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WELCOME

to the Public Open House

for the

Grand Renewable Energy Park

Cayuga Kinsmen Community Centre

5:00pm - 9:00pm



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WELCOME

Thank you for coming. 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 our community. As such, we invite you to view the display boards, speak to members of the Study Team and leave us with your questions and comments.



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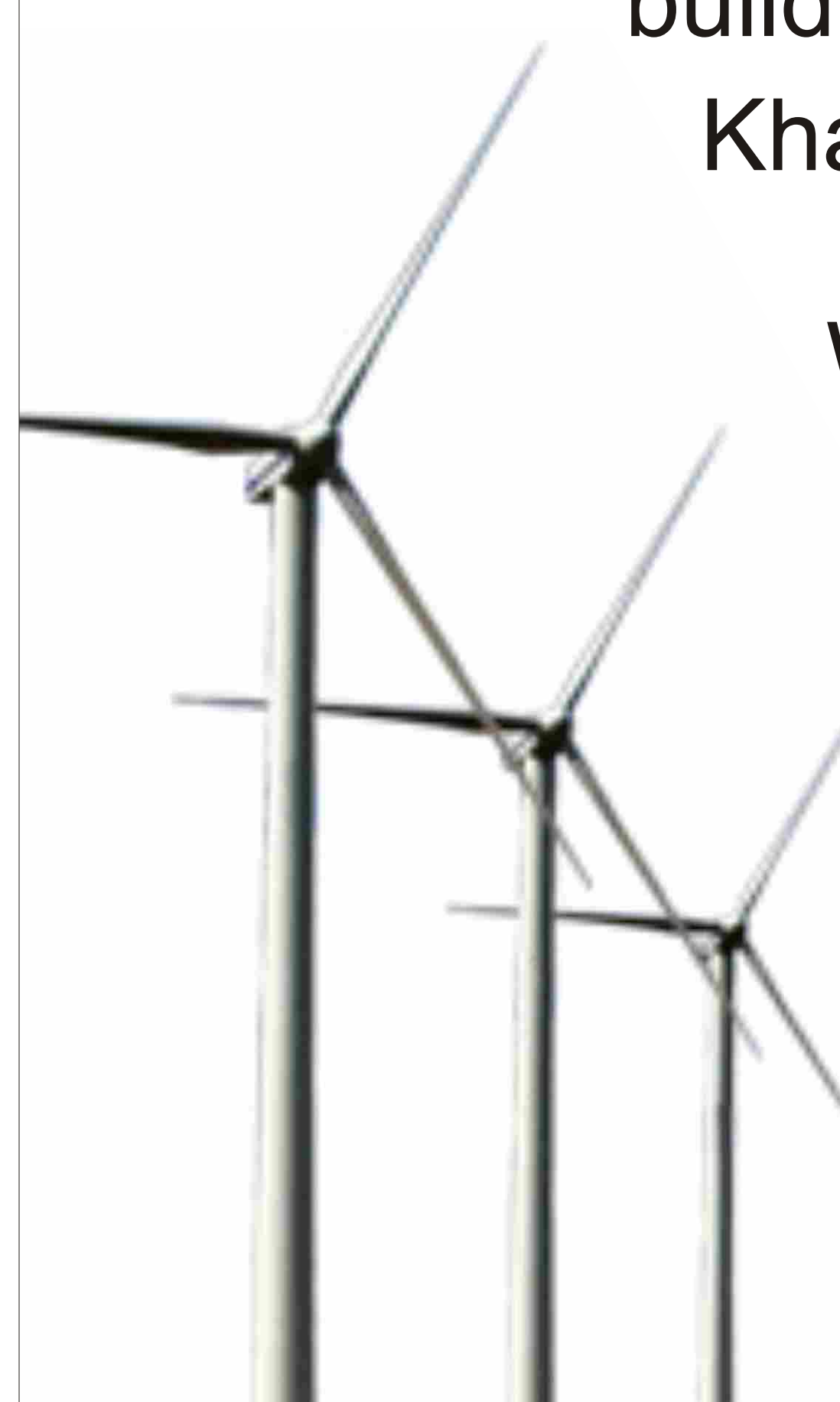
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Who are we?

Samsung C & T, Korea Electric Power Corporation (KEPCO) and Pattern Energy plan to build and operate the world's largest renewable energy cluster in Southern Ontario. Samsung C&T is proud to be part of a project in Haldimand County that will bring clean energy, investment and new jobs to Haldimand County and the Province of Ontario.

Samsung C&T is affiliated with the larger Samsung Group. It is Samsung C&T's two business divisions, Trading & Investment Group and Engineering and Construction Group, that will be developing, building and operating the Wind and Solar Power Cluster here in Ontario. Both divisions have achieved many milestones over the years in preparation for such an opportunity. Among them, launching Korea's first solar energy project and building the world's largest skyscraper, the Buri Khalifa in Dubai.



We were chosen by the Ontario Government due to our intention to invest and create jobs in Ontario, but also because we have a proven track record of constructing projects of similar scale from planning and financing through to execution. We fully intend to take advantage of Ontario's talented workforce and hire locally.

Our partners include:

KEPCO




KEPCO (Korea Electric Power Corporation) is an electrical utility company based in Korea which has a generation capacity of 64,500 MW, making it one of the world's top power utilities. Today, KEPCO is taking the lead in green energy by developing low-carbon power generation and smart grid technologies.

Pattern Energy




Pattern Energy is an independent, fully integrated energy company that develops, constructs, owns and operates clean energy and transmission assets in the United States, Canada and Latin America. We have:

- More than 500 MW in operation or under construction within first 9 months
 - 4 GW of wind projects in development
 - Annual growth of 300 - 500 MW
 - 5 large-scale transmission projects in development
- 


Samsung's Sustainable Management Approach

We believe in working with our communities to build lasting relationships, stimulate local economies, and protect the environment. Samsung C&T Corporation's Sustainable Management has been established to encompass the economic, environmental, and social issues of our stakeholders after accommodating the perspectives from inside and outside the company.


Disclosure on management approach			
	Economic issues	Environmental issues	Social issues
Shareholders	<ul style="list-style-type: none"> - Business performance and financial sheets - Current status of project businesses - Current status of resource development projects - Restructuring business (the sale of distribution business) - Dividends 	<ul style="list-style-type: none"> - Green technology development - Current status of new and renewable energy projects 	<ul style="list-style-type: none"> - Ethical management - Managing brands
Customers	<ul style="list-style-type: none"> - Goods and services offered 	<ul style="list-style-type: none"> - Green technology development - Green buildings (residential environment, energy efficiency) 	<ul style="list-style-type: none"> - Customer satisfaction and cases
Staff members	<ul style="list-style-type: none"> - Wages and pension support - Restructuring business (the sale of distribution business) 	<ul style="list-style-type: none"> - Environmental education 	<ul style="list-style-type: none"> - Training - Welfare services, health and safety - Labor relations, safeguarding human rights
Partner companies	<ul style="list-style-type: none"> - Supporting the green business of partner companies 	<ul style="list-style-type: none"> - Green procurement systems 	<ul style="list-style-type: none"> - Managing and supporting partner companies
Society	<ul style="list-style-type: none"> - Current status of donations - Headquarters relocation 	<ul style="list-style-type: none"> - Protecting the environment in the neighborhood 	<ul style="list-style-type: none"> - CSR activities
Environment	<ul style="list-style-type: none"> - Risks and opportunities of climate change (emissions trading, new and renewable energy projects) 	<ul style="list-style-type: none"> - Energy usages - Managing construction waste 	<ul style="list-style-type: none"> - Protecting the local environment
Civil society	<ul style="list-style-type: none"> - Transparency and soundness 	<ul style="list-style-type: none"> - Preserving biodiversity 	<ul style="list-style-type: none"> - Corporate social responsibility
Government	<ul style="list-style-type: none"> - Tax payments 	<ul style="list-style-type: none"> - Complying with environment codes 	<ul style="list-style-type: none"> - Ethical management and compliance to laws



Delivering Value



Eco-Value Creation



Social Responsibility





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What is the agreement between Samsung C&T and the Ontario Government?

On January 21, 2010, Ontario Premier Dalton McGuinty and Ontario Minister of Energy and Infrastructure, Brad Duguid were joined by Samsung C&T President and CEO Sung-ha Chi and Executive VP of KEPCO Chan-Ki Jung to officially announce and sign the green energy investment agreement for the Ontario Alternative Energy Cluster, deemed to be the largest of its kind in the world.

According to the agreement, Samsung and its partners will establish and operate a series of wind and solar power clusters over the next five years. The entire project will have a combined power-generating capacity of 2.5GW by 2016, increasing Ontario's installed capacity of renewable power generation.

The first phase of the project will be built in the Haldimand County and the Municipality of Chatham-Kent. This will help achieve the Government of Ontario's goal of shutting down all of the province's coal-fired power plants by 2014.



Imagery Source: CanWEA.



Grand Renewable Energy Park - Project Overview

Wind Energy

- Approximately 63 wind turbines (depending on make and model) and a name plate capacity of 140 MW.
- Turbines will be located a minimum of 550 m from non-participating receptors.
- Co-developed by Samsung C&T, KEPCO and Pattern Energy.

Solar Energy

- Name plate capacity of 100 MW.
- Solar photovoltaic panels will be mounted on ground-based racking systems.
 - Located on approximately 900 acres of land.
 - Project developed by Samsung C&T.

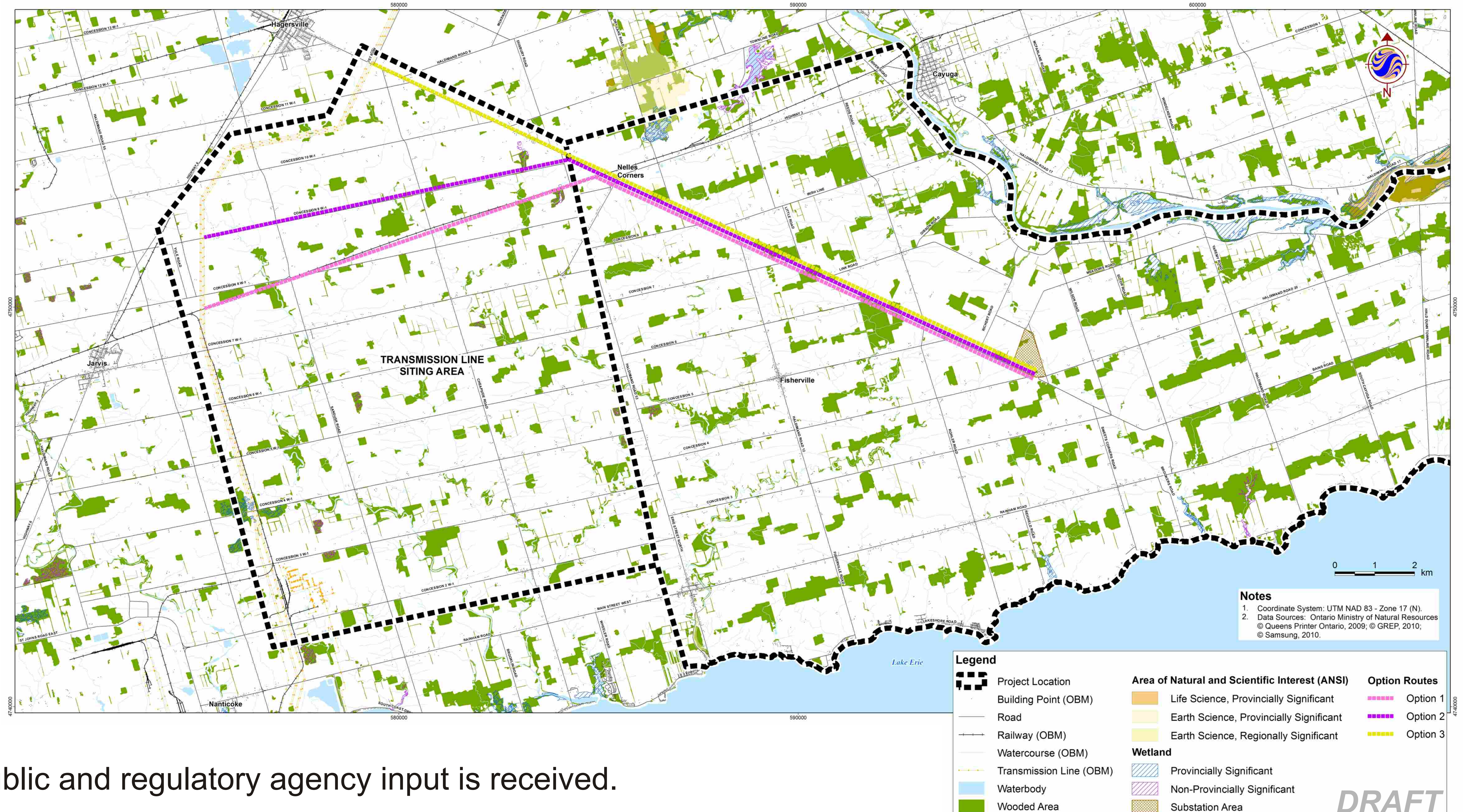
Common Elements

- The wind and solar components of the Project will be located on privately owned and Ontario Realty Corporation (ORC) managed lands within Haldimand County.
- Project will also include electrical collection lines, an approximate 20 km long 230 kV transmission line, an electrical substation, and other ancillary facilities such as access roads.
- The 230 kV transmission line will be located within the project boundary with several different route and design options currently being assessed.

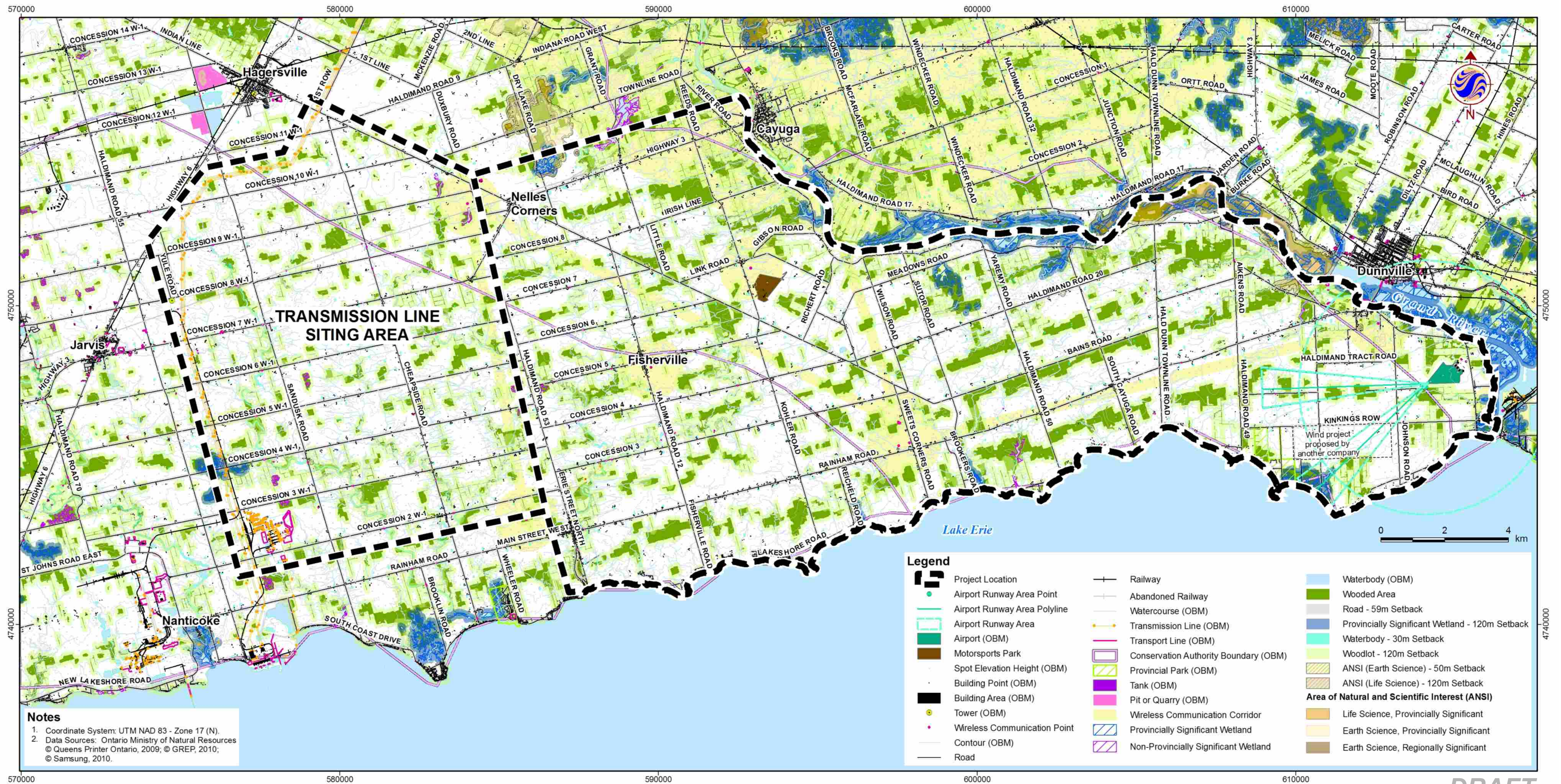


Proposed Transmission Line

- To connect the Grand Renewable Energy Park to the provincial electricity grid, a substation and 230 kV transmission line are needed.
- The transmission line will be located within the project boundary. It will be approximately 20 km in length, and will transport the energy generated by the wind turbines and solar panels to the existing electricity grid.
- Several design options are currently being considered for the transmission line, which may include a combination of:
 - Overhead steel poles;
 - Lattice towers; and/or,
 - Underground cable.
- Three alternative routes have been identified to-date that parallel existing rights-of-way. The preferred route for the transmission line will be determined after further study and analysis and public and regulatory agency input is received.



Project Location and Environmental Features



Notes
 1. Coordinate System: UTM NAD 83 - Zone 17 (N).
 2. Data Sources: Ontario Ministry of Natural Resources
 © Queens Printer Ontario, 2009, © GREP, 2010;
 © Samsung, 2010.

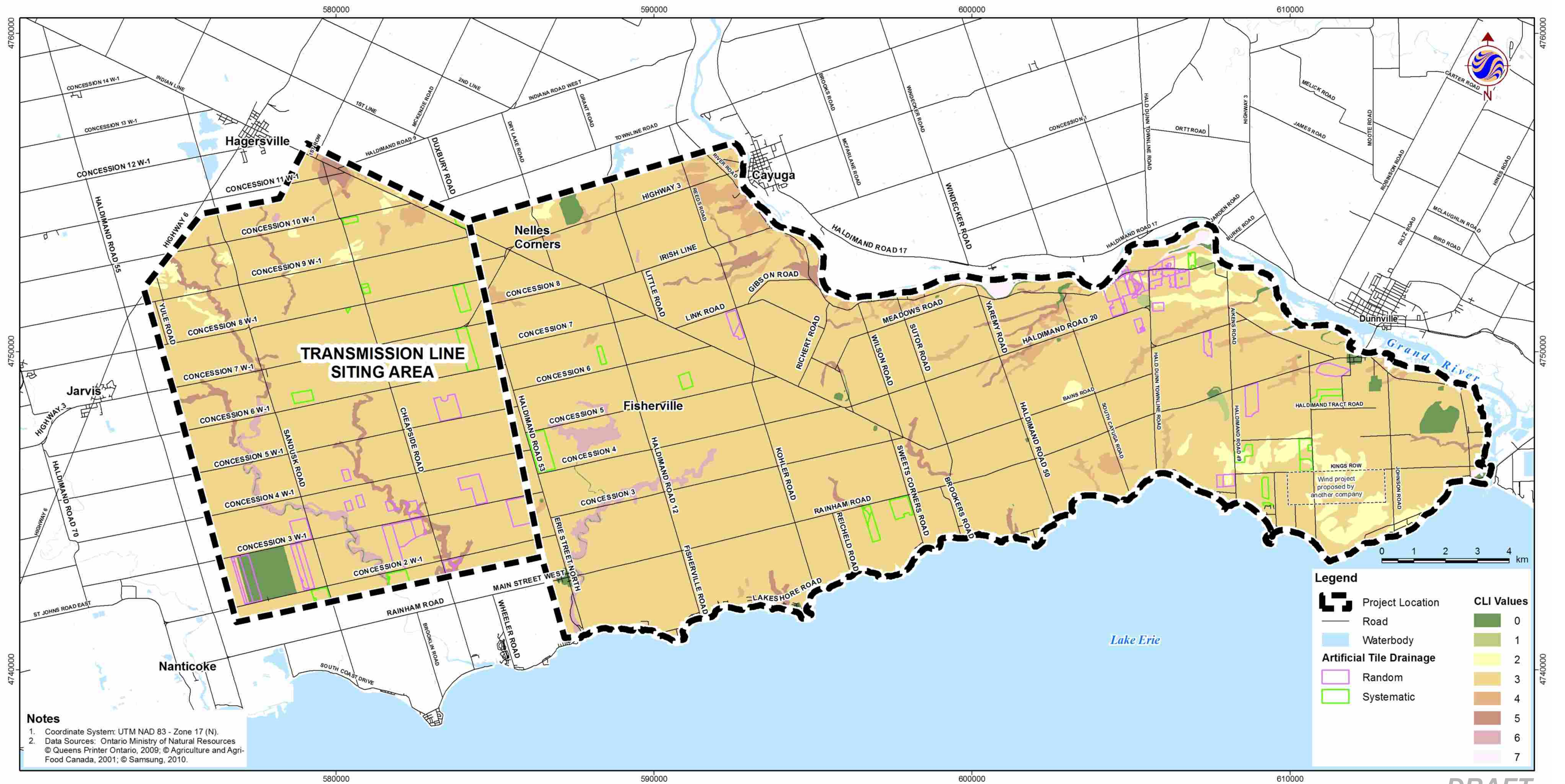
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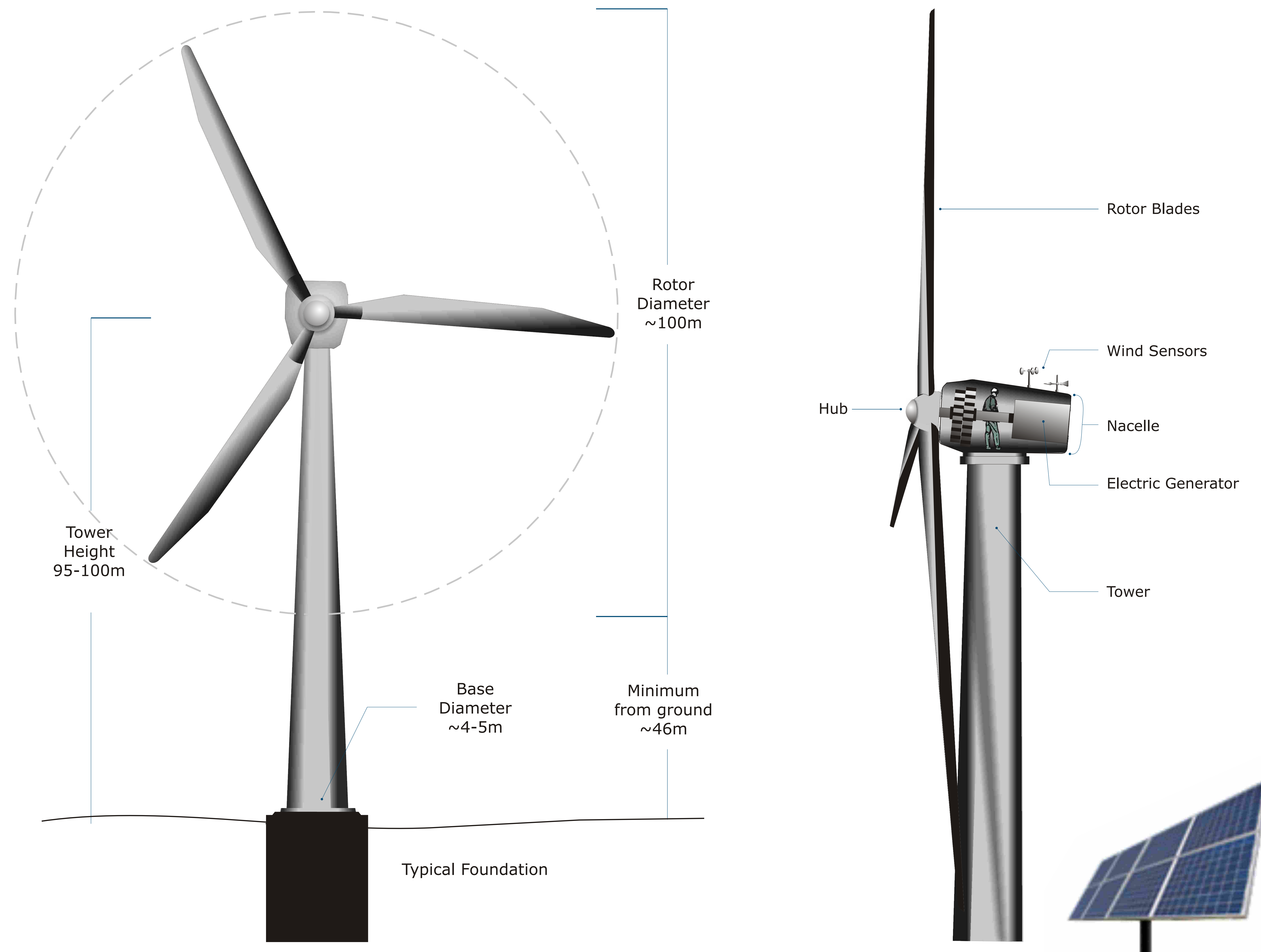
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Canada Land Inventory (CLI) for Agricultural Capability



Typical Wind Turbine Schematic

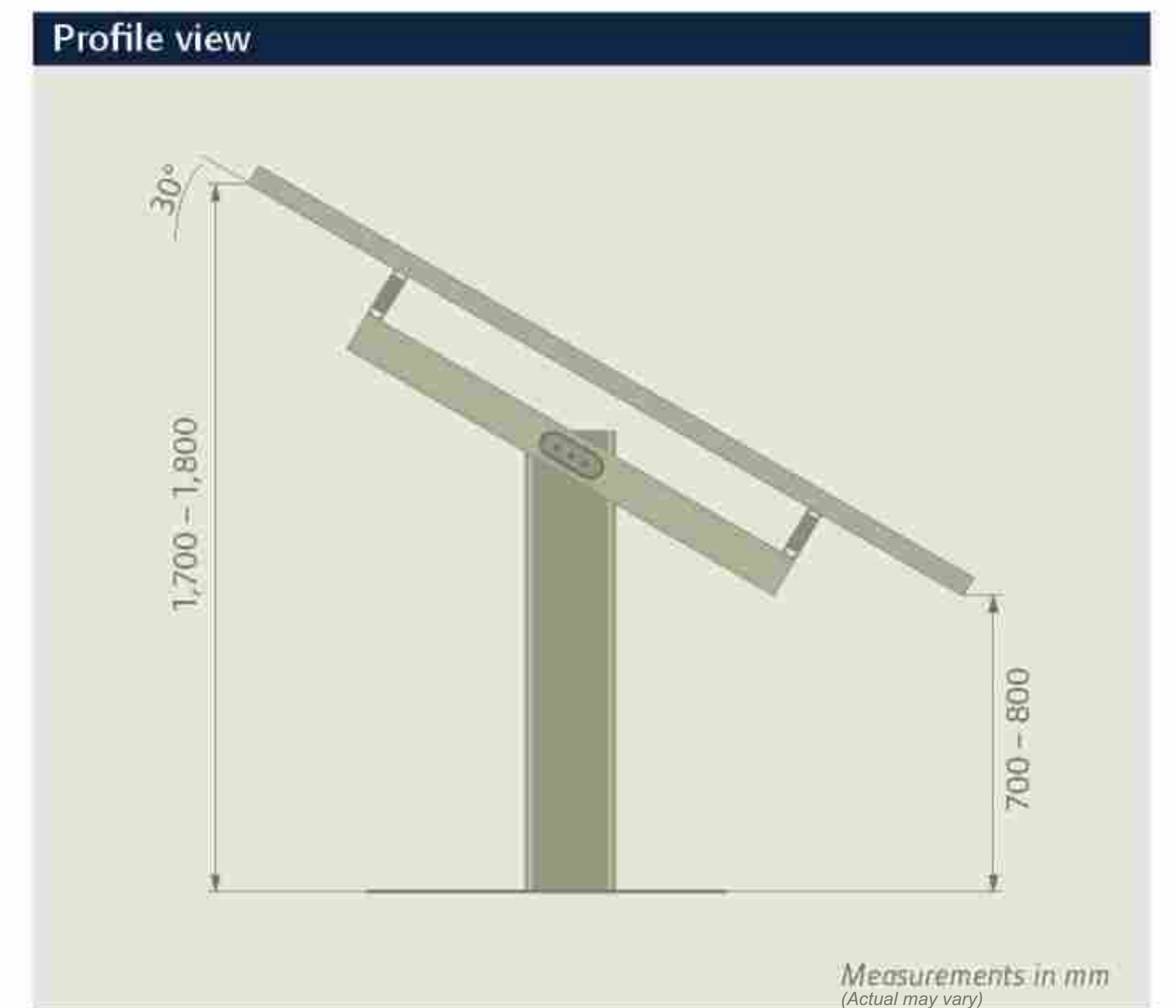
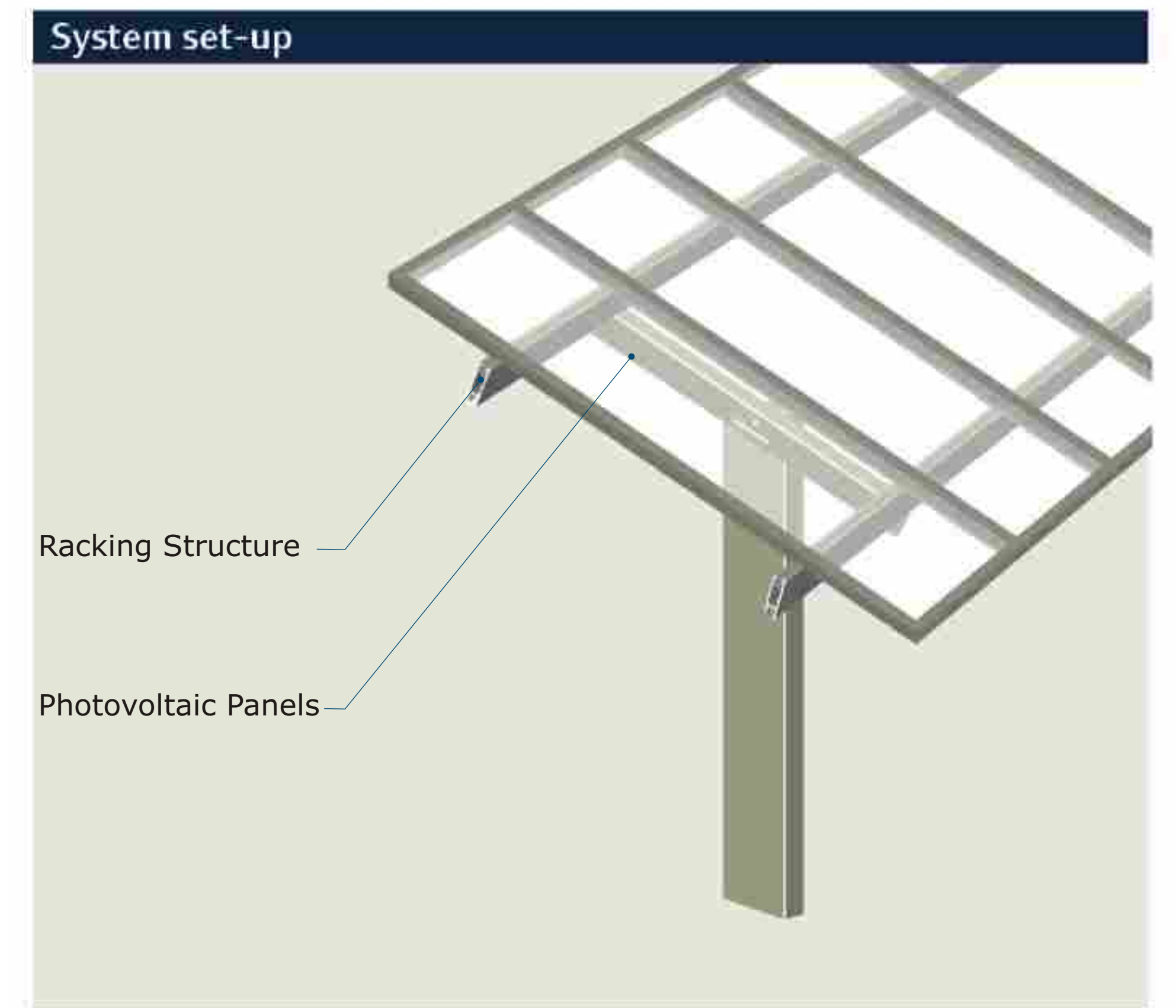
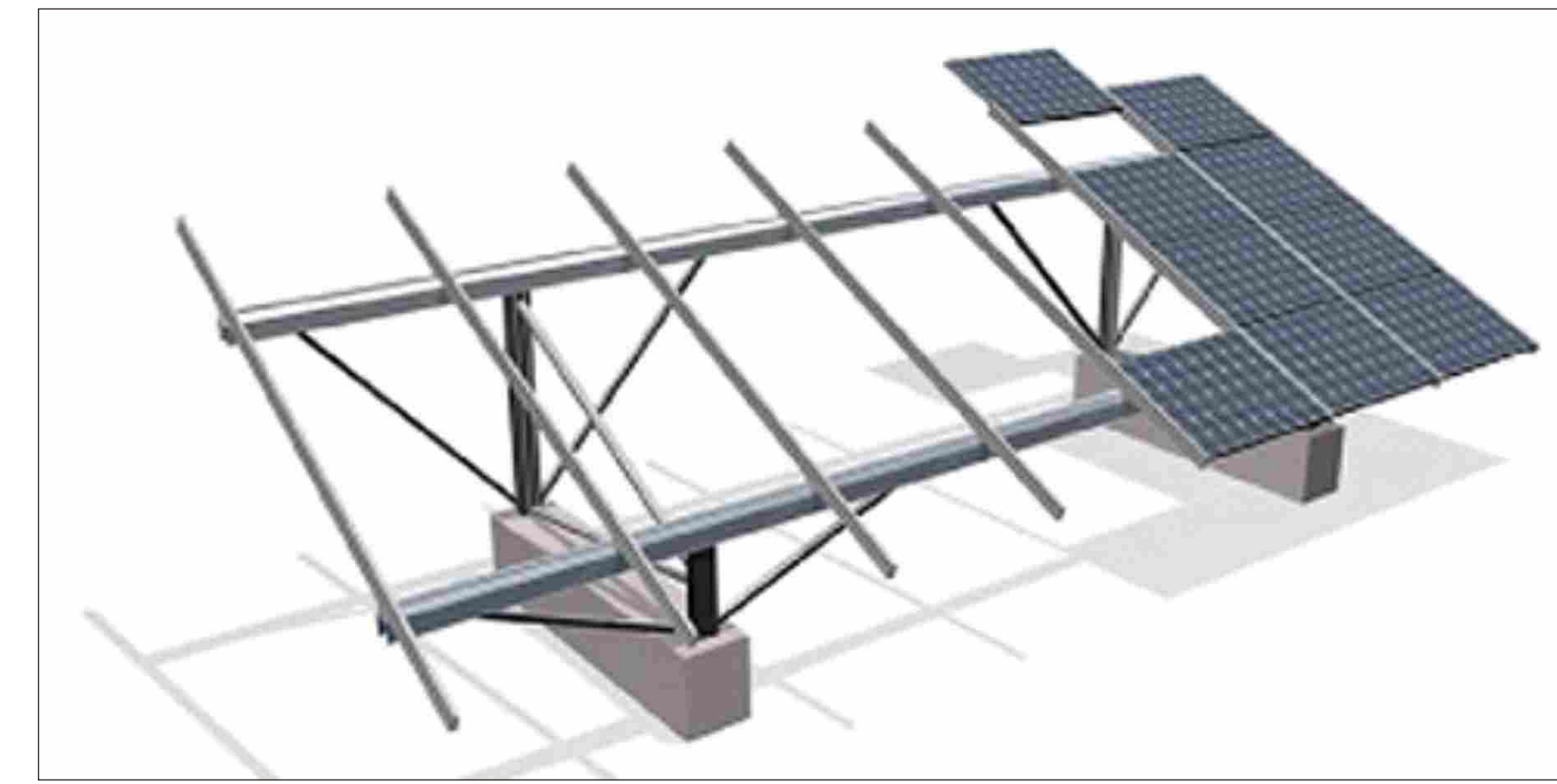
- Turbine technology (i.e., make and model) will be selected during the Renewable Energy Approval process.
- Schematic at right shows generalized turbine components and dimensions.
- Final design selected for Project may vary from schematic.



Note: not to scale

Typical Solar Panel Schematic and Photos

- Solar panels will utilize crystalline solar cells mounted on ground-based racking systems.
- Solar panel and mounting (i.e., single post, double post, or ballast mount) technology will be selected during the Renewable Energy Approval process.
- Schematics and photos at right show a variety of panel types and mounting designs.
 - Final design selected for Project may vary from those shown.





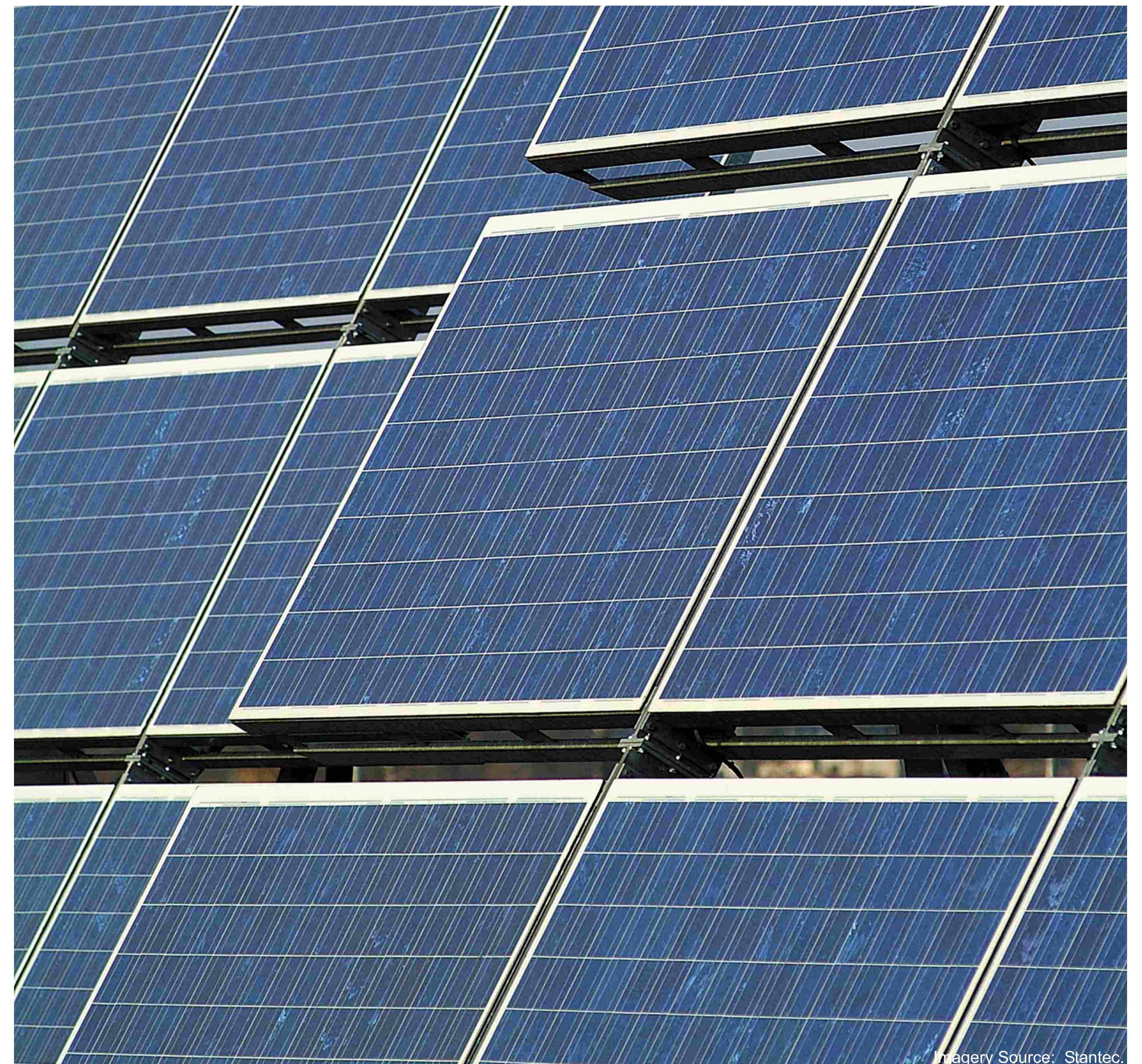
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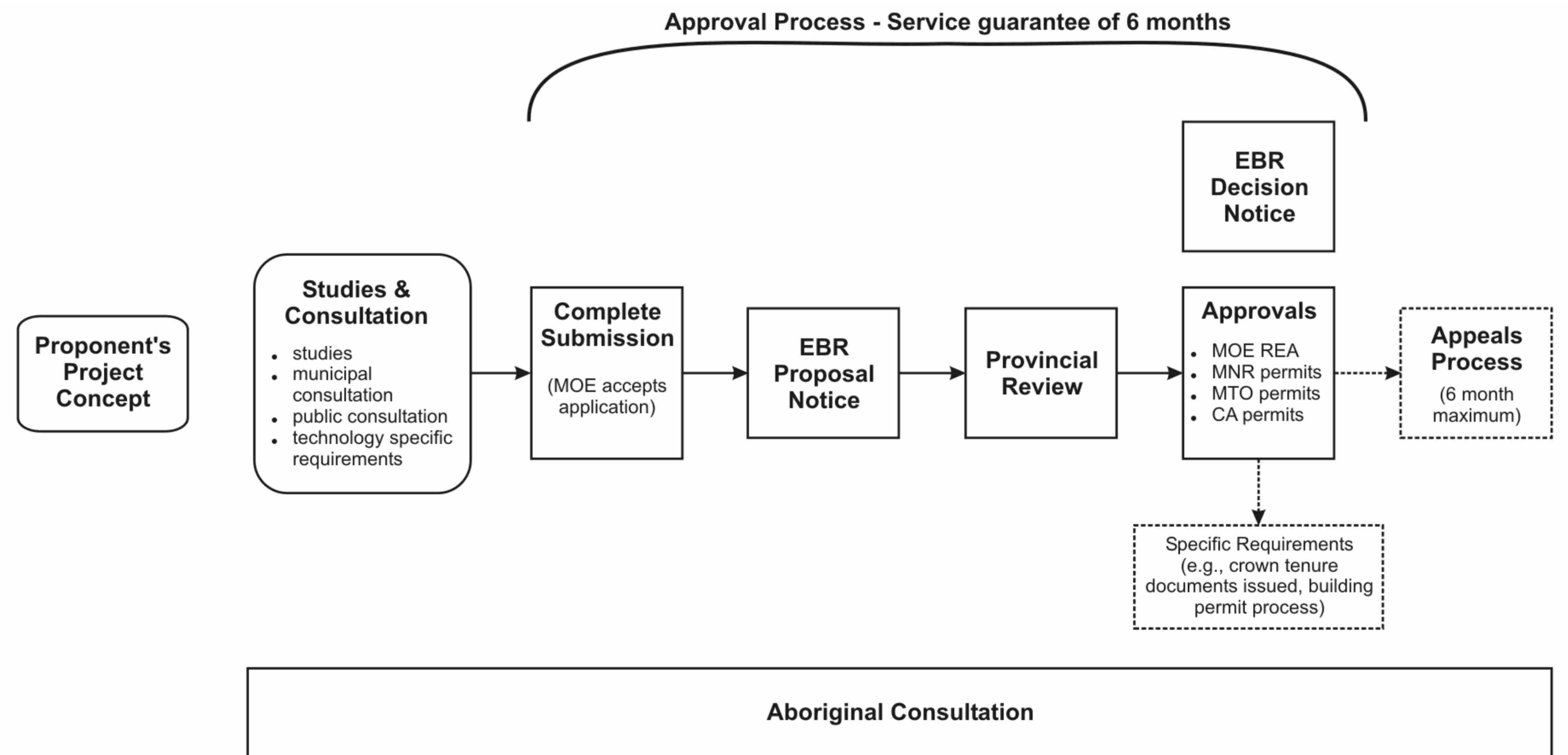
Green Energy Policy in Ontario

- The *Green Energy and Green Economy Act* (GEA) 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 economy in North America. The GEA will:
 - Spark growth in clean and renewable sources of energy such as wind, solar, hydro, biomass and biogas in Ontario.
 - Create the potential for savings and better managed household energy expenditures through a series of conservation measures.
 - Create 50,000 jobs for Ontarians in its first three years.
- Samsung C&T is developing the Grand Renewable Energy Park in response to the policies and programs flowing from the GEA.



Renewable Energy Approval Process - An Overview

- We are completing the detailed studies, analysis and work required to obtain a Renewable Energy Approval (REA) for the Project.
- The REA is issued under Ontario Regulation 359/09 (Renewable Energy Approvals under Part V.0.1 of the Act) under the *Environmental Protection Act*.
- The wind aspect of the Project is considered to be a Class 4 wind facility and the solar aspect of the Project is considered to be a Class 3 solar facility. These Classes of project have specific study and information requirements under the REA process.



Source: MOE.

- The REA process is a stringent environmental approvals process that Samsung needs to satisfy before building the project.
- The REA approval will specify how the project will be designed, built, operated and decommissioned so that the local community and environment are protected.
- Additional approval and permitting requirements from agencies such as the Ministry of Natural Resources, Ministry of Culture, and the Grand River Conservation Authority will also be addressed as part of the REA application. Permits and plans (e.g., Building Permit, Entrance Permit) will also be sought from Haldimand County prior to Project construction.



Renewable Energy Approval Process - Setbacks

- A key component of the REA process is the establishment of common setbacks for all renewable energy facilities in the Province.
- Where Project related infrastructure will be located within the setback distances, additional analysis (i.e., Environmental Impact Study) will be provided in the REA application and summarized in the final Project Description Report.
- Key setbacks which will be applied throughout the design of the Project are as follows:

Feature	Setback Distance	Study Alternative When Within Setback
Non-participating receptor	550 m (from turbine base)	N/A
Public road right-of-way and railway right-of-way	Turbine blade length + 10 m (from turbine base)	N/A
Property line	Turbine height (excluding blades) (from turbine base)	Does not apply to parcels of land if the abutting parcel of land is a participant in the Project or if it is demonstrated that the wind turbine will not result in adverse impacts on nearby business, infrastructure, properties or land use activities.
Provincially significant southern wetland	120 m	Development not permitted within feature. Development and site alteration may be possible within setback area; EIS required.
Provincially significant ANSI (Earth Science)	50 m	Development and site alteration may be possible within natural feature and setback area; EIS required.
Provincially significant ANSI (Life Science)	120 m	
Significant valleyland	120 m	
Significant woodland	120 m	
Significant wildlife habitat	120 m	
Lake	120 m from the average annual high water mark	Development and site alteration may be possible within setback area; additional report required. No turbine, solar panel or transformer located within a lake or within 30 m of the average annual high water mark.
Permanent or intermittent stream	120 m from the average annual high water mark	Development and site alteration may be possible within setback area; additional report required. No turbine, solar panel or transformer located within a permanent or intermittent stream or within 30 m of the average annual high water mark.
Seepage area	120 m	Development and site alteration may be possible within setback area; additional report required. No turbine, solar panel or transformer located within 30 m of a seepage area.



Renewable Energy Approval Process - Required Reports

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

- Project Description Report (a Draft is already posted on the project website)
- Construction Plan Report
- Design and Operations Report (includes Environmental Noise Impact Assessment for the wind and substation component of the Project)
- Natural Heritage Assessment
- Environmental Impact Study (if necessary)
- Consultation Report
- Archaeological and Heritage Report
 - Water Report
 - Noise Study Report (solar component only)
 - Wind Turbine Specifications Report
 - Decommissioning Plan Report

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 to the Final Public Open House planned for late 2010. Notification of the release of the draft reports will be provided.



Imagery Source: CanWEA.



Renewable Energy Approval Process - Additional Technical Studies

Environmental studies are being completed to fully understand the local environment and will be utilized in the development of the Project design.

The technical studies will include, but may not be limited to, in-depth analysis of the following features:

- Wildlife and wildlife habitat including Species at Risk and Significant Wildlife Habitat
- Bird breeding, wintering and migration
- Waterbodies and aquatic resources
- Woodlands, vegetation and other significant natural features
 - Wetlands and Areas of Natural and Scientific Interest
 - Archaeological and heritage resources
 - Land use and socio-economic features

All of the technical studies will be provided within the REA Required Reports in draft form for public review and comment at least 60 days prior to the Final Public Open House planned for late 2010.



Imagery Source: Stantec.



Other Key Required Project Approvals

Building a project such as the Grand Renewable Energy Park requires years of careful planning and work and many project approvals are required. Some of the key approvals that are expected to be required for the project are listed below. More are listed in our Draft Project Description Document.

Key Permit / Authorization	Administering Agency	Rationale
Key Provincial Permits and Authorizations		
Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses Permit	Grand River Conservation Authority and Long Point Conservation Authority	Work within floodplains, water crossings, river or stream valleys, hazardous lands and within or adjacent to wetlands. Projects requiring review, <i>Fisheries Act</i> authorization and/or assessment under the <i>Canadian Environmental Assessment Act</i> are forwarded to the Department of Fisheries and Oceans (DFO)
Leave to Construct	OEB	Authorization to construct power transmission lines
Special vehicle configuration permit	Ministry of Transportation (MTO)	Use of non-standard vehicles to transport large components
Transportation Plan	MTO	Adherence to road safety and suitability
Highway Entrance Permit	MTO	Entrance permit for new or upgraded road entrances onto a provincial highway Interference or obstruction of the highway
Change of Access and Heavy/Oversize Load Transportation Permit	MTO	Compliance with provincial highway traffic and road safety regulations
Wide or excess load permit	MTO	Transportation of large or heavy items on provincial highways
Key Federal Permits and Authorizations		
Aeronautical Obstruction Clearance	Transport Canada – Aviation Division	Turbine lighting and marking
Land Use Clearance	NavCanada	Aeronautical safety mapping and designations
Navigational Clearance	Transport Canada – Marine Division	Crossing a navigable watercourse
Key Permits and Authorizations from Haldimand County		
Municipal Consent, Work with the R.O.W		Required for works in municipal road allowances
Consent/Severance Application		Required if easements over private lands required
Road Cut Permit		May be required for access roads off of county roads or works to county roads
Pre-Condition Survey		Assessment of pre-construction conditions for engineering staff
Building Permit		Compliance with building codes
Entrance Permit		Entrance from county roads
Transportation Plan		Adherence to road safety and suitability
Additional Plans related to general engineering (e.g. siltation control, lot grading, plan of services, etc.), water, wastewater, storm water, transportation, and geotechnical		Required supporting information/plans required by Haldimand County





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Project Schedule Overview

- Initiate Public REA Process - June 2010
- Perform REA Technical Studies - Ongoing through to December 2010
- Public Open House #1 - July 8, 2010
- Draft REA Reports to Public - October 2010
- Public Open House #2 - December 2010
- REA Approval - April 2011
- Start of Construction - April 2011
- Commercial Operation Date (COD) - December 2012 to March 2013
 - Repowering/Decommissioning - 2037
(approximately 25 years after COD)





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Community Benefits

- During its lifespan, the Project is estimated to create hundreds of direct construction jobs and dozens of permanent operations and maintenance jobs.
- Tax payments to Haldimand County estimated to be more than \$10 million.
- A sustainable income for participating members of the Project from the local community.
- No emissions of greenhouse gases or air pollutants from operation of the project.
 - Displaces the need for new projects that generate greenhouse gas emissions.
 - Assist in Ontario's goal to create over 50,000 “green collar” jobs.
 - Provide a new supply of safe, clean and reliable electricity.



Interesting Fact: Solar energy, with 48% annual growth, is the fastest growing energy source. In fact, the demand is growing so fast that there is a world shortage of solar panels.



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Job Creation

- Over the five years, the Alternative Energy Cluster project is estimated to generate approximately 16,000 jobs in the local community and throughout Ontario (roughly half in manufacturing, the other half in service industries). Samsung C&T will encourage suppliers to locate near the clusters with the aim of surpassing this number.
- Samsung C&T will continue to encourage and provide opportunities to qualified suppliers to set up facilities in Ontario. Working together with the provincial government, Samsung and its partners will work diligently to bring manufacturing facilities to Ontario, and the establishment of a strong supply chain in Ontario will ensure the successful growth of renewable energy industry.
- Currently Samsung and its partners are working tirelessly on facilitating the establishment of a blade factory, tower factory, inverter factory, and solar factory.



Public Health and Safety

- Public health and safety will be considered during all stages of the Project (i.e. construction, operation and decommissioning).
- To date, much study has been done on the effects of environmental noise on human health.
- A recent summary of scientific literature related to wind turbines and public health, as compiled by Ontario's Chief Medical Officer of Health, revealed the following:

“...while some people living near wind turbines report symptoms such as dizziness, headaches, and sleep disturbance, the scientific evidence available to date does not demonstrate a direct causal link between wind turbine noise and adverse health effects. The sound level from wind turbines at common residential setbacks is not sufficient to cause hearing impairment or other direct health effects, although some people may find it annoying”.

*The Potential Health Impact of Wind Turbines - Chief Medical Officer of Health Report,
Dr. Arlene King May 2010*

Additional information from the report includes:

- The report includes an assessment of sound/noise, low frequency sound, infrasound, vibration, electric and magnetic fields, shadow flicker, ice throw and ice shed, and structural hazards.
- Ontario used the most conservative sound modelling available nationally and internationally, which is supported by experiences in the province and in other jurisdictions.
- Low frequency sound and infrasound from current generation upwind model turbines are well below the pressure sound levels at which known health effects occur. Further, there is no scientific evidence to date that vibration from low frequency wind turbine noise causes adverse health effects.





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Environmental Noise Impact Assessment

- An Environmental Noise Impact Assessment will be completed for the Project to ensure it complies with the Ontario Ministry of the Environment's strict regulatory requirements.
- Ontario uses the most conservative sound modelling available nationally and internationally, which is supported by experiences in the province and in other jurisdictions (*The Potential Health Impact of Wind Turbines - Chief Medical Officer of Health Report, Dr. Arlene King May 2010*).
- The assessment will consider other operational and proposed wind facilities within a 3 km radius of noise receptors. This will ensure a conservative (cautious) approach is being used which considers cumulative noise effects.
- The Ministry of the Environment sound limit permitted at receptors fluctuates with wind speeds; however the typical receptor sound limit is 40 dBA for wind projects.



Property Values

- “In the study area, where wind farms were clearly visible, there was no empirical evidence to indicate that rural residential properties realized lower sale prices than similar residential properties within the same area that were outside of the viewshed of a wind turbine.”

Canning, G., and L. J. Simmons. (February 2010). Wind Energy Study Effect of Real Estate Values in the Municipality of Chatham-Kent. Canning Consultants Inc. & John Simmons Realty Services Ltd. Prepared for the Canadian Wind Energy Association.

- “Research collected data on almost 7,500 sales of single family homes situated within 10 miles of 24 existing wind facilities in nine different U.S. states. The conclusions of the study are drawn from eight different hedonic pricing models, as well as both repeat sales and sales volume models.

The various analyses are strongly consistent in that none of the models uncovers conclusive evidence of the existence of any widespread property value impacts that might be present in communities surrounding wind energy facilities. Specifically, neither the view of the wind facilities nor the distance of the home to those facilities is found to have any consistent, measureable, and statistically significant effect on home sales prices.

Although the analysis cannot dismiss the possibility that individual homes or small numbers of homes have been or could be negatively impacted, it finds that if these impacts do exist, they are either too small and/or too infrequent to result in any widespread, statistically observable impact.”

Hoehn, B., Wiser, R., Cappers, P., Thayer, M., and G. Sethi. (December 2009). The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Hedonic Analysis. Ernest Orlando Lawrence Berkeley National Laboratory. Prepared for the Office of Energy Efficiency and Renewable Energy.



Environmental Benefits

The following are some of the environmental benefits of solar and wind power:

- It is pollution free
- It doesn't contribute to smog or acid rain
- It utilizes a completely renewable resource
- Generating electricity from sun light and wind leaves behind no hazardous or toxic wastes and does not contribute to climate change

Environmental Impact of Electricity Sources Summary Table

	Wind	Solar	Nuclear	Coal	Natural Gas
Global Warming Pollution	None	None	None	Yes	Yes
Air Pollution	None	None	None	Yes	Limited
Mercury	None	None	None	Yes	None
Mining / Extraction	None	None	Yes	Yes	Yes
Waste	None	None	Yes	Yes	None
Water Use	None	Limited (cleaning)	Yes	Yes	Yes
Habitat Impacts	Yes	Yes	Yes	Yes	Yes

Derived from Source: AWEA/fact sheets/Wind Energy and Wildlife/If not wind, then..?

- *Interesting Fact: If you took all the energy generated by humans and planet earth in a day, it only amounts to 1/10,000th of the sun's energy that reaches the earth.*





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We Want to Hear From You!

Please share your questions and comments with us by filling out a questionnaire. Please feel free to take extra questionnaires with you and share them with your friends and family.

You can also contact the study team by:

- Email: GrandRenewable@SamsungRenewableEnergy.ca
- Phone: 1-877-536-6050 (toll free)
- Mail:

Adam Rosso, Manager, Business Development
Samsung Renewable Energy Inc.
55 Standish Court
Mississauga ON L5R 4B2

Rob Nadolny, Senior Project Manager
Stantec Consulting Ltd.
70 Southgate Drive, Suite 1
Guelph ON N1G 4P5

You may also visit us on the project website at www.SamsungRenewableEnergy.ca. Copies of the display boards from this Public Open House and the Draft Project Description Report are available on the website.

