waste generator permit may be required for the removal and transportation of materials

6. ACKNOWLEDGEMENTS & REFERENCES

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References

Ontario Regulation 359/09 made under the Environmental protection Act Amick Consultants Limited (2012). *2012 Stage 2 Archaeological Assessment of Ernestown Additional Lands, Part of Lots 25, 26 & 27, Concession 1, & Part of Lot 25 & 26 Concession 2 (Geographic Township of Ernestown), Town of Ernestown, County of Lennox & Addington*.

Amick Consultants Limited (2012). *Cultural Heritage Assessment of the Proposed Ernestown Wind Park Part of Lots 25-27, Concession 1 & Part of Lots 25-28 Concession 2, Township of Ernestown, County of Lennox and Addington*.

Ernestown Wind Park (2012). *Natural Heritage Assessment: Records Review*.

Ontario Regulation 359/09 made under the Environmental protection Act (Renewable Energy Approvals under Part V.0.1). July 1, 2012. Published on e-Laws. Available at: <http://www.search.e-laws.gov.on.ca/en/isysquery/3f09426f-0828-41de-be55-5e3289f196bb/1/doc/?search=browseStatutes&context=#hit1> (accessed September 26, 2012).

M.K. Ince. & Associates Ltd. (2012). *Ernestown Wind Park: Water Assessment Report*.

M.K. Ince. & Associates Ltd. (2012). *Ernestown Wind Park: Water Bodies Impact Assessment Report*.

M.K. Ince. & Associates Ltd. & Hatch Ltd. (2012). *Ernestown Wind Park: Natural Heritage Site Investigation Report*.

M.K. Ince. & Associates Ltd. & Hatch Ltd. (2012). *Ernestown Wind Park: Natural Heritage Evaluation of Significance Report*.

M.K. Ince. & Associates Ltd. & Hatch Ltd. (2012). *Ernestown Wind Park: Natural Heritage Environmental Impact Study Report*.

Ministry of the Environment, (2011). Technical guide to renewable energy approvals: Queen's Printer for Ontario. Retrieved from http://www.ene.gov.on.ca/environment/en/resources/STDPROD_088423.html (accessed September 26, 2012).